



SUSTAINABILITY MARKET OUTLOOK REPORT 2026

FROM SUSTAINABILITY AMBITION TO MARKET ACCESS: HOW THE BUILDING MATERIALS MARKET IS CHANGING

MAY 2026

THE
FOOTPRINT
FIRM™



SUSTAINABILITY MARKET OUTLOOK REPORT



KEY MARKET DRIVERS

FUTURE-FIT PRODUCTS

MARKET OPPORTUNITIES

KEY DRIVERS FOR FUTURE-FIT BUILDING MATERIALS

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EU guidelines on sustainable building materials and the EU Taxonomy for Sustainable Finance are driving the market towards more sustainable building materials. The EU Taxonomy for Sustainable Finance is a key driver for the market, as it defines the criteria for sustainable investments. The EU Taxonomy for Sustainable Finance is a key driver for the market, as it defines the criteria for sustainable investments.

02 REGULATORY & MARKET PRESSURE
The European Commission is driving the market towards more sustainable building materials. The European Commission is driving the market towards more sustainable building materials.

03 GREEN FINANCE & CARBON PRICING MECHANISMS
The European Commission is driving the market towards more sustainable building materials. The European Commission is driving the market towards more sustainable building materials.

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The European Commission is driving the market towards more sustainable building materials. The European Commission is driving the market towards more sustainable building materials.

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The European Commission is driving the market towards more sustainable building materials. The European Commission is driving the market towards more sustainable building materials.

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03 LOWER ENVIRONMENTAL IMPACT
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02 PRODUCT MATURITY SPECTRUM
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FOREWORD

The market for future-fit building materials is becoming a structural driver of demand, investment, and competitive position across the construction value chain.

Across Europe, regulatory requirements, financial incentives and customer expectations are converging to reshape how buildings are designed, built and renovated. Carbon performance, environmental documentation, circularity and resilience are moving from ambition to implementation, with clear timelines toward 2030. This creates complexity across the value chain which must be navigated effectively. Recent shifts in EU regulatory appetite, including simplification efforts through omnibus initiatives and varying transposition willingness across member states may affect the pace, but the core legislative framework and market-driven forces behind the transition are expected to remain intact.

As Europe's leading distributor of building materials, STARK Group operates at the centre of this transition. Our customers and suppliers are increasingly asking the same questions: How fast is the market for future-fit building materials developing? Which product categories do we expect will see the strongest growth? How will regulatory and financial drivers influence demand, and what does this mean in practice for projects, portfolios and product strategies?

This report is designed to provide clear, evidence-based answers to those questions. It offers a structured outlook on the European market for future-fit building materials toward 2030, combining regulatory analysis, market dynamics and competitive perspectives across our seven markets. The insights go beyond compliance as they quantify growth expectations, identify where demand is accelerating, and clarify how sustainability requirements translate into commercial relevance for suppliers, builders and distributors.

By grounding sustainability insights in market data and forward-looking analysis, the report supports two core objectives. Firstly, it strengthens the commercial relevance of sustainability. Secondly, it provides guidance and transparency for customers, suppliers and partners on where we expect the market to develop, how product offerings are likely to evolve, and where the greatest opportunities for growth in future-fit building materials are emerging.

Ultimately, sustainability and commercial performance are becoming increasingly intertwined. Our ambition is to help make that transition tangible by translating complex requirements into actionable insights, supporting informed decision making, and positioning STARK Group as a trusted partner in delivering the future of sustainable construction.



DISCLAIMER

PREPARATION AND INTENDED USE

This report has been prepared by The Footprint Firm and STARK Group. It is intended to support understanding of market developments in future-fit building materials.

It does not constitute legal, financial, or professional advice, and should not be relied upon as a substitute for independent analysis or judgement.

DATA, ASSUMPTIONS AND LIMITATIONS

The analysis is based on a combination of STARK Group data, interviews, third-party sources, regulatory documentation, and market assumptions available at the time of preparation. Where applicable, external data sources are referenced.

All projections and estimates should be considered directional and indicative rather than precise forecasts.

FORWARD-LOOKING STATEMENTS

This report contains forward-looking statements, including projections regarding market development, regulatory implementation, and demand for future-fit building materials.

These statements are based on current expectations, assumptions, and interpretations of available information and actual outcomes may differ materially from those expressed or implied.

REGULATORY UNCERTAINTY

The report reflects the expected trajectory of EU and national regulation, including but not limited to the Construction Products Regulation (CPR), Energy Performance of Buildings Directive (EPBD), and EU Taxonomy.

Regulatory developments, implementation timelines, and national transposition may vary from current expectations. Such changes may materially impact the conclusions, timelines, and market projections presented in this report.

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01 EXECUTIVE SUMMARY



SUSTAINABILITY MARKET OUTLOOK REPORT 2026



Building materials sales linked to projects requiring environmental documentation will grow from ~14% to ~40% by 2030¹

Environmental documentation is moving from a Nordic new-build niche to a European market standard as regulation phases in mandatory requirements from 2026.



The entire building materials market is transitioning: all products will need to consider verified sustainability performance

Products without environmental data will decline from ~55% today to ~35% by 2030². As documentation becomes the baseline, differentiation shifts to lower-impact products.



Construction professionals need help navigating compliance, and their supply chain is the first place they will look³

Facing a shortage of 2 million workers by 2030, compliance is an added burden that builders will struggle to absorb⁴. 40% of SMEs⁵ are concerned by compliance, 65% seek guidance from their distributor. First movers on data, tools and advisory will win.

SUSTAINABILITY MARKET OUTLOOK REPORT 2026

New EU requirements from 2026 create growing demand for environmental data across building materials

1. **EU legislation is raising sustainability requirements across the building materials market, with new requirements taking effect between 2026 and 2032.** The Construction Products Regulation (CPR) phases in environmental data from 2026. The Energy Performance of Buildings Directive (EPBD) requires whole-life carbon disclosure from 2028 and limit values from 2030. In the Nordics, this is already a condition of doing business.
2. **Regulation is the primary driver toward 2030, but the transition covers more than carbon.** Indicators expand through toxicity, water, circularity, and supply chain transparency. While regulation is the primary near-term driver, adapting to climate change will grow in significance through the 2030s.

By 2030, demand for sustainability documentation will reach across segments, geographies, and project types

3. **Requirements that today apply mainly to large builders in Nordic new build will extend to SMEs, renovation, and continental European markets by 2030.** Markets are at different stages (Nordics lead by 2-4 years) but all European markets are expected to converge post 2030.
4. **Across building materials markets, the share of sales linked to projects with environmental documentation requirements is expected to grow from ~14% to ~40% by 2030** as requirements broaden across segments and geographies¹.

The entire building materials market is transitioning: all products will need to consider sustainability performance

5. **The transition is not restricted to a niche.** The revised CPR requires environmental data declarations across 36 product families from 2026, and the EPBD introduces whole-life carbon disclosure from 2028 with binding limits from 2030. Products without verified data are expected to decline from ~55% today to ~35% by 2030².
6. **Future-fit building materials must meet rising standards of documentation, lower-impact, climate resilience, and reliable supply.** Documentation is the immediate baseline, but as requirements tighten, competitive advantage will shift to products that deliver better performance on carbon, toxicity and circularity. The bar across all four pillars will continue to rise, and what qualifies today will not be sufficient by 2030.

The transition creates opportunity across the value chain

7. **The opportunities are tangible for manufacturers, builders, and distributors.** Manufacturers who lead on verified data and lower-impact products secure market access as requirements tighten. Builders who build compliance capability early reduce friction and win in regulated segments (40% of SMEs in Denmark are already concerned about keeping pace). For distributors, documentation and advisory capability will be a competitive differentiator: 65% of customers in frontrunner markets already seek sustainability guidance from their merchant.

Notes: 1. Modelled by applying segment-specific adoption rates to STARK Group revenue across product categories, customer segments, and project types. Market development and project mix are based on Euroconstruct projections. Projections reflect the expected timing, scope, and requirements of EU and UK regulation across core customer segments and project types; 2. Estimated share of building materials market value without verified environmental documentation (e.g. EPDs). Directional estimates based on analysis of regulatory implementation timelines, supplier EPD readiness, and expected market adoption. Illustrative projections, not precise forecasts

THE EUROPEAN BUILDING SECTOR IS ENTERING A PERIOD OF TRANSITION DRIVEN BY GREEN EU LEGISLATION



2026-2030, THE BUILDING MATERIALS MARKET IS SUBJECT TO INCREASING SUSTAINABILITY DEMANDS

The European construction industry faces a significant transformation as EU climate and energy legislation enters implementation. By 2030, mandatory requirements for environmental documentation, carbon performance, and broader sustainability indicators will apply to most construction products on the EU market. This will change what data manufacturers must provide, what products builders can specify, and what role distributors play in bridging the two.

While the Nordics are 2-4 years ahead, with binding carbon limits already in force in Denmark and Finland, the rest of Europe must follow: the EPBD (Energy Performance of Buildings Directive) requires whole-life carbon disclosure from 2028, and the CPR (Construction Products Regulation) phases in mandatory environmental data from 2026 across 36 product families, with the earliest requirements on concrete, steel, cement, and insulation. Doors, windows, timber, glass, and masonry following by 2028-2029. Lighter categories (adhesives, fixings, membranes, sealants) follow later.

For **manufacturers**, verified product data shifts from voluntary to a condition of market access, and innovation toward lower-impact products becomes a competitive necessity. For **distributors**, those who build data infrastructure and advise customers on compliant product choices will strengthen relevance and relationships; those who do not, risk losing specification access. For **builders**, the documentation burden grows year on year, and SME builders will depend on their suppliers to help them navigate requirements.



BEYOND CARBON: THE TRANSITION COVERS MULTIPLE DIMENSIONS

Carbon documentation is the leading edge of this transition because it is the first dimension to become mandatory at both building level (EPBD) and product level (CPR). But the broader shift covers multiple sustainability dimensions simultaneously.

The CPR's three-wave indicator rollout expands from climate change impacts (2026) through acidification, eutrophication, ozone depletion, and water consumption (2030) to human toxicity, ecotoxicity, land use, and resource depletion (2032). The EU Taxonomy's "Do No Significant Harm" criteria require that construction projects demonstrate compliance across all six environmental objectives, not just climate. National regulation adds further layers: Denmark's selective demolition rules address circularity, Sweden's chemical content systems (e.g., BASTA) address toxicity and hazardous substances, and the UK's Biodiversity Net Gain requirement addresses ecosystem impact.

For the building materials market, this means that the documentation and performance bar is rising across multiple fronts. Manufacturers will need to provide verified data across an expanding set of indicators. Builders will need to source products that meet increasingly specific environmental criteria. And distributors will need to help both sides navigate a compliance landscape that is becoming more layered and more complex with each passing year.

THE TRANSITION IS REAL ACROSS ALL STARK GROUP MARKETS, BUT THE PACE VARIES SIGNIFICANTLY



NORDICS

The Nordics are 2-4 years ahead of the EU baseline

Denmark has had binding embodied carbon limits since 2023 and is already on its second round of tightening, with thresholds moving toward 5.8 kg CO₂e/m²/year by 2029. **Finland** introduced mandatory climate declarations with limit values from January 2026, with tightening in 2029. **Norway** has mandatory carbon disclosure and strong certification-driven demand, with binding limit values under consultation. **Sweden** has required climate declarations since 2022 and operates the most advanced product documentation infrastructure in Europe, including chemical content systems with no equivalent elsewhere. In these markets, environmental documentation is already a condition of doing business in new construction, and the requirements are extending toward renovation and SME segments.



GERMANY AND AUSTRIA

Germany and Austria are building the regulatory framework but lag on implementation

Germany is transposing the EPBD through the Building Modernisation Act (GMG), with whole-life carbon disclosure expected from 2028, implemented at minimum ambition. **Austria** follows a parallel trajectory with additional complexity from its federal structure. In both markets, demand for environmental data today is concentrated in the certified commercial segment (DGNB, QNG, BNB), while the broader SME contractor market has had limited exposure. The CPR and EPBD will change this structurally from 2028, but the transition window is compressed relative to the Nordics.



THE UNITED KINGDOM

Although outside the EU regulatory framework, the UK faces converging market-driven requirements

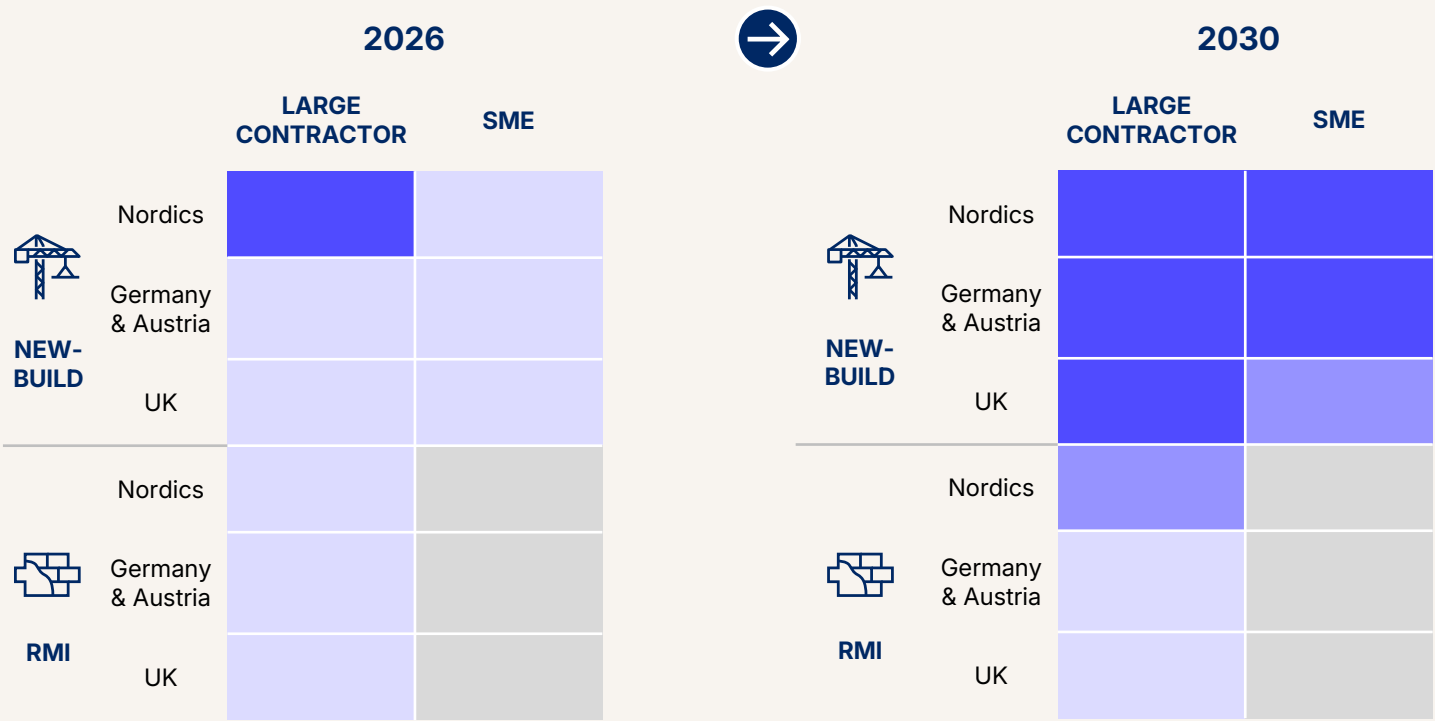
In the **United Kingdom**, embodied carbon remains nationally unregulated, but the London Plan mandates whole-life carbon assessments for major developments, BREEAM V7 (2025) strengthens embodied carbon criteria and EPD (Environmental Product Declaration) requirements, and PAS 2080 is embedded in infrastructure procurement. The market is bifurcated: London and commercial segments are advanced, while regional and residential segments remain largely unaffected. The Construction Products Reform White Paper (February 2026) signals movement toward stricter product data requirements, and the Part Z proposal backed by over 150 industry organisations calls for mandatory reporting followed by binding limits.

THE TRANSITION STARTS WITH LARGE BUILDERS IN NEW BUILD, REACHING SMES & RMI IN ALL REGIONS BY 2030

CONSTRUCTION MARKET EXPOSURE TO ENVIRONMENTAL DOCUMENTATION REQUIREMENTS BY SEGMENT

 **AS DOCUMENTATION BROADENS, STAKEHOLDERS MUST ADAPT**

Exposure to documentation requirements¹  High  Medium  Low  Not exposed



Today, documentation requirements are concentrated in Nordic large contractor new build, but exposure broadens significantly by 2030 as EPBD, national carbon limits, and certification pull SMEs, renovation, and continental European markets into scope. The EU Taxonomy renovation activity² and the Commission's March 2026 Staff Working Document³ on whole-life carbon signal that major renovations will also face documentation requirements.

EU Taxonomy adds a finance-driven demand layer estimated at roughly EUR 65bn⁴ across the seven markets covered in this report. This brings about cascading documentation requirements independently of regulation – for both new build and renovation.

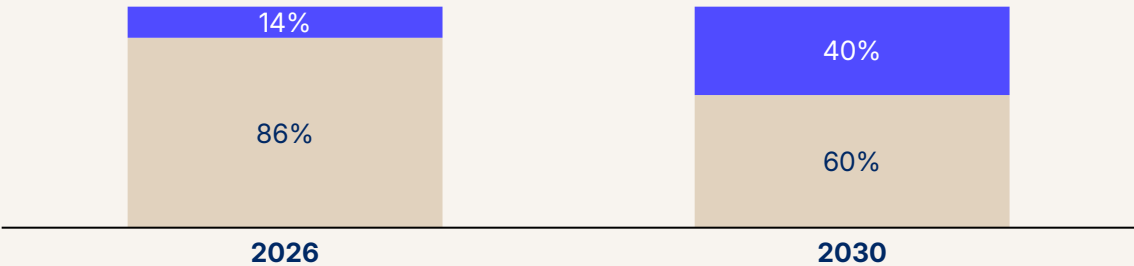
As documentation broadens, every part of the value chain must adapt. Manufacturers need verified data across more categories. Builders face compliance in segments where it previously did not apply. And distributors who can provide documentation, advisory, and compliant product choices across the full breadth of the market will be best positioned toward 2030.

BY 2030, ~40% OF STARK'S BUSINESS WILL BE LINKED TO PROJECTS REQUIRING ENVIRONMENTAL DOCUMENTATION

BUILDING MATERIALS MARKET VALUE LINKED TO PROJECTS WITH DOCUMENTATION REQUIREMENTS¹

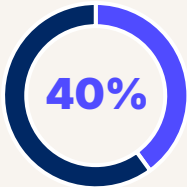
 Environmental data required  Not a hard requirement

Estimated share of building materials sales linked to projects requiring environmental documentation

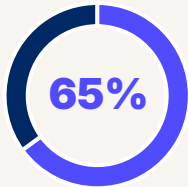


Building materials sales linked to projects requiring environmental documentation will grow from ~14% to ~40% by 2030. As requirements extend beyond the Nordics and into SME and renovation segments, this unlocks growing demand across the value chain: for verified product data from manufacturers, for compliance-ready builders, and for distributors who can offer documented products and guide customers through an increasingly complex landscape.

COMPLIANCE CREATES CHALLENGES AND OPPORTUNITIES ACROSS THE VALUE CHAIN



Share of SMEs who are concerned about meeting climate requirements²



Share of SMEs who seek compliance advice from their builders' merchant²

Builders in regulated markets (e.g. DK) already turn to their building merchant to help navigate compliance – a pattern expected to replicate across markets. This is an opportunity for the entire value chain: manufacturers who invest in lower-impact products gain specification preference, builders who master documentation win in growing regulated segments, and distributors who make compliance easy become indispensable partners in a more complex market.

THE TRANSITION IS NOT CONFINED TO A NICHE PRODUCT SEGMENT, BUT BEST DESCRIBED AS A MATURITY SPECTRUM

THE TRANSITION IS A PROGRESSIVE SHIFT ALONG A MATURITY SPECTRUM

This report uses a four-level framework to describe where products sit today and where they are heading¹

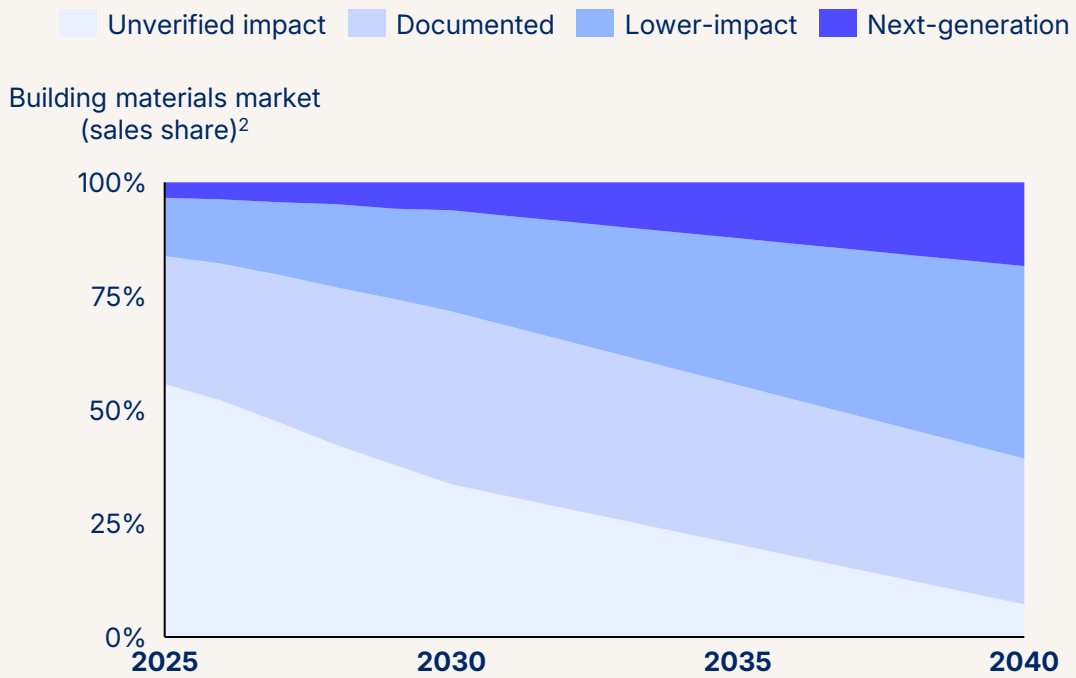
LEVEL 0 UNVERIFIED PRODUCT IMPACT	➡	LEVEL 1 TRANSPARENT DOCUMENTATION	➡	LEVEL 2 LOWER-IMPACT PRODUCTS	➡	LEVEL 3 NEXT-GENERATION PRODUCTS
Products without verified environmental data declaration.		Products with verified EPD and other environmental data.		Improved products with meaningfully lower than average impact.		Fundamentally lower impact products (e.g. bio-based or circular)

The building materials market is undergoing a structural shift from predominantly **unverified** to predominantly **documented** and **lower-impact**. Today, over half of the market by sales value lacks verified environmental data. By 2030, this declines to roughly a third as CPR, EPBD, and national regulations phase in. By 2040, unverified products are expected to represent less than 15% of the market.

The growth story is not in documentation alone. While the documented segment grows steadily through 2030 as products move from unverified to verified, the real shift in the 2030s is from documented to lower-impact. Lower-impact products, those demonstrating performance below the category average, become the largest single segment by 2040. Next-generation materials (mass timber, bio-based, circular) grow from a marginal share today to a meaningful segment, though still not the mainstream.

BUILDING MATERIALS MARKET IN TRANSITION²

Estimated transition dynamic of the building materials market based on EU regulatory requirements, implementation timelines and supplier documentation readiness.



NORDICS LEAD IN COMPLIANCE MATURITY, WITH OTHER REGIONS CONVERGING POST 2030



ESTIMATED MARKET MATURITY DISTRIBUTION BY REGION 2026-2040



DYNAMICS SHAPING THE TRANSITION

— Nordics — Germany & Austria — United Kingdom

2026 Current estimate

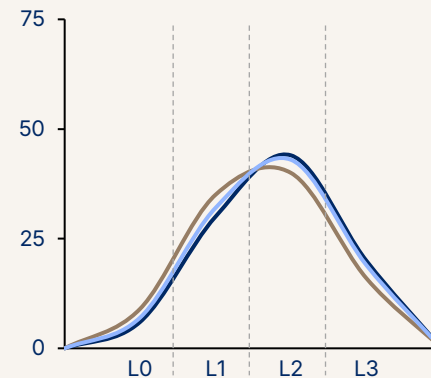
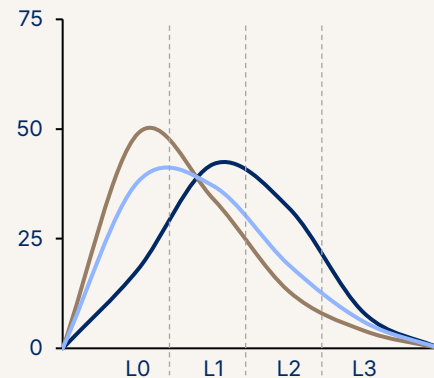
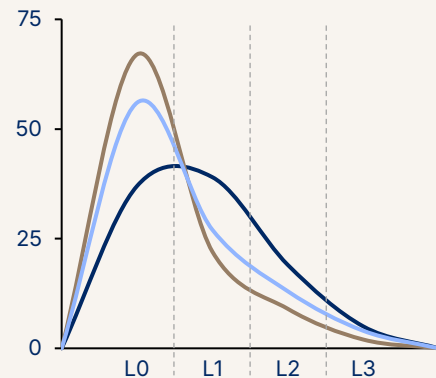


2030 Qualitative estimate



2040 Illustrative projection

Estimated share of
sales revenue (%)



L0: Unverified impact. Products without verified environmental data. No lifecycle information available to customers.

L1: Transparent documentation. Products backed by a verified EPD, environmental impact and traceability where applicable.

L2: Lower impact products. Improved versions of standard products that demonstrate meaningfully lower impact than the category average

L3: Next generation products. Products that represent a fundamental shift in material approach.

Documentation becomes the baseline everywhere, with the Nordics currently leading the market. The majority of the Nordic market is already documented in 2026 while the bulk of Germany and Austria remains unverified. The Nordics largely complete the documentation shift by 2030.

The competitive frontier shifts from documentation to performance. In 2026, the challenge is getting products documented. By 2030 in the Nordics and over the following decade across all regions, the question becomes whether a product outperforms its category average. Lower-impact products are expected to become the dominant segment everywhere by 2040.

By 2040, the regions converge. The substantial gap in undocumented products between the Nordics and Germany in 2026 narrows significantly by 2040. The remaining differences are in the performance mix: Nordic markets are expected to maintain a lead in lower-impact and next-generation product adoption.

BEYOND 2030, FUTURE-FIT PRODUCTS MUST MEET RISING STANDARDS ON DOCUMENTATION, IMPACT, AND RESILIENCE

STARK's future-fit framework is built around four pillars that together describe what the market will require from building materials over the coming years towards 2030 and 2040.

Importantly, future-fit is not a static label. The four pillars define the overall frame, but the bar within each pillar will continue to rise. As carbon limits tighten, circularity requirements become binding, and broader environmental indicators enter mandatory reporting, products across all categories will need to evolve – pushing toward lower emissions, greater circularity, reduced toxicity, and improved biodiversity outcomes.

What qualifies as future-fit today will not be sufficient by 2030, and what meets the bar in 2030 will face higher expectations in the decade that follows. The framework is designed to reflect this: it describes the direction of travel, not a fixed destination.



TRANSPARENT DOCUMENTATION

Verified environmental data (EPDs, chemical content declarations, traceability, EU Taxonomy criteria) so customers can meet regulatory and project-level requirements. Emerging requirements on forced labour and supply chain due diligence may add a further product-level documentation layer.



LOWER ENVIRONMENTAL IMPACT

Products that are documented and demonstrate measurably better performance than the category average across relevant indicators. Competitive advantage shifts to products that can demonstrably help reduce the environmental footprint of construction across categories.



CLIMATE ADAPTATION

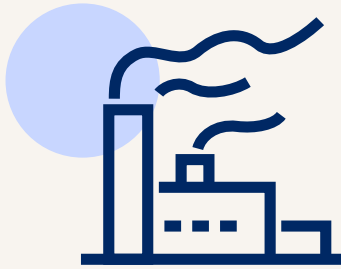
Products that help buildings withstand intensifying physical climate risks: extreme heat, flooding, storms, and moisture. Europe is warming twice as fast as the global average, and asset owners and insurers are increasingly factoring physical resilience into material specifications and building design.



RESILIENT SUPPLY

Securing product availability through supplier engagement, strategic diversification, and reduced exposure to high-risk supply chains. Resilience and sustainability are increasingly the same agenda, and for distributors, a future-fit supply chain is a precondition for a future-fit product range.

THE TRANSITION CREATES REAL OPPORTUNITY FOR EVERY ACTOR IN THE VALUE CHAIN



MANUFACTURERS

Manufacturers who provide verified, product-level sustainability data and progressively lower environmental impacts will secure market access and remain specification-competitive as requirements tighten.



DISTRIBUTORS

Distributors will play a critical role by translating complex regulatory and sustainability requirements into accessible product choices, documentation and guidance for customers across markets.



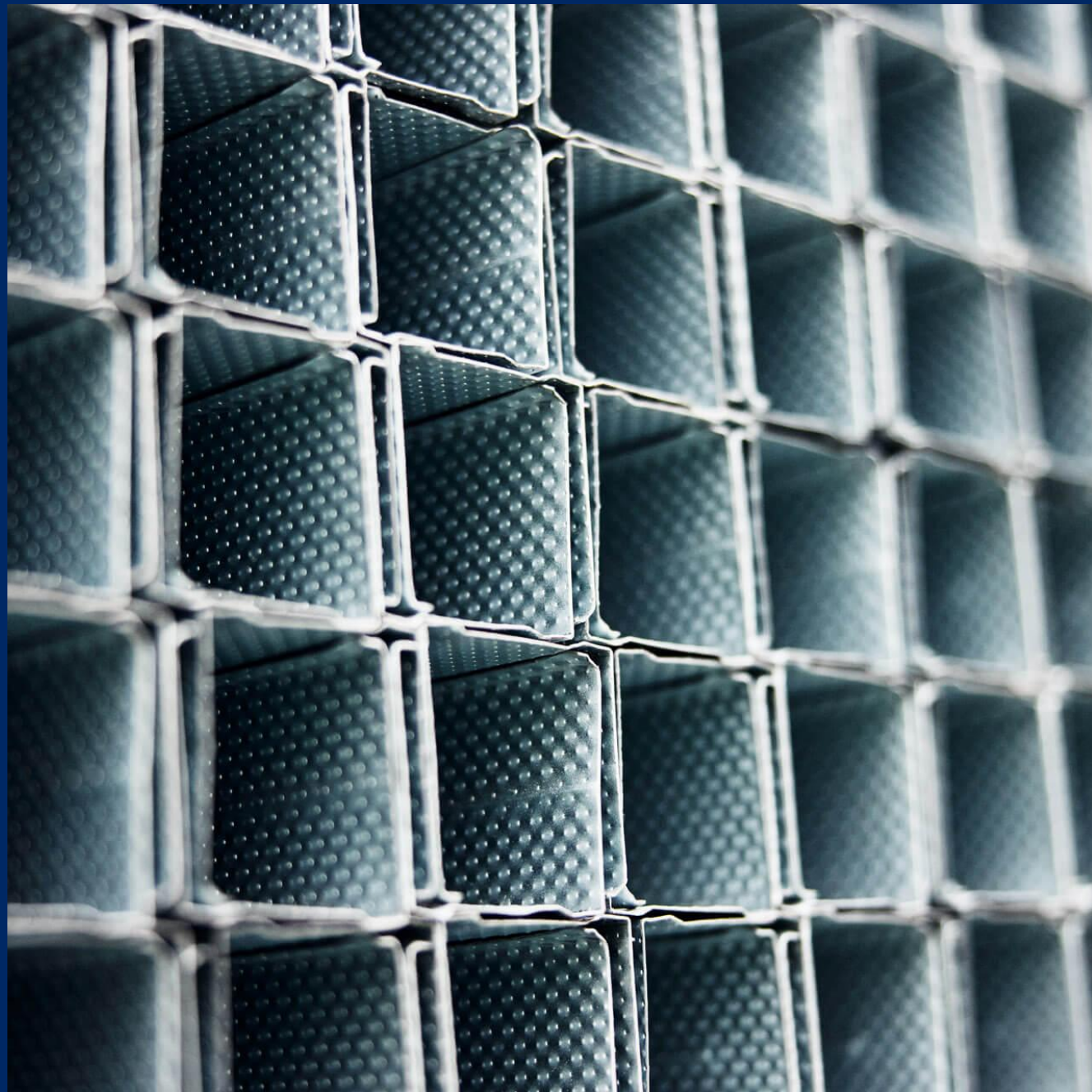
BUILDERS

Builders face a growing compliance and documentation burden and will increasingly rely on suppliers and distributors to identify products that meet regulatory, certification and project-specific sustainability requirements. Those who navigate this well gain access to regulated and certified projects.

02

KEY MARKET DRIVERS

This section outlines the key drivers reshaping the building materials market. It explains how regulation, finance, and market expectations are converging to increase requirements on environmental performance and documentation, driving a fundamental shift in how products are specified and supplied.



REGULATION IS RAISING THE BAR ACROSS ALL PRODUCTS WITH CLEAR NUANCES IN AMBITION



REGULATION IS THE MAIN DRIVER

Regulation, most notably EPBD¹ and CPR² in the EU, is increasingly addressing emissions from embodied carbon and lifting the minimum requirements for all products. Beyond carbon, the EU Taxonomy sets clear criteria for circularity, biodiversity, water and pollution.



MATURITY VARIES BY COUNTRY

Countries proceed at different paces in regulatory implementation, with Denmark having imposed carbon limits from 2023, while other markets, like Germany, follow the EU timeline of imposing first carbon limits in 2028. This significantly shapes demand across markets.



DIFFERENTIATED DEMAND

SMEs are largely driven by regulation, while large actors are requiring proof of sustainability performance for EU Taxonomy, green building certifications and public procurement. However, the requirements will cascade down to SMEs who supply to these actors.



PORTFOLIO-WIDE TRANSITION

Emerging sustainability documentation requirements will affect all construction products, making data infrastructure and tools an immediate priority. Stricter regulations will demand robust documentation of product sustainability indicators in EPDs, with a key role for distributors to support compliance.



CHANGES IN PRODUCT DEMAND

Extreme weather events are raising the bar for what buildings must withstand, and this will drive further change in future demand towards resilient material properties.



SUPPLY CHAINS NEED PROTECTION

Increasing volatility in the world adds pressure on global supply chains, making supplier collaboration and diversification key considerations for ensuring availability of supply.

SIX DRIVERS ARE ACCELERATING EUROPE'S TRANSITION TO FUTURE-FIT BUILDING MATERIALS



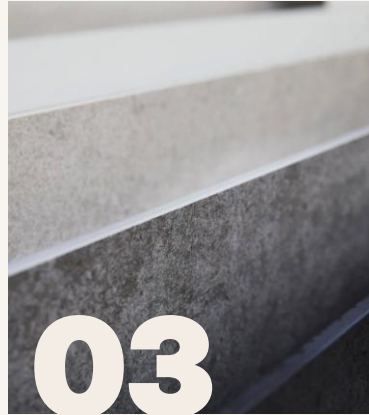
DIRECT REGULATIONS ON BUILDING MATERIALS

EU goals are cascading into regulations such as the **Energy Performance of Buildings Directive (EPBD)** and the **Construction Products Regulation (CPR)**, introducing mandatory disclosures in building codes, driving demand for low-carbon materials.



CIRCULARITY & WASTE REGULATION

The forthcoming **Circular Economy Act** is expected to shift the focus toward material reuse and value retention, introducing legally binding obligations anticipated to include **recycled-content requirements** and **stricter recovery definitions**.



GREEN FINANCE & CARBON PRICING MECHANISMS

Asset owners are incentivised to align with **EU Taxonomy** for favourable financing conditions, while the costs of carbon emissions are embedded into key building materials through the **Emission Trading System (ETS)** and the **Carbon Border Adjustment Mechanism**.



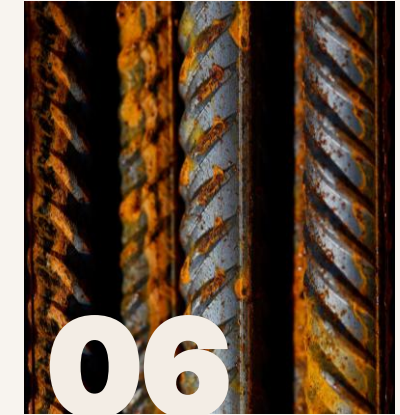
CERTIFICATIONS & COMMITMENTS

Green building certifications like **BREEAM**, **LEED**, and **DGNB** can command rental premiums and attract capital, while corporate commitments such as **Science Based Targets initiative (SBTi)** drive asset owners and developers to decarbonise their portfolios.



CLIMATE CHANGE ADAPTATION

Climate change is driving demand for **adaptation measures**, while increasing physical risks compel asset owners to **futureproof buildings against extreme weather** to maintain asset values and insurability.



SUPPLY CHAIN RESILIENCE

Disruptions due to resource scarcity and **geopolitical events** are driving demand for locally-sourced materials, diversified supplier networks, and transparent traceability systems to **ensure project continuity**.

PRIMARY DRIVERS

SECONDARY DRIVERS

KEY PRIMARY DRIVERS: 01-03



#	DRIVER	PRODUCT IMPLICATIONS	CUSTOMER PERSPECTIVE	IMPACT TIMING	APPENDIX
01	Energy Performance of Buildings Directive (EPBD)	- Verified EN 15804+A2 EPDs required for products contributing to whole-life carbon (WLC) calculations - Tightening GWP limits shift demand from “documented” to lower-carbon products	- Large developers and commercial builders lead due to WLC disclosure for buildings >1,000 m² - Earlier and stronger pull in frontrunner markets with binding limits (e.g. DK)	2026: National transposition drives early specification shifts 2028–2030: Zero-emission public buildings (2028) and mandatory WLC disclosure with GWP limits	EPBD deep dive pp.61–63
01	Construction Products Regulation (CPR)	- EN 15804+A2-aligned EPDs become a baseline market-access requirement - Digital readiness (DoPC, DPP-compatible data) differentiates suppliers as indicator scope widens	- All customer segments indirectly affected - Compliance obligation sits with manufacturers/importers - Distributors should simplify access for customers	2026: Mandatory climate (GWP) indicators apply 2029–2030: Digital Product Passports expected 2030–2032: Additional indicators phased in	CPR deep dive pp.64–66
02	Circular Economy Act (CEA)	- Products must document reusability, recyclability and modularity (aligned with DPP) - Recycled-content targets guide product secondary raw material content	- Demand for take-back and recycling solutions likely from large customers and projects subject to selective demolition requirements - As requirements roll out, all customers are affected, creating an opportunity for distributors to enable compliance	2026: Legislative proposal provides clarity on requirements 2028–2030: Progressive rollout via EU and national circularity strategies	Circularity deep dive pp.68–70
03	EU Taxonomy, ETS & CBAM	- Rising demand for products meeting Taxonomy thresholds with appropriate documentation (“taxonomy declaration”) - Carbon-intensive raw materials (e.g. steel) increase in cost, shifting demand toward low-carbon alternatives	- Large developers and asset owners driven by cost of capital affected by Taxonomy alignment - ETS/CBAM Cost pass-through visible in steel and cement, cascading down supply chains - Reporting burden can cascade to smaller suppliers	2026: All mechanisms in place; ETS and CBAM begin tightening 2026–2032: Phasing-out of free ETS allowances increases emission costs progressively toward 2034	Green finance deep dive pp. 71–74

KEY SECONDARY DRIVERS: 04-06



#	DRIVER	PRODUCT IMPLICATIONS	CUSTOMER PERSPECTIVE	IMPACT TIMING	APPENDIX
04	Certificates & commitments	- Demand for documented low-impact products supporting building certifications i.e. DGNB, BREEAM, LEED (carbon, circularity, indoor air quality) - Material suppliers enabling easy compliance become preferred partners	- Large customers (commercial, high-rise, large-scale new build) are the primary segment interested in voluntary certifications and Scope 3 decarbonization - SMEs indirectly affected if they are subcontractors and requirements are cascaded	<present: Voluntary sustainable building certifications have inspired the building legislation 2024: SBTi Buildings Criteria published, explicitly including embodied-carbon targets for materials Continuous: Certifications and corporate targets evolve continuously and are expected to stay ahead of regulation	Certifications deep dive pp.76-77
05	Climate change adaptation	- Higher performance requirements within mainstream products (thermal, moisture, fire, impact) - Growth in select categories: draining pipes, insulation, roofing and waterproofing membranes, sealants, treated timber	- Earlier uptake by builders serving asset owners and investors managing physical climate risk - SMEs adopt more gradually, responding to codes, customer demand, cost and ease of implementation	2026-2030: Heatwaves, flooding and storms account for ~90% of EU climate-related economic losses 2030+: Increased risk of intensified physical risks	Climate adaptation deep dive pp.78-79
06	Supply chain resilience	- Exposure to price volatility in fossil-fuel-based products (plastics, bitumen, etc.) - Energy-intensive products exposed to volatility unless renewable energy roll-out accelerates	Builders prefer reliable, well-known products; supply disruptions or price volatility can delay projects or impact project economics	Near term: Supply-chain disruption ranked among top global risks Post-2030: Manufacturing must largely move away from fossil energy	Supply-chain deep dive p.80

STARK MARKETS ARE MOVING AT DIFFERENT PACES IN EMBODIED CARBON REGULATION – DK, FI AND SE LEADING

Leaders and slow adapters among STARK markets of embodied carbon regulation

* Not an EU market, but follows most EU timelines
 ** Not an EU market, doesn't follow most EU timelines



GERMANY

EU-driven policy via new GMG (Building Modernisation Act, in force before July 2026)
 → GWP disclosure and limits expected in line with EPBD deadlines (2028–2030)



NORWAY*

Mandatory GHG reporting since July 2022. No carbon limits yet
 → Government proposed binding limit values in early 2025, currently under consultation



FINLAND

Mandatory climate declarations since 2025 and carbon limits of 16–29¹ kgCO₂/m²/yr since 2026. Helsinki already enforcing stricter 14 kg limit
 → Tightened to 12–28 kg CO₂e/m²/yr from 2029

Slow adapters

Leaders



UK**

Moderate ambition, slow regulation
 → No binding embodied carbon laws, but London Plan mandates WLC assessments. Future Homes Standard (Dec 2026) targets 75% operational emissions reduction. Biodiversity Net Gain mandatory since 2024



AUSTRIA

EPBD transposition via OIB Guidelines done in 2025/2026
 → OIB Guideline 7 (embodied carbon/sustainability) expected 2027. GWP disclosure and limits expected in line with EPBD deadlines (2028–2030)



SWEDEN

Mandatory climate declarations 2022
 → Carbon limits possibly delayed to 2030. Most advanced documentation landscape in STARK Group markets



DENMARK

Mandatory national carbon limits since 2023 and mandatory LCA for all new builds 2025: ~7 kgCO₂/m²/yr
 → limits tightening to 5.8 kg by 2029

DENMARK IS FRONTRUNNER IN CARBON LIMITS, LEADING TO PRESSURE ON BUILDERS, ENGINEERS AND ARCHITECTS

DENMARK



OVERVIEW

Denmark is the European frontrunner in carbon related disclosures and implementation is ahead of mandatory EU timelines. It can therefore be seen as precedent to other markets, and builders, engineers, and architects in Denmark will also feel the pressures of documentation and low-carbon requirements earlier than other STARK Group markets.

LEGISLATIVE OVERVIEW

- **Mandatory embodied carbon limits since 2023 (BR18), currently at ~7.1 kg CO₂e/m²/year.**
Denmark is the first mover in EU with carbon limits and has already tightened them once with a clear trajectory toward ~5.8 kg CO₂e/m²/year by 2029
- **Broad scope across nearly all new buildings, with differentiated thresholds by typology.**
Requirements apply to e.g. offices vs. residential, reflecting building-specific carbon profiles.
- **Full lifecycle assessment required over 50 years.**
LCA must cover modules A1–A3, B4, B6, C3–C4, and A4–5 separately, embedding whole-life carbon thinking in design.
- **Separate construction cap.** Separate limit of 1.5 kg (1.1 kg by 2029) on construction phase (A4–5) places scrutiny on transport, site processes, waste and packaging of materials.
- **EN 15804+A2 EPDs emerging as standard.** The Danish Building Agency provides a free calculation tool, LCAbyg, which requires EN 15804+A2-aligned EPDs.
- **Regulation backed by strong industry alignment.** Carbon limits have been actively supported by industry players, signalling high market maturity.
- **Policy structurally favours reused materials.** Reused products are treated as zero-emission in LCA, supporting secondary material markets.
- **Ambitious circularity and mandatory selective demolition from 2025.** Requires pre-demolition material mapping and separation to maximise reuse and high-quality recycling. Government aims to scale reuse and recycling from near 0% to 60%

VOLUNTARY CERTIFICATION SCHEMES

- **DGNB is the dominant certification standard in Denmark.** >50% of all new construction in Denmark with a value over DKK 30 million are DGNB-certified.
- **Covers full sustainability performance.** DGNB includes lifecycle carbon, circularity, indoor climate, lifecycle cost and broader ESG dimensions. The 2025 update included performance verification one year after operationalisation, increased focus on circularity and renovation, and full integration of EU taxonomy criteria.
- **Strong and growing market adoption.** The number of certified and pre-certified Danish projects has grown from 97 in 2021 to 750 in 2026.
- **Other schemes (LEED, BREEAM, Nordic Swan) are present but play a secondary role.** They are mainly used for specific building types or projects targeting international investors.

FINANCIAL INCENTIVES

- **No direct subsidies for low-carbon material selection.** Existing programmes mainly support renovation activity and heating system upgrades but remain largely material-agnostic.
- **Sustainable material demand is primarily driven by regulation and compliance.** Carbon limits and LCA requirements, together with developer and contractor sustainability commitments, shape procurement decisions rather than financial incentives.
- **EU Taxonomy alignment is an increasingly important driver, especially in new build.** Large developers are placing growing emphasis on compliance with taxonomy criteria.
- **Demand for documentation is rising.** STARK has experienced a recent increase in requests for “taxonomy declarations” to verify product alignment with EU Taxonomy requirements, signalling increased market interest to access green funding.

SWEDEN HAS AN ADVANCED DATA INFRASTRUCTURE, LARGE PROJECTS DRIVE DEMAND

SWEDEN



OVERVIEW

Sweden has one of the most advanced product documentation ecosystems in Europe and was one of the early countries to introduce climate declarations (on GWP) in 2022.

While carbon limits are not yet in place, demand is driven by certification schemes, procurement standards and strict product data requirements, making it a leading market in documentation maturity and a preview of upcoming EU requirements.

LEGISLATIVE OVERVIEW

- **Mandatory climate declarations since 2022 (klimatdeklaration).** Developers must report embodied carbon in construction stage (A1–A5) in kg CO₂e/m² before occupancy approval is granted
- **Applies to most new buildings.** Buildings below 100 m² as well as buildings built by private individuals are exempt
- **No binding carbon limits yet.** Sweden is a frontrunner in data transparency, but limit values are expected around 2030 in line with the EPBD.
- **Preference for product-specific EPD data.** EN 15804+A2-compliant EPDs are preferred, while Boverket provides conservative default values (+25%) to incentivise their use.
- **Compliance embedded in permitting process.** Climate declarations must be submitted before final building approval, ensuring integration into project delivery.

VOLUNTARY CERTIFICATION SCHEMES

- **Voluntary schemes and public procurement are the primary drivers of sustainable material demand.** In the absence of binding carbon limits, certification and procurement requirements (e.g., 30% carbon reductions in infrastructure projects) shape material choices.
- **Certification schemes are widely adopted and define material requirements.** Miljöbyggnad (dominant national scheme), BREEAM-SE (commercial/international) and Nordic Swan (widely recognised ecolabel) set criteria across energy, lifecycle carbon, circularity and strict chemical restrictions (e.g. PFAS, CMRs).
- **NollCO2 acts as an additional ambition layer.** It builds on existing certifications and requires full lifecycle LCA, verified EPDs and net-zero carbon performance by 2045.
- **Advanced chemical content monitoring, supported by strong documentation infrastructure.** Systems like BASTA, BVB and SundaHus systematically assess hazardous substances, underpinned by widespread use of digital product declarations (eBVD, EPDs).

FINANCIAL INCENTIVES

- **No direct incentives for low-carbon material selection.** Policy support does not target embodied carbon or EPD-based procurement.
- **Support focuses on renovation and production.** The ROT scheme subsidises renovation labour, while Industriklivet supports industrial decarbonisation.
- **Green finance plays a growing role.** Green bonds are increasingly used, with EU Taxonomy alignment guiding investment decisions.

FINLAND INTRODUCED CARBON LIMITS IN 2026 AND IS BUILDING A STRONG DIGITAL BACKBONE FOR COMPLIANCE

FINLAND



OVERVIEW

From 2026, Finland has binding carbon limits on new buildings. In addition, it is building a highly digitalised and structured compliance system, making carbon performance a permit requirement already today. While current limits are moderate, tightening from 2029 will increase pressure on material choices.

LEGISLATIVE OVERVIEW

- **Mandatory climate declarations and carbon limits introduced from 2026.** Applies to most new buildings, with a two-stage process: material inventory at permit stage and full LCA at completion.
- **Carbon limits already in place, with gradual tightening.** Initial levels are moderate (e.g. ~16 kg CO₂e/m²/year for apartments), tightening to ~12 kg in 2029. The industry deems current pressure moderate but anticipates implications on material choices after 2029.
- **Broad lifecycle scope including footprint and handprint.** Covers A1–A5, B3–B4, B6 and C1–C4 modules over 50 years, with additional focus on carbon benefits (e.g. biogenic storage, recycling).
- **Strong reliance on EPDs and national database.** EN 15804-compliant EPDs are preferred, supported by Finland's CO2data database.
- **Highly advanced digital system under development (Ryhti).** Centralised, machine-readable data platform including product lists ("material passport") and full building carbon data.
- **Circularity roadmap signals ambition but has limited reach to the market as of now.** Finland's Construction Act promotes extending building lifespans through e.g., easier renovation, complemented by a voluntary Circular Economy Green Deal, but these are unlikely to significantly impact demand for future-fit materials in the near term.

VOLUNTARY CERTIFICATION SCHEMES

- **Certification landscape is more fragmented than Sweden.** There is no single dominant scheme, with a mix of international systems such as LEED and BREEAM alongside national approaches.
- **YL-classification is the main national scheme.** It focuses on indoor climate, energy efficiency and moisture risk, with buildings achieving ≥3 stars aligning with EU Taxonomy requirements.
- **Nordic Swan Ecolabel is widely used in residential and public buildings.** It covers lifecycle carbon, chemicals and circularity, and provides a pathway to EU Taxonomy alignment.
- **M1 product classification adds a strong focus on indoor emissions.** It tests VOCs, formaldehyde and other pollutants, supporting certification and taxonomy requirements, but does not cover broader chemical screening like Sweden's BASTA system.

FINANCIAL INCENTIVES

- **No direct incentives for low-carbon material selection.** Existing support schemes mainly target operational energy performance rather than embodied carbon.
- **EU Taxonomy drives green finance alignment.** Certifications such as Nordic Swan provide practical pathways for developers to meet taxonomy-related financing requirements.

NORWAY HAS AMBITIOUS REQUIREMENTS IN PUBLIC PROCUREMENT, CARBON LIMITS UNDER DEVELOPMENT

NORWAY



OVERVIEW

Norway combines mandatory carbon disclosure with strong demand signals from certification and public procurement but lacks binding carbon limits so far. As a result, demand for low-carbon materials is concentrated in larger and public projects. The proposed introduction of limit values will likely expand embodied carbon requirements into the broader market.

LEGISLATIVE OVERVIEW

- **Mandatory carbon accounting since 2022 (TEK17 §17-1).** Developers must report lifecycle emissions for materials in apartment and commercial buildings (e.g. covering modules A1–A3, A4, A5 (only construction waste), B2 and B4 under NS3720).
- **No binding carbon limits yet, but regulation is progressing.** A government proposal to introduce limit values was published in early 2025 and is currently under consultation (deadline May 2025), signalling a likely shift toward binding requirements.
- **National methodology aligned with EU frameworks.** The NS3720 standard follows similar principles to EN 15978 and Level(s), with Norwegian adaptations (e.g. excluding full end-of-life modules).
- **Broad market coverage with limited exclusions.** Requirements apply to most professionally developed buildings, with single-family homes (småhus) as the main exemption.

VOLUNTARY CERTIFICATION SCHEMES

- **BREEAM–NOR is the dominant certification scheme.** It is widely used in commercial real estate (e.g. ~440 certified buildings by mid–2025) and requires LCA–based reductions of ~20–40% vs. reference buildings, creating a clear demand signal for low-carbon materials and EPDs.
- **Public FutureBuilt programme sets higher ambition levels.** Projects must achieve ~50% lifecycle emission reductions across materials, energy and transport (e.g. ~80 pilot projects by 2026), pushing demand into additional product categories beyond standard certifications.

FINANCIAL INCENTIVES

- **Green procurement is a key structural demand driver.** Public projects must include at least 30% weighting on climate and environmental criteria (since 2024), among the strictest requirements in the EEA.
- **Limited direct incentives for embodied carbon reduction.** Funding schemes (e.g. Enova grants up to ~30% of renovation costs, Husbanken loans) mainly target operational energy performance rather than material emissions.
- **Green finance linked to certification.** Preferential lending is offered for BREEAM–certified buildings, reinforcing the role of certification in shaping procurement decisions.

MINIMUM-REGULATION, CERTIFICATION AND FINANCE-DRIVEN DEMAND IN LARGE PUBLIC AND PRIVATE PROJECTS

GERMANY



OVERVIEW

Germany expresses low regulatory ambition on embodied carbon, but has a relatively mature certification-driven market. While mandatory requirements are limited to disclosure from 2028, demand for low-carbon materials is driven by public programmes, institutional investors, green finance and certification schemes. As a result, embodied carbon considerations remain concentrated in large-scale and commercial projects, with slower spillover into the broader market.

LEGISLATIVE OVERVIEW

- **EPBD transposition via the Building Modernisation Act (GMG).** The draft (24 February 2026) introduces key elements such as the harmonised A–G energy certificate scale, renovation passports and whole-life carbon reporting from 2028, with entry into force planned before 1 July 2026.
- **“1:1 implementation with full flexibility” signals low ambition.** The government has been explicit it will implement the EPBD at minimum level and is lobbying the Commission to extend deadlines.
- **No embodied carbon limits, only GWP disclosure from 2028.** Prior to GMG there are no requirements, and the new law introduces only the EPBD-mandated disclosure obligation.
- **Standardised methodology aligned with EU frameworks.** Whole-life GWP will follow DIN SPEC 91606 (in development), aligned with EN 15978 and Level(s), and rely on EN 15804+A2-compliant EPDs as the primary data source. Federal ÖKOBAUDAT as mandatory database.
- **Strong linkage to QNG quality label and funding.** The methodology is harmonised with the Quality Seal for Sustainable Buildings (QNG), which serves as a national reference framework and unlocks access to federal funding programmes.
- **The public sector enforces LCA through the BNB (Bewertungssystem Nachhaltiges Bauen) framework, which is mandatory for federal government buildings.** Federal construction projects must follow BNB, using EN 15978 methodology and the ÖKOBAUDAT database

VOLUNTARY CERTIFICATION SCHEMES

- **Certification schemes are the main driver of embodied carbon practices.** Despite limited regulation, ~17% of office stock in major cities is certified (+21% growth 2024–2025), driven by EU Taxonomy, ESG demand and CSRD reporting.
- **DGNB is the dominant scheme with long-standing LCA requirements.** Developers and institutional investors have worked with product-level embodied carbon data for over a decade.
- **Federal QNG label introduces clear carbon and energy thresholds.** QNG-PLUS requires ≤ 24 kg CO₂e/m²/year and ≤ 96 kWh/m²/year, while QNG-PREMIUM tightens to ≤ 20 kg CO₂e/m²/year and ≤ 64 kWh/m²/year.
- **While BNB applies only to federal buildings, it sets the methodological benchmark that DGNB and QNG also follow,** creating a consistent LCA standard across public and certified private construction
- **Demand remains concentrated in large-scale projects.** Certification and EPD-based data requirements are primarily seen in public, commercial and institutional segments, with limited penetration in the SME contractor market.

FINANCIAL INCENTIVES

- **Funding primarily targets operational energy performance.** BEG programmes (KfW loans, BAFA grants) support energy-efficient construction and renovation, not embodied carbon or material specification.
- **QNG certification unlocks higher-tier funding.** Under the KFN programme, the “mit QNG” tier offers better loan terms and higher eligible cost ceilings, creating a direct incentive for lifecycle carbon documentation.
- **Certification increasingly linked to access to finance.** Some banks require DGNB certification for subsidies or favourable loan terms, reinforcing demand from the financing side.
- **Large-scale public funding supports the transition.** A €500bn infrastructure and climate fund (incl. €100bn for climate neutrality by 2045) supports building renovation, industry decarbonisation and clean mobility.
- **EU Taxonomy reinforces the green finance cascade.** DGNB enables parallel taxonomy verification, allowing developers to demonstrate alignment alongside certification and Level(s) reporting.

AUSTRIA IS AN EARLY-STAGE MARKET WITH REGULATORY BUILD-UP UNDERWAY

AUSTRIA



OVERVIEW

Austria represents a market where documentation requirements are still entirely absent at the product level, but where the regulatory framework is being put in place at pace, making 2027–2030 the window in which demand for verified carbon data will emerge.

LEGISLATIVE OVERVIEW

- **EPBD transposition via OIB Guidelines, with complex rollout.** Austria is implementing the EPBD through OIB Guidelines, but adoption is structurally more complex as regulations must be incorporated across nine federal states (Bundesländer).
- **OIB Guideline 6 (2025) introduces core EPBD elements.** The revised guideline includes updated energy performance standards, solar readiness requirements, zero-emission building standards from 2030 and a renovation passport framework.
- **No embodied carbon requirements yet, but planned.** Whole-life carbon and GWP disclosure will only be introduced with OIB Guideline 7 (Nachhaltigkeit), expected in 2027; prior to this, no mandatory embodied carbon requirements exist.
- **National renovation plan aligned with EU direction.** Austria published its National Building Renovation Plan in late 2025, supporting EPBD implementation.

VOLUNTARY CERTIFICATION SCHEMES

- **Certification market is less developed, with no strong domestic system.** Austria lacks a nationally originated whole-life carbon certification scheme of comparable scale to Germany or the Nordics.
- **ÖGNI applies DGNB methodology adapted to Austria.** As the Austrian system partner of DGNB, it brings lifecycle carbon assessment and certification into the market.
- **klimaaktiv provides a national assessment method.** It evaluates buildings using the Ökoindex 3 (OI3), scoring materials based on global warming potential, primary energy demand and acidification.

FINANCIAL INCENTIVES

- **Regional subsidies already link to embodied impact.** Six of nine federal states incorporate OI3 into housing subsidies; for example, Tirol provides higher cash subsidies for better OI3 performance, while Vorarlberg links support to low-interest loans based on sustainability performance.
- **Federal incentives focus on operational energy.** Programmes such as Sanierungsbonus support insulation, windows and heating systems, rather than embodied carbon or material selection.
- **EU Taxonomy increasingly shapes financing.** OIB Guideline 6 is mapped against taxonomy criteria, creating demand for verified carbon data in larger projects (e.g. >5,000 m²), though the market is still developing.

LONDON AND COMMERCIAL NEW BUILD CREATE DEMAND FOR LOW-CARBON BUILDINGS IN THE ABSENCE OF REGULATION

UNITED KINGDOM



OVERVIEW

The UK is a highly market-driven system where regulation on embodied carbon lags behind practice. Demand for low-carbon materials and EPDs is driven by voluntary standards, planning requirements and institutional investors, particularly in London and large-scale developments. While SMEs remain largely unaffected today, strong industry momentum (e.g. Part Z) and emerging product regulation suggest convergence toward mandatory requirements in the late 2020s.

LEGISLATIVE OVERVIEW

- **Embodied carbon remains unregulated despite growing importance.** It represents ~20% of built environment emissions today and is projected to exceed 50% by 2035 as operational emissions decline.
- **Strong focus on operational energy regulation.** The Future Homes Standard (from Dec 2026) bans gas boilers, mandates heat pumps or low-carbon heat networks and requires solar panels, targeting ~75% reduction vs. 2013 standards.
- **No national regulation, but local and industry-driven requirements.** The Greater London Authority mandates whole-life carbon assessments for major developments, acting as a proxy for future national regulation.
- **Clear industry push toward regulation.** The Part Z proposal (backed by 150+ organisations) calls for mandatory reporting by 2026 and binding embodied carbon limits by 2028.
- **Not subject to EU regulation, but converging signals.** While outside EU timelines, UK policy (e.g. 2026 Construction Products Reform White Paper) signals stricter product data requirements aligned with EN 15804+A2.
- **Public procurement drives carbon management in infrastructure.** PAS 2080 is embedded, with National Highways requiring carbon management systems by 2025.
- **Additional regulation on biodiversity.** Mandatory Biodiversity Net Gain (BNG) requires 10% improvement and 30-year maintenance, though it excludes embodied impacts of construction materials.

VOLUNTARY CERTIFICATION SCHEMES

- **Voluntary standards are the primary driver of demand for sustainability documentation and performance.** ~65% of new Central London office developments achieved at least one green certification in 2024.
- **BREEAM is the dominant scheme and key driver of EPD demand.** Version 7 (2025) requires LCA at multiple stages (concept, design, as-built), with stronger embodied carbon benchmarks and credits linked to EPD use (e.g. ≥20 products with EPDs).
- **UK Net Zero Carbon Buildings Standard sets clear carbon limits.** Launched in 2024, it defines sector-specific limits for embodied carbon (A0–A5) and operational energy, tightening over time (e.g. –25–30% embodied carbon by 2030).
- **LEED plays a secondary but growing role.** Used in major developments with international investors, with v5 (2025) introducing mandatory embodied carbon LCA.
- **WELL adds a complementary focus on health and materials.** It drives demand for data on VOCs, chemicals and indoor environmental quality, typically alongside BREEAM.

FINANCIAL INCENTIVES

- **No financial incentives linked to embodied carbon.** There are no schemes targeting material specification or lifecycle carbon.
- **Government support focuses on operational energy.** The Boiler Upgrade Scheme (£7,500 grants) and £15bn Warm Homes Plan support heat pumps, insulation and energy upgrades.
- **Green finance linked to energy performance.** Green mortgages offer better terms for EPC A/B buildings, reinforcing operational energy focus.

OVERVIEW OF STATUS OF EMBODIED CARBON REGULATION PER STARK GROUP MARKET

Market	EPBD	Mandatory embodied carbon declaration (LCA)	Embodied carbon limits on new buildings	Building types covered	LCA module scope	Binding limits in 2026	Next reduction of limits (if communicated)	Reused products' GWP in A1–A3 ¹
	Yes	Since 2023	Since 2023	Nearly all new buildings with some exceptions	A1–A3, B4, B6, C3–C4 A4–A5 (construction phase)	7.1 kg CO ₂ e/m ² /yr on average* 1.5 kg CO ₂ e/m ² /yr	2027: 5.9 kg CO ₂ e/m ² /yr on average 2027: 1.1 kg CO ₂ e/m ² /yr	0
	Yes	Since 2026	Since 2026	Nearly all new buildings with some exceptions	A1–A5, B3–B4, B6 and C1–C4	16–29 kg CO ₂ e/m ² /yr	2029: 12–28 kg CO ₂ e/m ² /yr	0
	Yes	Since 2022	Expected in 2030 in line with EPBD	Nearly all new buildings above 100 m ² , with some exceptions	A1–A5 (climate declaration)	NA	NA	0
	No (non-EU)	Since 2022	Public consultation ongoing with deadline in May 2026	New apartment buildings and commercial buildings (except for småhus ²)	A1–A5 ¹ , B2, B4	NA	NA	0, but if there is GWP from processing of the reused products, it must be included ²
	Yes	Expected from 2028/2030 in line with EPBD	Expected in 2030 in line with EPBD	NA	NA	NA	NA	NA
	Yes	Expected from 2028/2030 in line with EPBD	Expected in 2030 in line with EPBD	NA	NA	NA	NA	NA
	No (post-Brexit)	The Greater London Authority mandates whole-life carbon assessments for major developments		NA	NA	NA	NA	NA

* See country deep dives for thresholds by building type

Notes: 1. LCA modules covering raw materials, transport and manufacturing 2) not if negligible i.e., GWP from washing the reused product 3) only waste from construction site under A5. 2. low-rise single-family residential buildings

Sources: Nordic Sustainable Construction, countries' governmental and Green Building Council websites

03

FUTURE-FIT PRODUCTS

This section defines what qualifies as a future-fit building material in the evolving market context.

It introduces the framework used in the report to assess product readiness, highlighting the shift from basic documentation toward measurable performance and resilience.



BEYOND 2030, FUTURE-FIT PRODUCTS MUST MEET RISING STANDARDS ON DOCUMENTATION, IMPACT, AND RESILIENCE

STARK's future-fit framework is built around four pillars that together describe what the market will require from building materials over the coming years towards 2030 and 2040.

Importantly, future-fit is not a static label. The four pillars define the overall frame, but the bar within each pillar will continue to rise. As carbon limits tighten, circularity requirements become binding, and broader environmental indicators enter mandatory reporting, products across all categories will need to evolve – pushing toward lower emissions, greater circularity, reduced toxicity, and improved biodiversity outcomes.

What qualifies as future-fit today will not be sufficient by 2030, and what meets the bar in 2030 will face higher expectations in the decade that follows. The framework is designed to reflect this: it describes the direction of travel, not a fixed destination.



TRANSPARENT DOCUMENTATION

Verified environmental data (EPDs, chemical content declarations, traceability, EU Taxonomy criteria) so customers can meet regulatory and project-level requirements. Emerging requirements on forced labour and supply chain due diligence may add a further product-level documentation layer.



LOWER ENVIRONMENTAL IMPACT

Products that are documented and demonstrate measurably better performance than the category average across relevant indicators. Competitive advantage shifts to products that can demonstrably help reduce the environmental footprint of construction across categories.



CLIMATE ADAPTATION

Products that help buildings withstand intensifying physical climate risks: extreme heat, flooding, storms, and moisture. Europe is warming twice as fast as the global average, and asset owners and insurers are increasingly factoring physical resilience into material specifications and building design.



RESILIENT SUPPLY

Securing product availability through supplier engagement, circularity, strategic diversification, and reduced exposure to high-risk supply chains. Resilience and sustainability are increasingly the same agenda, and for distributors, a future-fit supply chain is a precondition for a future-fit product range.

TRANSPARENT DOCUMENTATION



TRANSPARENT DOCUMENTATION

Ensuring every product carries verified environmental data (EPDs, Digital Product Passports) to help customers meet regulatory demands.

- 2026-2030, CPR and EPBD are raising the floor for building materials' sustainability documentation between 2026 and 2032, starting with most carbon intense materials like cement and steel. Emerging EU forced labour regulation is expected to introduce product-level due diligence requirements, though the precise scope and impact on building materials remain to be determined.
- Manufacturers are incentivised to produce digital EN 15804+A2 aligned product-specific EPDs, as generic values are conservative, and EU DPP is expected to incorporate this EPD format into the DPP framework
- Distributors need to build data infrastructure that supports builders, engineers and architects to collect, compare and submit sustainability information, positioning them as critical intermediaries in enabling compliance, especially as SMEs lack the capability to manage complex documentation requirements from developers, asset owners and investors.

01



EPDS

Most typically EN 15804+A2¹, in line with CPR 2024/3110 Annex II indicators², starting with GWP indicators that are required for building-level LCA calculations under EPBD³

02



IMPACT BEYOND CARBON

Products increasingly need to disclose performance on chemicals, indoor air quality, toxicity, and other environmental indicators to meet EU Taxonomy DNSH criteria and national requirements.

03



DATA INFRASTRUCTURE

First movers on data management will be best placed when regulation kicks in – in the Nordics already, rest of EU in 2028 (for EPBD declarations).

LOW CARBON, NON-TOXIC & CIRCULAR



LOW CARBON, NON-TOXIC & CIRCULAR

Increasingly lower-carbon, low-toxin and circular products, enabling customers to meet tightening GWP thresholds and win projects with green criteria (e.g. Taxonomy alignment).

- EPBD carbon thresholds, EU Taxonomy alignment, CBAM and ETS are structurally shifting demand toward lower-carbon and circular materials, particularly in carbon-intensive categories like cement, concrete, steel and glass
- Demand concentrates first in new-build projects led by large developers and institutional investors, with early impact in frontrunner markets from 2028¹, before cascading to SMEs. In Nordic markets, documentation expectations already exceed legal requirements, certification and Taxonomy-aligned projects make product data a condition of winning the sale, a pattern extending to Germany and the UK
- Requirements differ by product type: EPDs with carbon data for heavy materials (concrete, steel, insulation, timber); chemical content, indoor air quality, and EU Taxonomy DNSH criteria for lighter categories (paints, adhesives, sealants, interior finishes)

01



ALTERNATIVES FOR CARBON INTENSE-MATERIALS

Lower-carbon substitutes within core categories (e.g. low-clinker cement, recycled steel, mass timber)

02



TOXIN-FREE ALTERNATIVES

Materials meeting EU Taxonomy indoor air quality limits (<0.06 mg/m³ formaldehyde, <0.001 mg/m³ carcinogenic VOCs (Cat 1A/1B²))

03



CIRCULAR AND RECYCLED PRODUCTS

Products with recycled content and circular design (e.g. modularity, precut wood, take-back services), supporting ≥70% CDW³ recovery targets in EU Taxonomy

CLIMATE ADAPTATION



CLIMATE ADAPTATION

A growing share of the assortment will address climate adaptation, products that help buildings withstand floods, extreme rainfall and heat, fire, and water stress.

- Demand is driven by asset owners and investors protecting asset value against rising climate risks, reinforced by insurers pricing exposure more aggressively; regulation remains secondary at this stage
- The shift is expected to materialise towards 2030 and intensify with increasing extreme weather events, translating into demand for proven resilience performance and new product applications
- Distributors can get ahead by mapping market-specific climate risks, ensuring suppliers document performance, and guiding builders in selecting resilient solutions

01



THERMAL AND MOISTURE PERFORMANCE

E.g., Wood fibre and hemp insulation with high thermal resistance and vapour permeability, managing heat stress and moisture buffering while meeting low-carbon requirements

02



PROTECTIVE SYSTEMS AND COATINGS

Storm water pipes, reflective roof coatings, weatherproof facade systems and wind-rated cladding, protecting building envelopes from heat, wind and driving rain; largely new applications for most builders

03



BIO-BASED MATERIALS

An emerging opportunity at the intersection of low carbon and climate resilience: next-generation bio-based materials like hemp, cork and mycelium-based products, offering thermal performance, moisture regulation and structural resilience while storing carbon

RESILIENT SUPPLY



RESILIENT SUPPLY

Securing product availability through supplier engagement and supply chain intelligence, circularity, strategic diversification, and reduced exposure to high-risk supply chains.

- Geopolitical shifts, climate events and new compliance obligations (CBAM from 2026, EUDR from December 2026) are increasing cost and complexity in building material supply chains. In 2025, over 220 new trade restrictions on critical materials were enacted globally¹
- Risk exposure varies by category: timber faces geopolitical and EUDR non-compliance risks, fossil-intense products face cost pressure, and bio-based feedstocks are sensitive to climate and harvest conditions. In each case, the primary risk sits at Tier 2 and Tier 3, where distributor visibility is typically lowest
- For distributors, supply chain resilience requires knowing where vulnerability sits before disruption occurs. Engagement with suppliers via shared data and joint risk mapping enables targeted diversification and informed decisions on raw material exposure

01



SUPPLIER COLLABORATION

Building structured relationships with suppliers across tiers to map chain vulnerability, share risk intelligence, and identify where diversification and raw material decisions are needed most

02



CIRCULAR MATERIALS

Increasing reuse and recycling of raw materials to diversify raw material flows and improve supply chain resilience, supported by take-back schemes and circular value chains.

03



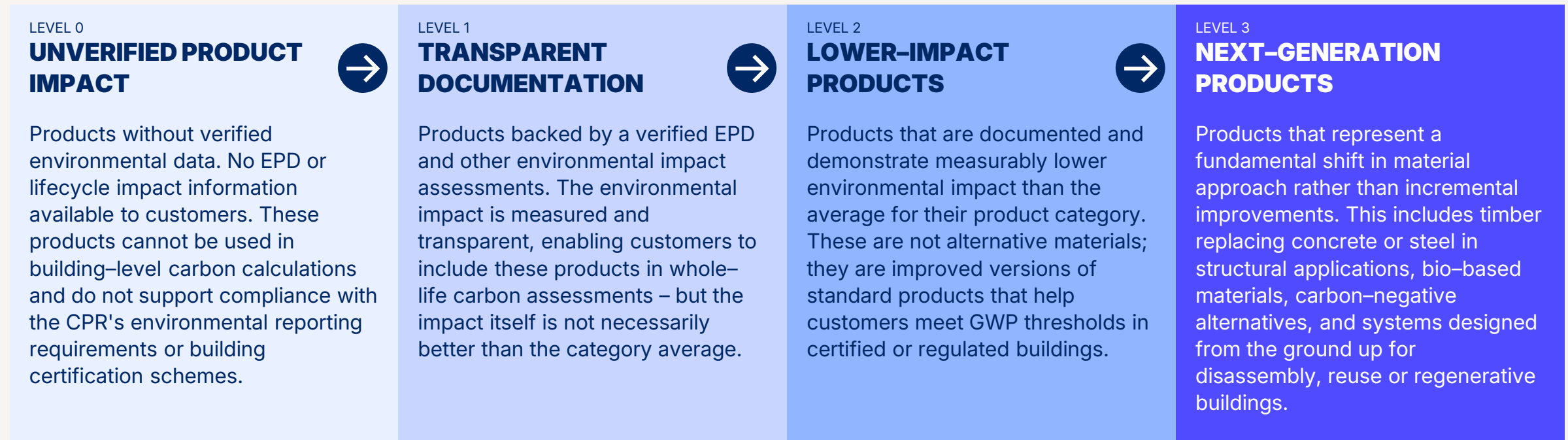
REDUCING VULNERABLE RAW MATERIAL DEPENDENCY

Diversification from fossil-based inputs (e.g. plastics, bitumen) towards bio-based and mineral alternatives, reducing cost volatility, geopolitical exposure and supply routes disruption

THE TRANSITION IS NOT CONFINED TO A NICHE PRODUCT SEGMENT, BUT BEST DESCRIBED AS A MATURITY SPECTRUM

Rather than a binary split between "sustainable" and "conventional" products, the transition is best understood as a progressive shift along a maturity spectrum. This report uses a four-level framework to describe where products sit today and where they are heading:

PRODUCT MATURITY SPECTRUM

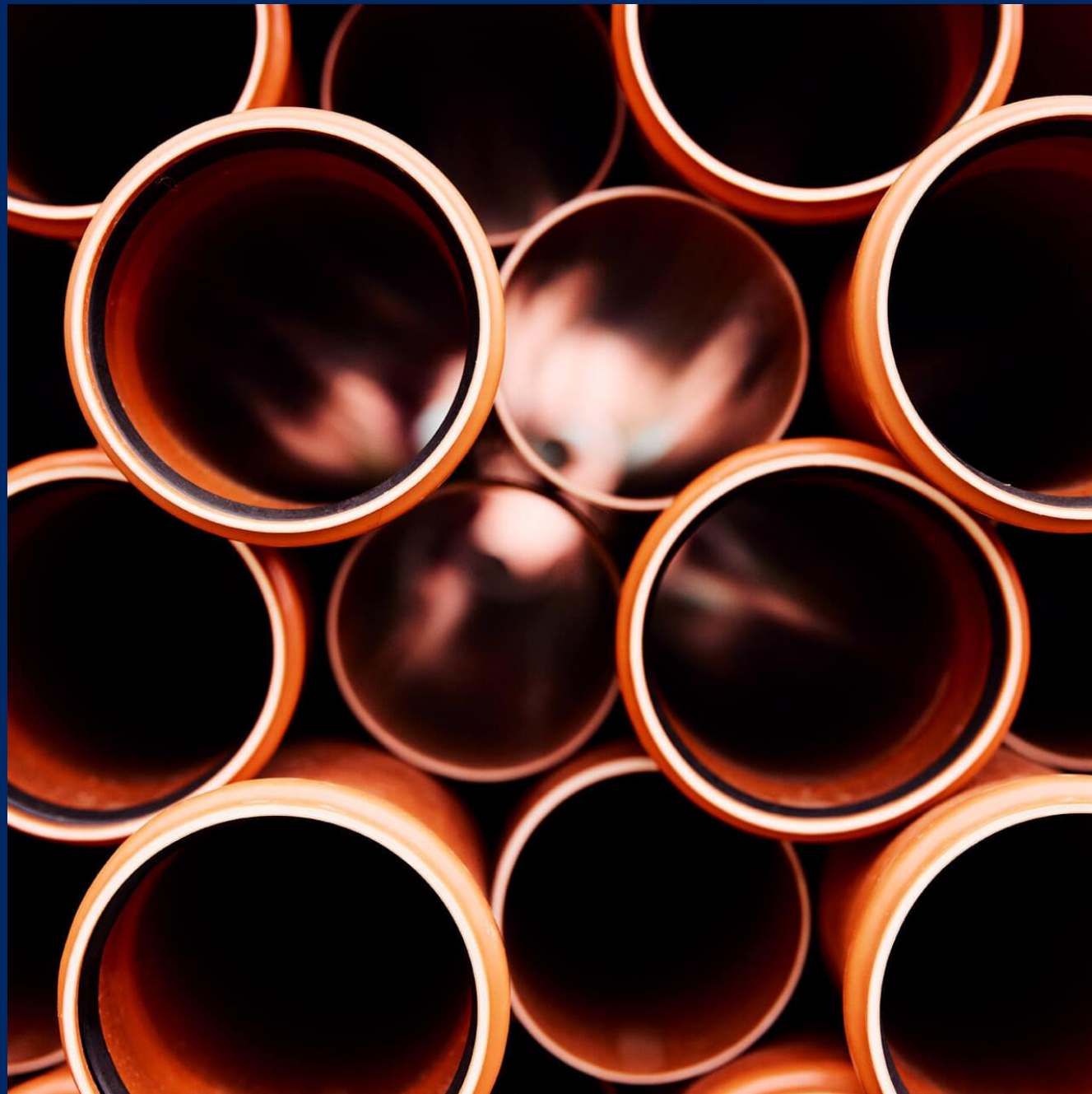


04

MARKET OPPORTUNITIES

This section explores how the market transition translates into commercial opportunities.

It examines where demand is expected to grow across regions and segments, and how value can be captured by enabling compliance, improving product performance, and supporting customers in navigating increasing complexity.

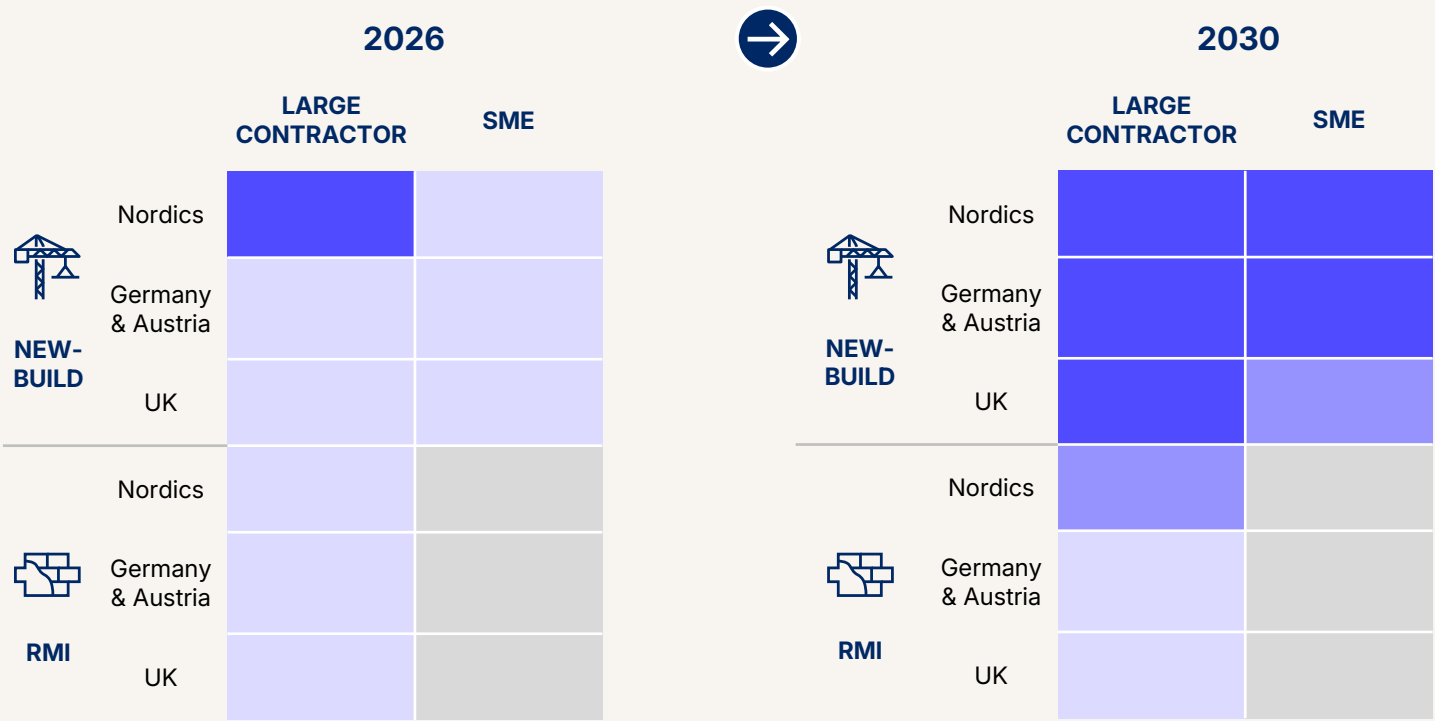


THE TRANSITION STARTS WITH LARGE BUILDERS IN NEW BUILD, REACHING SMES & RMI IN ALL REGIONS BY 2030

CONSTRUCTION MARKET EXPOSURE TO ENVIRONMENTAL DOCUMENTATION REQUIREMENTS BY SEGMENT

 **AS DOCUMENTATION BROADENS, STAKEHOLDERS MUST ADAPT**

Exposure to documentation requirements¹  High  Medium  Low  Not exposed



Today, documentation requirements are concentrated in Nordic large builders new build, but exposure broadens significantly by 2030 as EPBD, national carbon limits, and certification pull SMEs, renovation, and continental European markets into scope. The EU Taxonomy renovation activity² and the Commission's March 2026 Staff Working Document³ on whole-life carbon signal that major renovations will also face documentation requirements.

EU Taxonomy adds a finance-driven demand layer estimated at roughly EUR 65bn⁴ across the seven markets covered in this report. This brings about cascading documentation requirements independently of regulation – for both new build and renovation.

As documentation broadens, every part of the value chain must adapt. Manufacturers need verified data across more categories. Builders face compliance in segments where it previously did not apply. And distributors who can provide documentation, advisory, and compliant product choices across the full breadth of the market will be best positioned toward 2030.

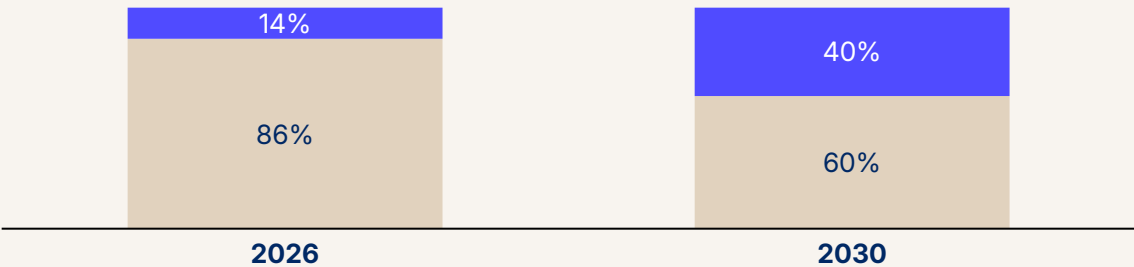
BY 2030, ~40% OF STARK'S BUSINESS WILL BE LINKED TO PROJECTS REQUIRING ENVIRONMENTAL DOCUMENTATION



BUILDING MATERIALS MARKET VALUE LINKED TO PROJECTS WITH DOCUMENTATION REQUIREMENTS¹

■ Environmental data required ■ Not a hard requirement

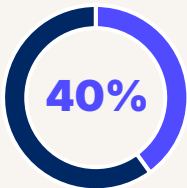
Estimated share of building materials sales linked to projects requiring environmental documentation



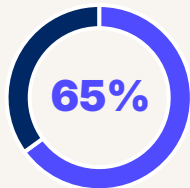
Building materials sales linked to projects requiring environmental documentation will grow from ~14% to ~40% by 2030. As requirements extend beyond the Nordics and into SME and renovation segments, this unlocks growing demand across the value chain: for verified product data from manufacturers, for compliance-ready builders, and for distributors who can offer documented products and guide customers through an increasingly complex landscape.



COMPLIANCE CREATES CHALLENGES AND OPPORTUNITIES ACROSS THE VALUE CHAIN



Share of SMEs who are concerned about meeting climate requirements²



Share of SMEs who seek compliance advice from their builders' merchant²

Builders in regulated markets (e.g. DK) already turn to their building merchant to help navigate compliance – a pattern expected to replicate across markets. This is an opportunity for the entire value chain: manufacturers who invest in lower-impact products gain specification preference, builders who master documentation win in growing regulated segments, and distributors who make compliance easy become indispensable partners in a more complex market.

THE BUILDING MATERIALS MARKET IS TRANSITIONING TOWARDS DOCUMENTED, LOWER IMPACT PRODUCTS

Regulation is raising the baseline across the building materials market, eroding the lines between “green” and conventional products

Verified environmental documentation is becoming table stakes, which drives conventional products to accelerate decarbonisation.

For manufacturers, competitive advantage shifts from simply being documented to being lower impact at scale. Winning products will come from suppliers that can move core product categories – not just a few premium SKUs – toward lower-carbon alternatives.

This creates a major role for Distributors: curate compliant alternatives, advise customers on substitutions, and make compliance easy. For Distributors, differentiation will come from combining lower-impact products, customer guidance, and reliable scaled delivery.

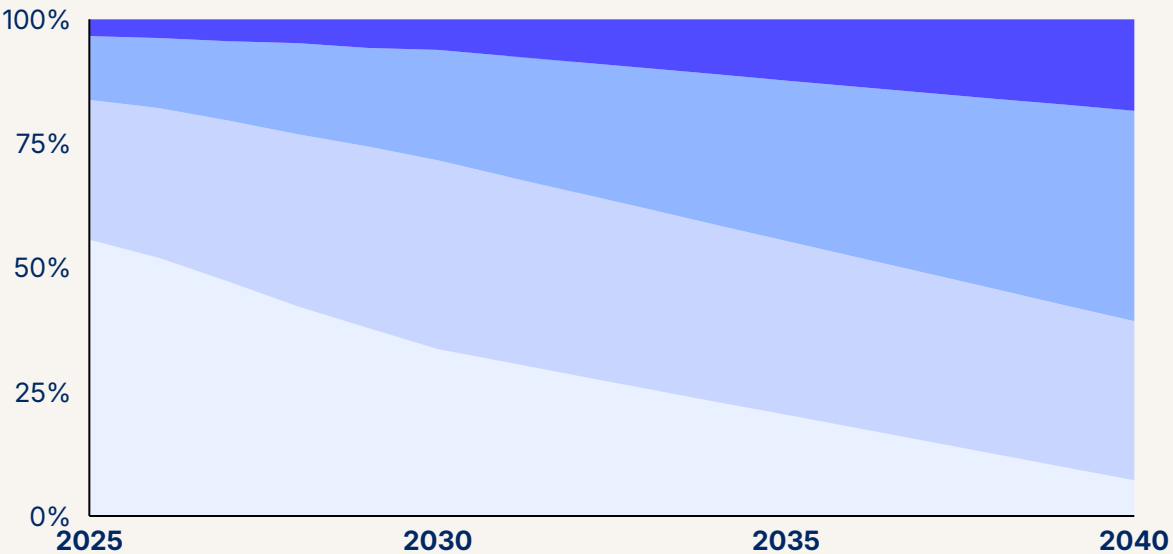


BUILDING MATERIALS MARKET IN TRANSITION¹

Estimated transition dynamic of the building materials market based on EU regulatory requirements, implementation timelines and supplier documentation readiness.

Unverified impact Documented Lower-impact Next-generation

Building materials market (sales share)²



ALL STARK GROUP REGIONS CONVERGE TOWARD DOCUMENTED AND LOWER-IMPACT PRODUCTS



ESTIMATED MARKET MATURITY DISTRIBUTION BY REGION 2026-2040¹

— Nordics — Germany & Austria — United Kingdom

2026 Current estimate

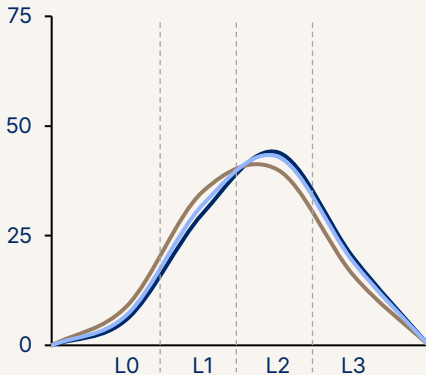
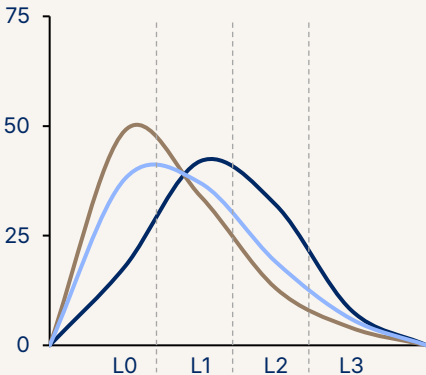
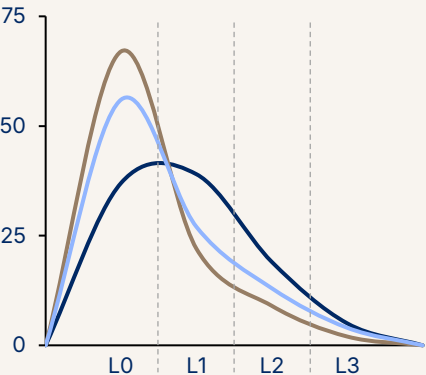


2030 Qualitative estimate



2040 Illustrative projection

Estimated share of
sales revenue (%)



L0: Unverified impact. Products without verified environmental data. No lifecycle information available to customers.
L1: Transparent documentation. Products backed by a verified EPD and with EUDR traceability where applicable.
L2: Lower impact products. Improved versions of standard products that demonstrate meaningfully lower impact than the category average
L3: Next generation products. Products that represent a fundamental shift in material approach.



DYNAMICS SHAPING THE TRANSITION

Documentation becomes the baseline everywhere, with the Nordics currently leading the market. The majority of the Nordic market is already documented in 2026 while the bulk of Germany and Austria remains unverified. The Nordics largely complete the documentation shift by 2030.

The competitive frontier shifts from documentation to performance. In 2026, the challenge is getting products documented. By 2030 in the Nordics and over the following decade across all regions, the question becomes whether a product outperforms its category average. Lower-impact products are expected to become the dominant segment everywhere by 2040.

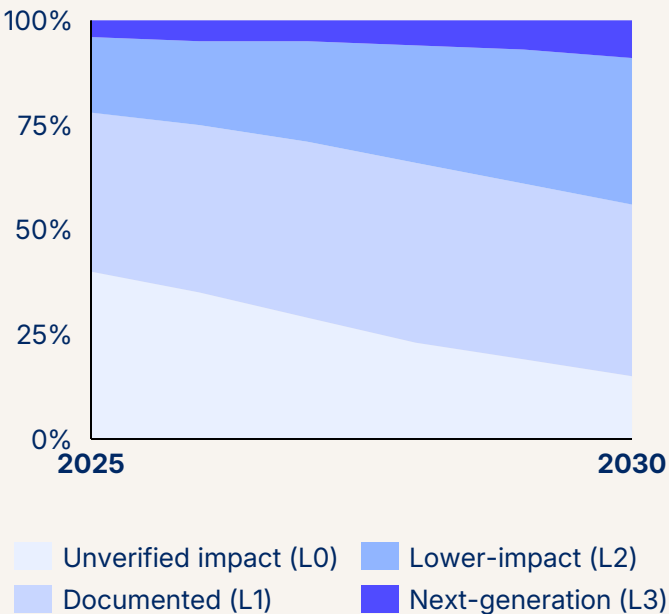
By 2040, the regions converge. The substantial gap in undocumented products between the Nordics and Germany in 2026 narrows significantly by 2040. The remaining differences are in the performance mix: Nordic markets are expected to maintain a lead in lower-impact and next-generation product adoption.

MOST NEW-BUILD MATERIALS WILL NEED VERIFIED CARBON DATA BY 2029 – BUILDERS FACE GROWING COMPLEXITY



PROJECTED MARKET TRANSITION¹

Estimated transition of the Danish building materials market based on regulatory requirements, market demand and supplier readiness. Y axis represents total sales volume per “maturity level” for “EPD relevant” product categories.



TRANSITION DRIVERS

Documentation is regulatory-enforced (L0→L1).

Mandatory carbon limits since 2023 require product-level EPD data for all new-build LCA submissions. Products without compliant EPDs are penalised or excluded. Leading distributors already exceed 75% coverage.

Tightening limits push toward lower-impact products (L1→L2).

Thresholds moving from 7.1 toward 5.8 kg CO₂e/m²/yr by 2029 mean standard documented products may not suffice – specifiers must actively choose lower-impact alternatives to stay within budget.

Circularity rules open the door to next-generation materials (L2→L3).

Selective demolition rules (July 2025) and updated DGNB criteria reward reused and bio-based materials. Reused products count as zero-emission in LCA, creating a structural incentive.

Renovation will broaden the documentation requirement base from 2027 (L0→L1).

Requirements are expected to extend to renovation – 63% of building output – bringing a large undocumented segment into scope.

Demand is pulling faster than capability follows (all levels).

65% of professionals cite building merchants as their primary sustainability source, but only 40% feel confident advising – accelerating reliance on pre-verified product ranges.

MARKET IMPLICATIONS

SUPPLIERS

EPD documentation is a market access condition. Products without compliant EPDs enter calculations via penalised generic data – or are excluded entirely in the Low Emission Class. Suppliers with below-average GWP products hold a direct specification advantage as limits tighten. Concrete, insulation, and steel are most exposed.

DISTRIBUTORS

Binding limits, DGNB, and Taxonomy alignment create structural demand for intermediaries who simplify compliance. Distributors with mapped EPD data offer project-ready assortments, enable carbon-based product comparison, and reduce documentation burden. Returns come through specification relevance, advisory conversion, and digital stickiness. Renovation extension from 2027 expands this to less-prepared SME builders.

BUILDERS

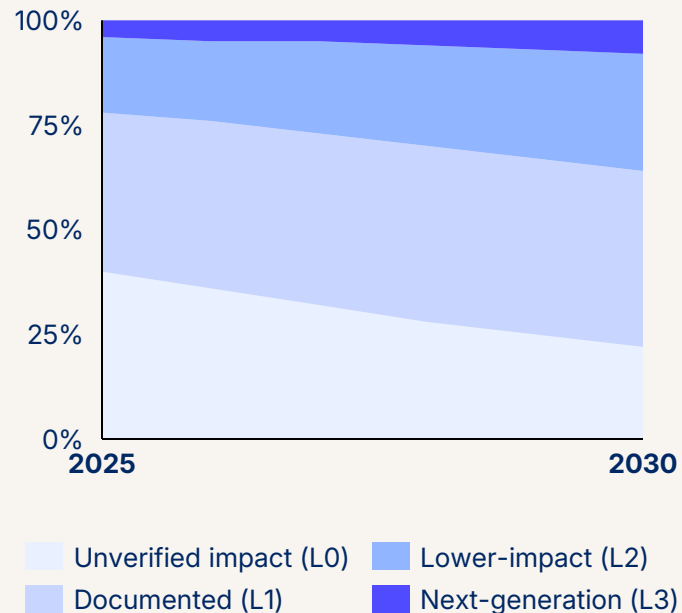
Whole-life carbon compliance is routine in new build. LCA declarations require product-level EPD data before occupancy, creating a real documentation burden. For SMEs – 60% of whom report lacking knowledge on alternative materials – this is a significant gap. Builders sourcing from channels with pre-integrated carbon data reduce compliance risk and documentation time. As limits tighten and renovation enters scope, supplier choice becomes a compliance decision as much as a commercial one.

TWO-THIRDS SHIFTING TOWARD DOCUMENTATION, DRIVEN BY PENALTIES AND CERTIFICATION, NOT LIMITS



PROJECTED MARKET TRANSITION¹

Estimated transition of the Swedish building materials market based on regulatory requirements, market demand and supplier readiness. Y axis represents total sales volume per “maturity level” for “EPD relevant” product categories.



TRANSITION DRIVERS

Documentation is mandatory but without consequence – yet (L0→L1). Climate declarations required since 2022, with 3,275 registered to date. Generic data carries a 25% penalty in Boverket's database, incentivising EPD use. Boverket will propose binding limits by June 2026, implementation expected ~2030.

Chemical content systems add a unique documentation layer (L0→L1). BASTA, SundaHus, and Byggarubedömningen classify ~50,000 products against chemical content criteria – a parallel documentation requirement with no equivalent elsewhere in Europe.

Certification drives demand for lower-impact products (L1→L2). Miljöbyggnad, BREEAM-SE, and NollCO2 each require LCA-based carbon performance. NollCO2 demands verified EPDs for all materials and net-zero lifecycle carbon.

Infrastructure procurement sets the pace for heavy materials (L1→L2). Trafikverket has required EPD-verified concrete, steel, and asphalt since 2016, with targets of 60% carbon reduction by 2030.

Next-generation materials are emerging through Sweden's net-zero 2045 target (L2→L3). NollCO2 certification and Industriklivet manufacturer funding are seeding mass timber and low-carbon concrete at structural scale.

MARKET IMPLICATIONS

SUPPLIERS

The 25% generic data penalty makes product-specific EPDs a competitive advantage today, even before limits arrive. Suppliers selling into certified projects (Miljöbyggnad, BREEAM-SE) already face LCA-based scrutiny. Chemical content registration through BASTA or SundaHus is an additional market access requirement unique to Sweden. Suppliers without both carbon and chemical documentation face a dual exclusion risk.

DISTRIBUTORS

Sweden's layered documentation landscape – carbon declarations, chemical content systems, certification requirements – creates complexity that Distributors are well-positioned to simplify. Offering an assortment that is pre-screened across both carbon and chemical dimensions is a distinctive value proposition. Portfolio assessments indicate EPD coverage approaching 60%, with industry EPD inclusion driving recent gains. The arrival of limits (~2030) will convert this from a differentiation advantage into a market access requirement..

BUILDERS

Climate declarations are already a project-level obligation, and builders must source EPD data or accept generic penalties. The chemical systems add a parallel compliance task for certified projects. Builders working in institutional or commercial segments face the most layered requirements.

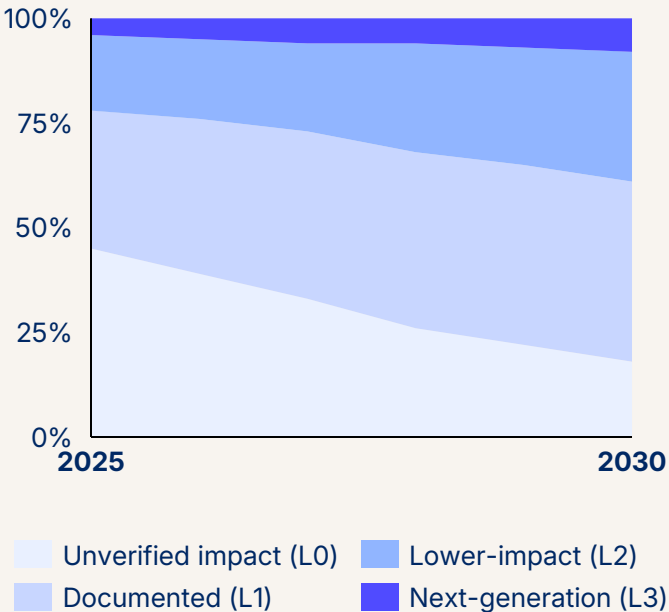
Notes: 1. Estimates based on STARK Group analysis of regulatory implementation timelines, market adoption patterns, supplier readiness, and financial drivers across each geography. Figures are illustrative projections and should be treated as directional, not as precise forecasts. See detailed breakdown of EU and country specific regulatory impact in the “02 Drivers” section.

MOVING FROM NO REQUIREMENTS TO BINDING CARBON LIMITS IN <12 MONTHS: STEEPEST ADOPTION IN THE NORDICS



PROJECTED MARKET TRANSITION¹

Estimated transition of the Finnish building materials market based on regulatory requirements, market demand and supplier readiness. Y axis represents total sales volume per “maturity level” for “EPD relevant” product categories.



TRANSITION DRIVERS

Binding carbon limits took effect January 2026 (L0→L1). The Construction Act and Decree 1027/2024 require climate declarations with limit values – 16 kg CO₂e/m²/yr for apartments, tightening to 12 kg from 2028. Helsinki already enforces its own 14 kg limit.

Enforcement infrastructure is the most structured in Europe (L0→L1). A machine-readable material inventory is required at permit stage; the full LCA at final inspection. All data feeds into the Ryhti national register, operational from 2026 with full mandate by 2029.

Tightening limits will force product selection toward lower-impact alternatives (L1→L2). The trajectory from 16 to 12 kg within two years is ambitious – specifiers will need to optimise material choices actively, not simply document them.

Documentation infrastructure is less deep than Sweden's (L0→L1 constraint). Finland has M1 for indoor emissions but no equivalent of BASTA or SundaHus for chemical content. EPD coverage among leading distributors is around 50%, below Nordic peers.

Circularity ambition exists but is not yet a material market driver (L2→L3). The Construction Act favours extending building life over new construction, but reclaimed material flows remain nascent.

MARKET IMPLICATIONS

SUPPLIERS

With binding limits now in force, EPD documentation has shifted from optional to essential for any product entering new-build projects subject to the climate declaration. The tightening trajectory (16 to 12 kg by 2028) means that even documented products with above-average GWP will face increasing specification pressure. Suppliers of concrete, insulation, and steel face the most immediate exposure.

DISTRIBUTORS

Finland's two-stage enforcement (material inventory at permit, LCA at completion) creates early and repeated data touchpoints. Distributors who can provide product carbon data at the quotation stage – before the permit submission – reduce the contractor's compliance timeline. EPD coverage among leading distributors is growing but not yet at Nordic-leader levels, making further investment in data mapping a competitive priority.

BUILDERS

The permit-stage material inventory requirement means builders must identify carbon-documented products earlier in the project cycle than in Denmark or Sweden. This front-loads the documentation burden and increases the value of sourcing from channels with readily available, structured carbon data. SME builders face the steepest learning curve given the newness of the requirements.

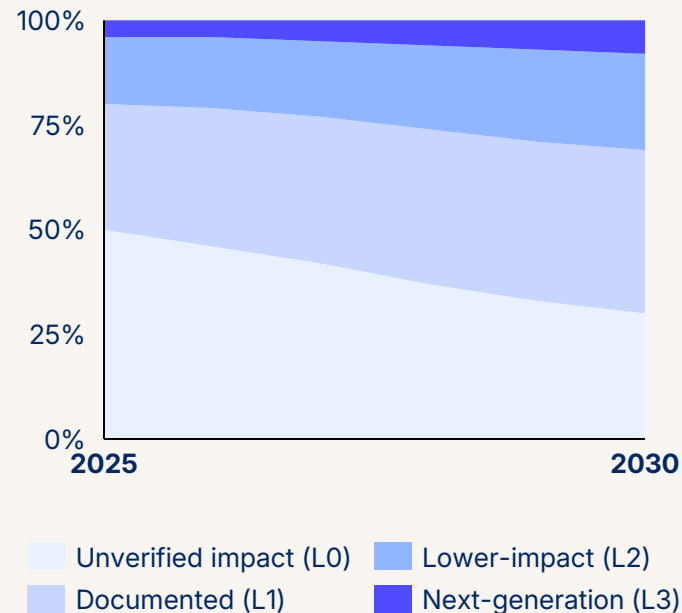
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HALF THE MARKET UNDOCUMENTED; CERTIFICATION PULLING COMMERCIAL AHEAD, MARKET AWAITING LIMITS



PROJECTED MARKET TRANSITION¹

Estimated transition of the Norwegian building materials market based on regulatory requirements, market demand and supplier readiness. Y axis represents total sales volume per “maturity level” for “EPD relevant” product categories.



TRANSITION DRIVERS

Mandatory GHG disclosure since 2022, but no binding limits (L0→L1). TEK17 §17–1 requires GHG accounting for apartment blocks and commercial buildings. This drives documentation without constraining material choice – a disclosure regime, not a performance standard.

Certification creates the real demand signal (L1→L2). BREEAM–NOR (440+ certified buildings) requires 20–40% carbon reduction versus reference for Mat 01 credits. FutureBuilt demands 50% lifecycle reduction across ~80 projects. These programmes drive EPD demand in institutional and commercial segments.

EEA alignment pressure is building toward limits (L0→L1). Norway participates actively in Nordic Sustainable Construction. The EPBD's 2027 GWP roadmap deadline creates indirect pressure through EEA commitments, though no limit date is confirmed.

Portfolio assessments show high EPD availability among leading distributors (L0→L1). Coverage exceeds 80% for LCA–relevant categories, partly driven by integration of Swedish authority EPD data – suggesting supply–side readiness ahead of regulatory demand.

Single–family homes are excluded, limiting scope (L0→L1 constraint). TEK17 disclosure applies only to apartments and commercial, leaving a significant segment undocumented.

MARKET IMPLICATIONS

SUPPLIERS

EPD demand is real but segmented: strong in BREEAM–NOR and FutureBuilt projects, limited in residential and SME segments. Suppliers with EPDs gain specification access in the growing certified commercial segment. Without binding limits, there is less urgency to demonstrate below–average GWP. This will change when limits arrive, making early investment in lower–impact product development a pre–positioning strategy.

DISTRIBUTORS

Norway's split market – advanced in certified commercial, early–stage in residential – creates a dual strategy requirement. Distributors serving institutional clients need systematically mapped EPD data and LCA advisory capability. For the broader SME market, awareness building and readiness preparation are the priorities. The high EPD availability in leading distribution channels (~80%) suggests supply–side readiness; the opportunity lies in converting data availability into commercial differentiation before limits create universal demand.

BUILDERS

TEK17 disclosure is a compliance exercise for apartments and commercial but does not constrain material choice. Builders in BREEAM–NOR projects face the more demanding documentation standard. The knowledge gap is less acute than in Denmark (where limits create urgency) but will sharpen when limits are introduced.

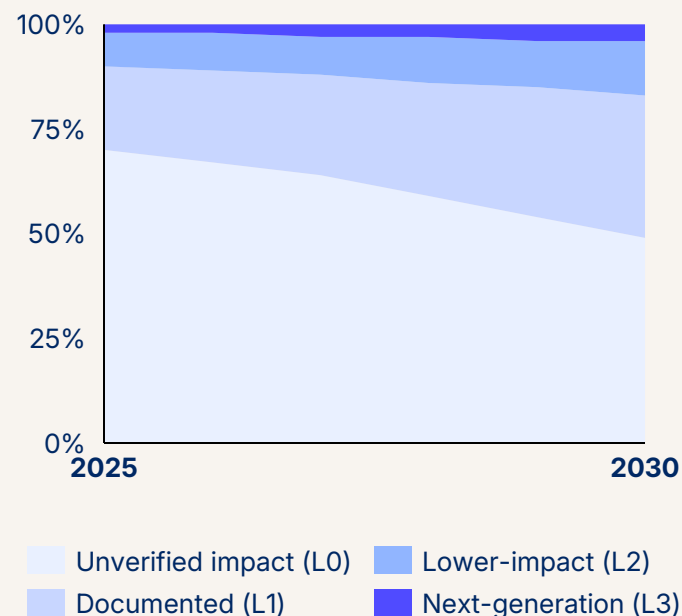
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MOST PRODUCTS LACK CARBON DOCUMENTATION – WIDE DATA GAP WITH SIGNIFICANT TRANSITION AHEAD



PROJECTED MARKET TRANSITION¹

Estimated transition of the German building materials market based on regulatory requirements, market demand and supplier readiness. Y axis represents total sales volume per “maturity level” for “EPD relevant” product categories.



TRANSITION DRIVERS

No mandatory embodied carbon requirements until 2028 at earliest (L0→L1 constraint). The GMG implements the EPBD with "1:1 minimum ambition." WLC disclosure arrives from 2028; but is still in development. The regulatory clock is 3–4 years behind the Nordics.

Voluntary certification is advanced but concentrated in commercial (L1→L2). ~17% of office stock in major cities carries green certification, growing 21% year-on-year. DGNB has required LCA since its launch. But certification has not reached the SME contractor segment.

EPD coverage among leading distributors is low (~28%) (L0→L1 constraint). This reflects both lower manufacturer EPD availability and less systematic SKU-level mapping compared to Nordic markets. The supplier landscape is fragmented.

The €500bn infrastructure fund does not target embodied carbon (L0→L1 constraint). Financial incentives (BEG/KfW/BAFA) focus on operational energy performance, not material specification. No subsidy cascades toward lower-carbon products.

Market contraction compounds the lag – volume has fallen 25% since 2019 (all levels). The deepest downturn in 30 years reduces appetite for new compliance investment and concentrates contractor attention on cost.

MARKET IMPLICATIONS

SUPPLIERS

Germany's regulatory vacuum means EPD investment currently serves only the certified commercial segment – a fraction of total demand. However, the CPR (from 2026) and GMG (from 2028) will change this structurally. Suppliers who wait for regulation to mandate EPDs will face a compressed transition window. Those who invest now build specification access in the certified segment and position for a market-wide shift. Concrete, insulation, and steel face the highest eventual exposure given their GWP contribution.

DISTRIBUTORS

With only ~28% EPD coverage among leading distributors, the German market presents a largest data infrastructure gap – and therefore the largest opportunity for differentiation. Distributors who systematically map EPDs to their product range ahead of regulation will hold a structural advantage when the GMG makes documentation relevant to the broader market. In the near term, the commercial opportunity is focused on DGNB-certified projects and EU Taxonomy-aligned developments.

BUILDERS

Most German builders face no documentation burden today. This will change from 2028 with WLC disclosure. The knowledge and capability gap is substantial – particularly among SMEs who have had no regulatory incentive to engage with carbon documentation.

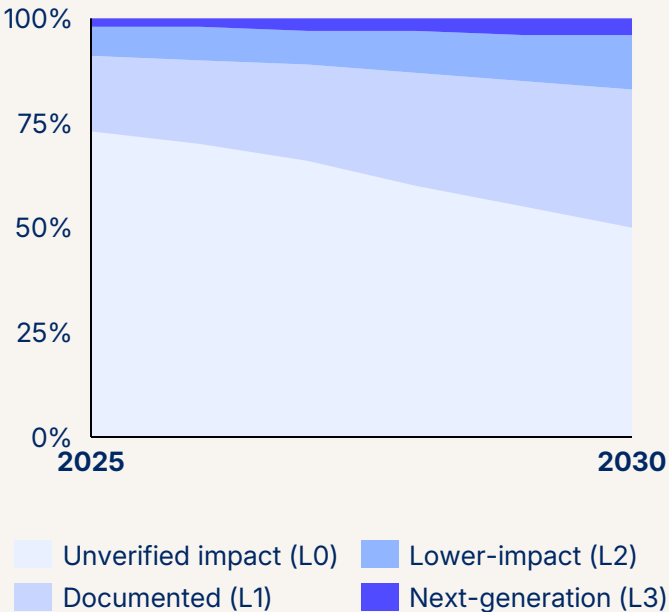
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MOST PRODUCTS LACK CARBON DOCUMENTATION – WIDE DATA GAP WITH SIGNIFICANT TRANSITION AHEAD



PROJECTED MARKET TRANSITION

Estimated transition of the Austrian building materials market based on regulatory requirements, market demand and supplier readiness. Y axis represents total sales volume per “maturity level” for “EPD relevant” product categories.



TRANSITION DRIVERS

No current mandatory embodied carbon requirements (L0→L1 constraint). OIB Guideline 7 (sustainability/WLC) is expected in 2027 but not yet published. OIB Guideline 6 (energy) was revised in September 2025, but addresses operational performance only.

Federal structure adds implementation complexity (L0→L1 constraint). OIB Guidelines must be adopted nationally then incorporated into nine separate state building laws. This creates a longer implementation and introduces risk of uneven implementation pace.

Taxonomy is the primary green finance driver (L1→L2). Austria has actively mapped OIB Guideline 6 against EU Taxonomy technical screening criteria. For developers seeking Taxonomy-aligned finance, this creates demand for verified carbon data – currently concentrated in commercial and larger residential (>5,000 m²).

Financial incentives target operational performance, not materials (L0→L1 constraint). The Sanierungsbonus and similar programmes fund thermal renovation but do not differentiate by embodied carbon.

Market trajectory broadly follows Germany with a slight additional lag (all levels). Regulatory timelines, market structure, and financial incentive design closely mirror Germany, but the federal implementation layer adds 6–12 months of additional delay.

MARKET IMPLICATIONS

SUPPLIERS

Austria is currently a documentation-free environment for embodied carbon in construction products. This will change from 2027 with OIB Guideline 7, but the timeline is less certain than in Germany. Suppliers selling into Taxonomy-aligned projects already face carbon data requests. The primary near-term requirement is EPD availability for products entering the Austrian market via the baubook database and klimaaktiv criteria. Suppliers active in both Germany and Austria can leverage a single EPD investment across both markets.

DISTRIBUTORS

The Austrian market is small relative to Germany but follows a parallel trajectory. Distributors can deploy capabilities developed for the German market with limited local adaptation. The near-term commercial opportunity is limited to Taxonomy-aligned and klimaaktiv-certified projects. From 2027, OIB Guideline 7 will begin to create broader demand.

BUILDERS

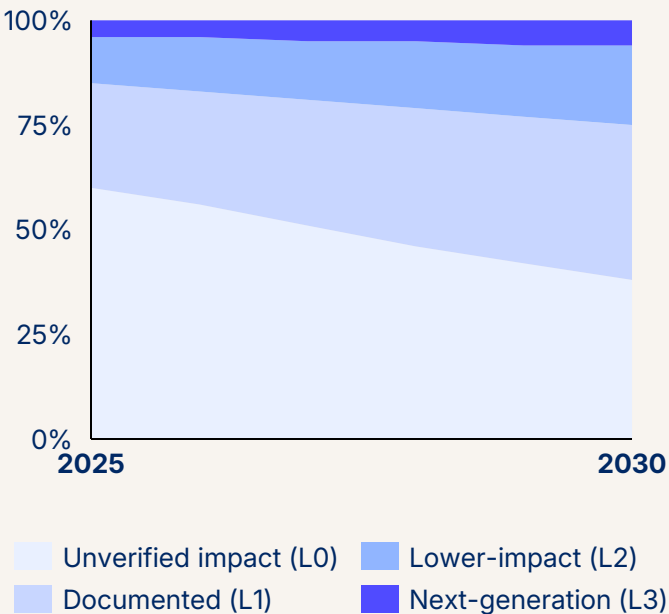
Austrian builders currently face no embodied carbon obligations. Awareness and capability levels are low outside the institutional commercial segment. When OIB Guideline 7 introduces requirements, the transition will be sudden for most of the market – creating acute demand for advisory support and pre-integrated documentation tools.

GROWING DEMAND FOR IMPACT DATA IN LONDON AND CERTIFIED COMMERCIAL, REST AWAITING A TRIGGER



PROJECTED MARKET TRANSITION¹

Estimated transition of the UK building materials market based on regulatory requirements, market demand and supplier readiness. Y axis represents total sales volume per “maturity level” for “EPD relevant” product categories.



TRANSITION DRIVERS

No mandatory WLC requirements, but strong industry push (L0→L1). Part Z, backed by 150+ organisations including RIBA and RICS, proposes mandatory WLC assessment followed by binding limits. The Construction Products Reform White Paper (February 2026) signals movement toward stricter product data requirements.

London Plan already functions as a regulatory proxy (L0→L1). The Greater London Authority mandates WLC assessments for all major developments – creating the standard for UK’s largest construction market.

BREEAM is the primary demand driver and is the most penetrated certification globally (L1→L2). Mat 01 credits reward carbon reduction of 20–40% versus reference. BREEAM V7 (2025) strengthens the embodied carbon focus. The UK has more BREEAM-certified buildings than any other country.

The market is bifurcated (all levels). London, commercial, infrastructure, and institutional segments are advanced – documentation and lower-impact specification are routine. Regional, residential, and SME segments remain largely undocumented.

Future Homes Standard (December 2026) addresses operational carbon but excludes embodied carbon (L0→L1 constraint). This limits the near-term regulatory pull for product carbon data in residential new build.

MARKET IMPLICATIONS

SUPPLIERS

EPD demand is strong in BREEAM-certified, London Plan, and PAS 2080 infrastructure projects but limited elsewhere. Suppliers must hold EN 15804+A2-compliant EPDs to access the certified segment. The Construction Products Reform White Paper signals that product data requirements are tightening. UK manufacturers selling into the EU are already subject to CPR EPD requirements – creating a dual compliance incentive.

DISTRIBUTORS

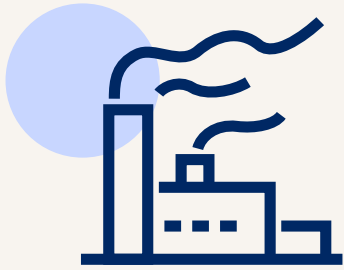
The UK’s bifurcated market creates a segmented opportunity: systematic EPD data and advisory capability for the institutional/commercial/London segment now, and readiness positioning for the broader market when Part Z or equivalent regulation arrives. The wholesale opportunity is to serve as the compliance bridge: simplifying access to documented products for builders who face BREEAM, London Plan, or PAS 2080 requirements but lack in-house sustainability capability. –

BUILDERS

UK builders face a patchwork: mandatory WLC in London, BREEAM requirements in commercial, PAS 2080 in infrastructure, and no obligation in most residential. Builders operating across segments must navigate varying documentation standards – creating demand for suppliers and Distributors who provide consistent, pre-verified product carbon data regardless of which standard applies.

Notes: 1. Estimates based on STARK Group analysis of regulatory implementation timelines, market adoption patterns, supplier readiness, and financial drivers across each geography. Figures are illustrative projections and should be treated as directional, not as precise forecasts. See detailed breakdown of EU and country specific regulatory impact in the “02 Drivers” section.

THE TRANSITION CREATES REAL OPPORTUNITY FOR EVERY ACTOR IN THE VALUE CHAIN



MANUFACTURERS

Manufacturers who provide verified, product-level sustainability data and progressively lower environmental impacts will secure market access and remain specification-competitive as requirements tighten.



DISTRIBUTORS

Distributors will play a critical role by translating complex regulatory and sustainability requirements into accessible product choices, documentation and guidance for customers across markets.



BUILDERS

Builders face a growing compliance and documentation burden and will increasingly rely on suppliers and distributors to identify products that meet regulatory, certification and project-specific sustainability requirements. Those who navigate this well gain access to regulated and certified projects.

KEY IMPLICATIONS AND OPPORTUNITIES ACROSS THE VALUE CHAIN



MANUFACTURERS

Implications. The shift from voluntary to mandatory environmental reporting is changing the conditions of market access. Verified product data, starting with EPDs and expanding to a broader set of sustainability indicators, is becoming a baseline requirement to market access. Carbon comes into scope first and most urgently, but the direction of travel is toward full environmental disclosure across the product lifecycle. Manufacturers who invest in this infrastructure early will retain and grow share in a market that is actively restructuring around performance thresholds and stand to gain disproportionately as it does.

Commercial opportunity. Those who can document performance across the full environmental profile of their product will be better positioned as distributor assortment decisions increasingly reflect these criteria. Bringing products to market that meet progressively stricter thresholds creates first-mover advantage with distributors like STARK, who are actively curating their range toward future-fit products.



DISTRIBUTORS

Implications. Overlapping mandatory requirements – national carbon limits, CPR declarations, EU Taxonomy criteria, building certification standards, chemical content rules – create complexity that most individual builders cannot navigate alone. This positions the distributor as the natural intermediary, best placed to aggregate, translate, and simplify compliance across the product range at the point of purchase.

Commercial opportunity. Distributors who map environmental documentation to their product range and embed it into the purchasing experience will deepen customer relationships and become structurally harder to displace. STARK's KlimaLog tool is one example: by giving builders direct access to product-level carbon data, it has cut documentation time from several weeks to one hour for large customers. Distributors who offer this kind of integrated support build loyalty where it matters most, particularly among SMEs who need it and are least able to develop it themselves.



BUILDERS

Implications. The documentation burden is growing on builders, and for SMEs it is acute. Around 40% of Danish SME builders are concerned about meeting future climate requirements, and roughly 50% cite documentation as their biggest challenge. Builders sourcing through channels with pre-integrated environmental data will reduce compliance risk and cut administrative time significantly, making supplier choice increasingly a compliance decision as much as a commercial one.

Commercial opportunity. Sustainability compliance is becoming a prerequisite for tender access, especially on public projects. Builders who get ahead of documentation and can demonstrate low-carbon material choices in LCAs and project reporting will be better positioned to win work as carbon credentials become a qualification criterion. Done efficiently, what looks like a cost becomes a competitive edge in project acquisition.

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GLOSSARY

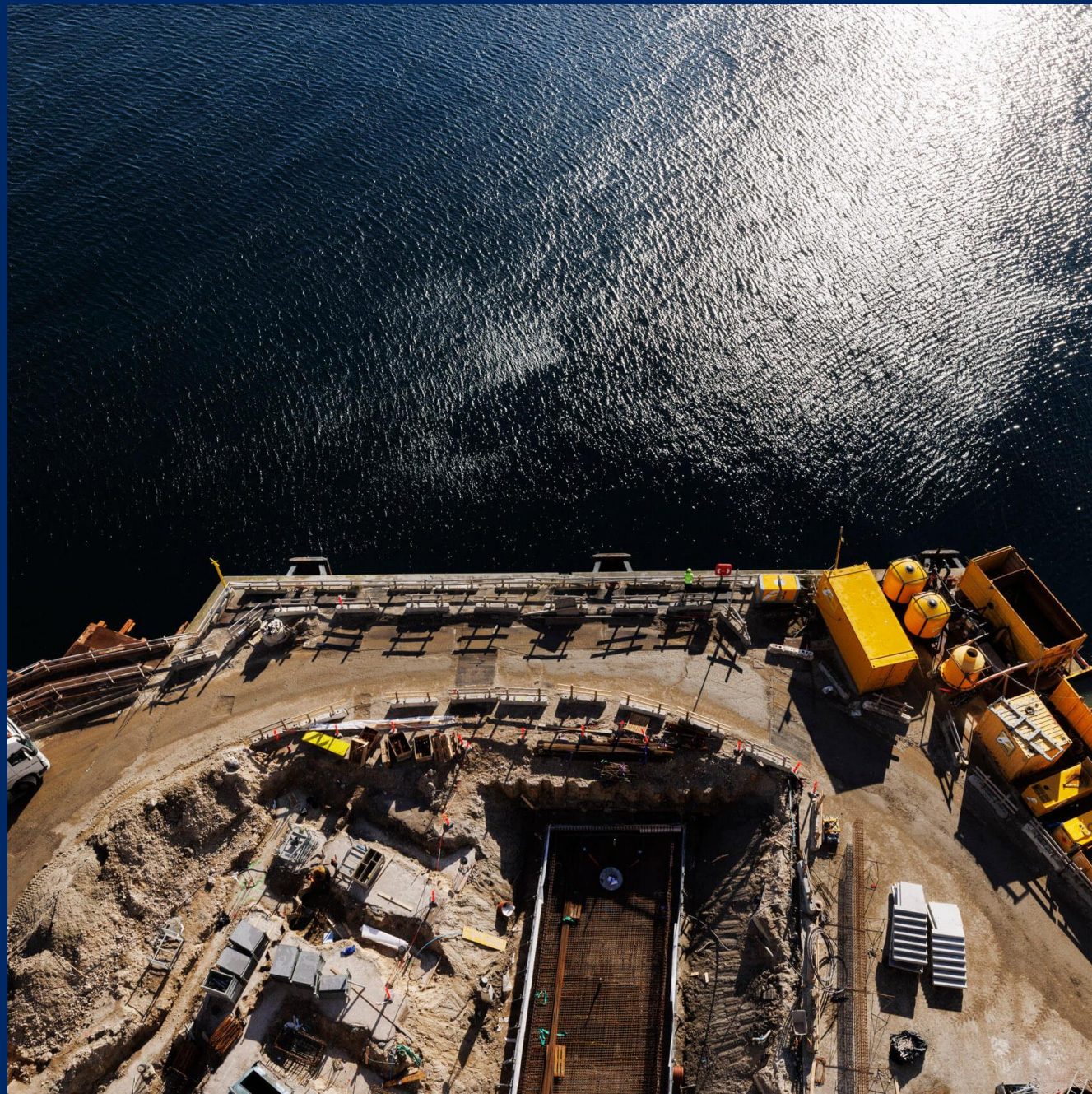
01-03 PRIMARY DRIVERS

04-06 SECONDARY DRIVERS



APPENDIX 1

GLOSSARY



05 APPENDIX

GLOSSARY

Abbreviation	Full term	Definition
BAFA	Bundesamt für Wirtschaft und Ausfuhrkontrolle	The German Federal Office for Economic Affairs and Export Control
BEG	Bundesförderung für Effiziente Gebäude	A German federal funding programme offering financial incentives to reduce energy use and emissions in the building sector.
BEK	Bekendtgørelse om håndtering af affald og materialer fra bygge- og nedrivningsarbejde	Danish rules requiring selective demolition for buildings ≥ 250 m ² from July 2025, including resource mapping and material-specific sorting.
BMN	Bouwmaterialen	The market leading distributor of general building materials in the Netherlands
BNB	Bewertungssystem Nachhaltiges Bauen	An instrument for planning and evaluating sustainable and usually public construction projects. It complements the Guideline for Sustainable Building.
BPR	Biocidal Products Regulation	Governs the market placement and the use of products designed to control harmful organisms like bacteria, pests, and algae
BR18	Danish Building Regulation 2018	Danish national building code setting LCA requirements and embodied carbon thresholds
BREEAM	Building Research Establishment Environmental Assessment Method	UK-origin green building certification scheme; dominant in UK and Nordic markets
CBAM	Carbon Border Adjustment Mechanism	EU mechanism imposing carbon costs on imported goods to prevent carbon leakage; covers cement, steel, and aluminium
CDW	Construction and Demolition Waste	Includes materials generated from the construction, renovation, repair, and demolition of buildings, roads, and civil infrastructure
CE marking	Conformité Européenne	A statement by the manufacturer that the product meet EU requirements at the time it was placed on the market.
CEAP	Circular Economy Action Plan	Aims to transition Europe from a "take-make-use-dispose" model to a circular system, doubling the EU's circular material use rate to 24% by 2030.
CMRs	Carcinogenic, Mutagenic, and Reprotoxic substances	Chemical agents classified based on their ability to cause cancer, genetic mutations, or reproductive harm, usually regulated within the EU and by IARC.
CPR	Construction Products Regulation	EU regulation requiring standardised performance declarations for construction products, inc. carbon data
CSRD	Corporate Sustainability Reporting Directive	EU law that mandates standardized, detailed sustainability reporting for large companies and listed firms, starting in 2024/2025.
DGNB	Deutsche Gesellschaft für Nachhaltiges Bauen	German green building certification scheme; widely used across DACH markets
DIN SPEC 91606	Deutsches Institut für Normung Specification	A German standardization document, that establishes the "Applied life cycle assessment for buildings - data basis, rules and presentation of results".
DNSH	Do No Significant Harm	EU regulatory standard requiring that sustainable investments or projects not cause significant damage to any of six core environmental objectives.
DoP	Declaration of Performance	A mandatory, legally binding document which guarantees a construction product complies with its declared characteristics and enables CE marking.

GLOSSARY

Abbreviation	Full term	Definition
DoPC	Declaration of Performance and Conformity	Replacing the old DoP, the DoPC (active from Jan 2026) mandates verification of environmental impacts and circular economy principles.
DPPs	Digital Product Passports	Mandatory digital records under EU law (starting 2027) providing transparent, machine-readable lifecycle data.
eBVD	Electronic Building Product Declarations	A digital, third-party verified document that provide transparent, standardized data on the environmental impact of a construction product across its life cycle.
EEA	European Environment Agency	EU agency that provides independent, evidence-based information on the environment and climate to policymakers and the public.
EEA	European Economic Area	Unites the 27 European Union member states and three EFTA states—Iceland, Liechtenstein, and Norway—into a single internal market governed by shared rules.
EPBD	Energy Performance of Buildings Directive	EU directive setting energy and carbon standards for new and existing buildings
EPC	Energy Performance Certificate	A mandatory document assessing a building's energy efficiency, grading it from A (most efficient) to G (least efficient).
EPD	Environmental Product Declaration	Third-party verified document disclosing the environmental impact of a product across its lifecycle
ESG	Environmental, Social and Governance	Framework for measuring a company's non-financial performance and sustainability commitments
ESPR	Ecodesign for Sustainable Products Regulation	EU framework (starting 2024) mandating that almost all goods sold in the EU be designed for environmental sustainability, durability, and reparability.
EU ETS	EU Emissions Trading System	EU carbon pricing mechanism requiring companies to hold permits for their CO ₂ emissions
EU	European Union	An economic and political union between 27 democratic European countries, aimed at fostering peace, stability, and economic prosperity.
EUDR	EU Deforestation Regulation	An EU regulation ensuring that products consumed in the European Union do not contribute to global deforestation or forest degradation.
GHG	Greenhouse Gas	Atmospheric gases including carbon dioxide, methane, and nitrous oxide, that remain in the atmosphere and absorb energy from Earth's surface.
GMG	Building Modernisation Act	A policy to modernize Germany's heating sector by promoting climate-friendly, technology-neutral solutions with greater homeowner flexibility.
GWP	Global Warming Potential	Metric expressing a product's contribution to climate change, measured in kg CO ₂ equivalent
HBM	Heavy Building Materials	STARK Group's core product segment: structural and fabric materials such as concrete, timber, and insulation
IPCC	Intergovernmental Panel on Climate Change	The UN body for assessing the science related to climate change
KFN	Klimafreundlicher Neubau	A German federal funding programme that supports the construction of highly energy-efficient and environmentally sustainable buildings.
LCA	Life Cycle Assessment	Method for calculating the total environmental impact of a product from production to end of life

GLOSSARY

Abbreviation	Full term	Definition
LEED	Leadership in Energy and Environmental Design	US-origin global green building certification scheme
NollCO2	NollCO2	A Swedish building certification by the Sweden Green Building Council focused on achieving net-zero carbon across the full life cycle.
NS3720	Norwegian standard	The NS3720 standard follows similar principles to EN 15978 and Level(s), with Norwegian adaptations (e.g. excluding full end-of-life modules).
NZEB	Nearly Zero-Energy Buildings	Highly energy-efficient structures requiring very little energy for heating, cooling, or lighting.
OIB	Österreichisches Institut für Bautechnik	A set of harmonized technical regulations for construction engineering in Austria, developed by the Austrian Institute of Construction Engineering (OIB)
PAS20280	PAS20280	A global standard for managing carbon across the entire lifecycle of buildings and infrastructure projects.
PED	Primary Energy Demand	The total, raw energy required by an economy before it is converted into usable forms like electricity or fuel.
PFAS	Per- and polyfluoroalkyl substances	A group of over 10,000 synthetic "forever chemicals" used since the 1950s to make products resistant to water, stains, and grease.
QNG	Quality Seal for Sustainable Building	A German state-recognized certification awarded by the Federal Ministry of Housing, Urban Development and Building (BMWSB).
RIBA	Royal Institute of British Architects	A global professional membership body for architects, founded in 1834 and chartered in 1837 to advance architecture.
RICS	RICS	The world's leading professional body for qualifications and standards in land, property, infrastructure and construction.
RMI	Renovation, Maintenance and Improvement	The segment of construction activity covering existing buildings, as distinct from new build
ROT	Retention of Title	The ROT scheme subsidises renovation labour, while Industrikivet supports industrial decarbonisation.
Ryhti	Ryhti	A Finnish national digital system designed to harmonize scattered, inconsistent land use and construction data into one centralized, accessible location.
SBTi	Science Based Targets initiative	Framework for companies to set emission reduction targets aligned with the Paris Agreement
SHP	Sustainability Home Product	A framework used by retailers for developing and promoting products with reduced environmental impact and positive social outcomes.
SME	Small and Medium-sized Enterprise	Companies with fewer than 50 employees; the core contractor customer segment for STARK Group
TEK17	Norwegian Building Regulation (Teknisk Forskrift 2017)	Norwegian national building code; mandates LCA for apartment and commercial buildings since 2022
VOCs	Volatile Organic Compounds	Volatile carbon-based chemicals that easily evaporate and are common indoor air pollutants in paints, cleaners, and building materials.
WELL	WELL	WELL is a performance-based system for measuring, certifying, and monitoring features of the built environment that impact human health and well-being.

05 APPENDIX

GLOSSARY

Abbreviation	Full term	Definition
WFD	Waste Framework Directive	The core legal framework for managing waste in Europe, aiming to transition from a linear "take-make-waste" economy to a circular economy.
WLC	Whole-Life Carbon	The total greenhouse gas emissions across a building's entire life cycle, including both embodied and operational carbon.
ZEB	Zero-Emission new Buildings	Highly energy-efficient buildings with no on-site fossil-fuel emissions, powered by renewable energy.

APPENDIX 2

PRIMARY DRIVERS 01-03



EU CLIMATE TARGETS ARE CASCADING INTO MATERIAL-LEVEL REQUIREMENTS ACROSS THE BUILT ENVIRONMENT

 See Page 60


EU REGULATION CASCADE

- The EU is implementing a **wave of regulations affecting the built environment**, driven by the target to cut GHG emissions 55% by 2030
- Focus on embodied carbon and material documentation is intensifying via **CPR** and **EPBD**
- **Manufacturers and distributors must demonstrate sustainability characteristics** and will be increasingly asked for lower-impact alternatives

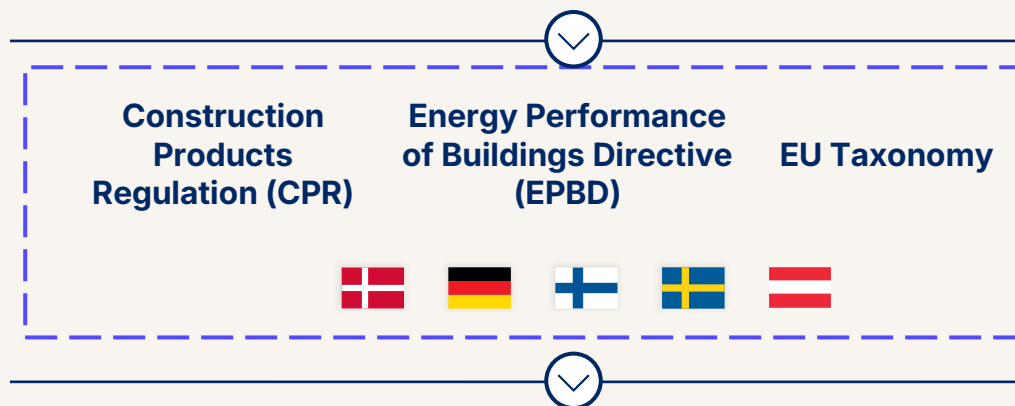


ILLUSTRATION OF THE REGULATION CASCADE



Target: 55% reduction in GHG emissions by 2030

Buildings account for 36% of the EU's current GHG emissions, making the built environment a primary target of the EU's climate agenda



Three instruments are driving the change at sector level: CPR mandates environmental disclosure for construction materials, EPBD sets carbon performance standards for buildings, and the EU Taxonomy channels investment toward verified low-carbon assets



The effects cascade across the value chain. Manufacturers must provide verified EPDs and environmental data, builders face tightening material specifications, developers and investors access cheaper green finance when sustainability is demonstrated

BUILDING MATERIALS ARE FACING DECARBONIZATION INCENTIVES BY THE EU IN MANY WAYS

EU INSTRUMENTS AFFECTING BUILDING MATERIALS

★ Deep dives follow

Sector strategy

The Renovation Wave

Aim to renovate 35 million buildings by 2030, double annual renovation rate

Sector-specific regulation

- ★ **Energy Performance of Buildings Directive (EPBD)**, 2024, applies from 2026
Mandatory energy performance standards for new and renovated buildings, and whole-life carbon disclosure and decreasing carbon limits per m2
- ★ **Construction Products Regulation (CPR)**, 2024, applies from 2025
Will introduce mandatory environmental disclosures for construction materials
- Biocidal Products Regulation (BPR)** (2012, under review 2026–2027) List Permitted active substances in wood preservatives and construction material treatments. Evaluation expected in 2026–2027 that may further tighten requirements

Waste & circularity

- Waste Framework Directive**, 2018 amendment
Requires at least 70% of construction and demolition waste is recovered by weight
- Circular Economy Action Plan**, 2020
Designates construction as a priority sector. Triggered the CPR revision
- Circular Economy Act** (expected 2026, implementation ~2028)
Aims to create a single EU market for secondary raw materials and set binding circularity requirements across sectors incl. construction

Financing and market price

- ★ **EU Taxonomy for Sustainable Finance**, 2020, applies from 2022
Classification of sustainable activities for access to cheaper green finance
- EU Emissions Trading System (ETS)**, free allowances phased out 2026–2034
Caps CO₂ emissions from steel, cement, and glass producers via allowance system
- Carbon Border Adjustment Mechanism (CBAM)**, 2023, definitive phase from January 2026
Carbon pricing to imported steel and cement

Transparency requirements

- EU Deforestation Regulation (EUDR)**, applies from Dec 2026
Timber and wood-based products must be proven deforestation-free before entering the EU market
- Ecodesign for Sustainable Products Regulation (ESPR)**, 2024, delegated acts from 2026
Sustainability and circularity requirements, Digital Product Passports from 2026

Indirect influence

- Corporate Sustainability Reporting Directive (CSRD)**, 2026, applies from financial year 2027
Requires large companies to report sustainability performance and Taxonomy alignment, cascading data demands down the supply chain

EPBD'S CARBON LIMITS ARE A CRITICAL REGULATORY DRIVER RESHAPING EU BUILDING MATERIAL MARKETS

THE EPBD MANDATES WHOLE-LIFE CARBON DISCLOSURE AND SETS THE FOUNDATION FOR PROGRESSIVE DECARBONIZATION OF BUILDINGS

CONTEXT

While the primary focus of the Energy Performance of Buildings Directive (EPBD) since its introduction in 2002 has been building energy performance, the 2024 recast **introduced requirements to the entire lifecycle of buildings**, which includes embodied GHG emissions (raw materials and manufacturing) in addition to operational emissions.

This segment primarily focuses on impacts and implications the newly introduced embodied emission components of the EPBD.

KEY COMPONENTS OF THE REGULATION

A. Disclosure of whole-life carbon (WLC) and thresholds

New buildings will be required to calculate and disclose whole-life carbon using a harmonized EU methodology to ensure comparability across member states. National roadmaps will introduce progressive GWP limit values (CO₂e emissions per m²), creating increasingly stringent thresholds over time.

B. Decarbonisation of existing buildings

National renovation plans will accelerate deep retrofits through minimum energy performance standards targeting the worst-performing buildings, while mandating a transition from fossil heating to efficient low-carbon systems.

C. Zero-emission new buildings (ZEB)

All new buildings must meet zero-emission standards by 2030 (2028 for public buildings), achieving very high energy performance with near-zero operational emissions and renewables readiness including solar where applicable.

D. Digitalisation of new and existing buildings

Strengthened energy performance certificates and digital building documentation to improve data quality, enhanced smart readiness and automation enable real-time monitoring and optimization.

FUTURE-FIT IMPLICATIONS

PRODUCT IMPLICATIONS

- Verified EPDs become non-negotiable for compliance with 2030 GWP thresholds (for relevant products)
- Progressively tightening GWP limits post-2030 will force manufacturers to actively decarbonise products, not just document them, to remain specification-competitive

CUSTOMER PERSPECTIVE

- Large commercial builders are the primary near-term segment, facing WLC disclosure requirements for buildings >1,000m² from 2030, unless Member states impose earlier limits (like Denmark has done)

IMPACT TIMING

- **2026:** Transposition into national law triggers early-mover specification shifts
- **2028-2030:** Market inflection as zero-emission standards for public buildings (2028) and WLC disclosure with GWP limits make low-carbon materials procurement-critical

FOR THE FIRST TIME, THE EPBD COVERS EMISSIONS FROM EMBODIED CARBON, I.E. PRODUCTION OF MATERIALS

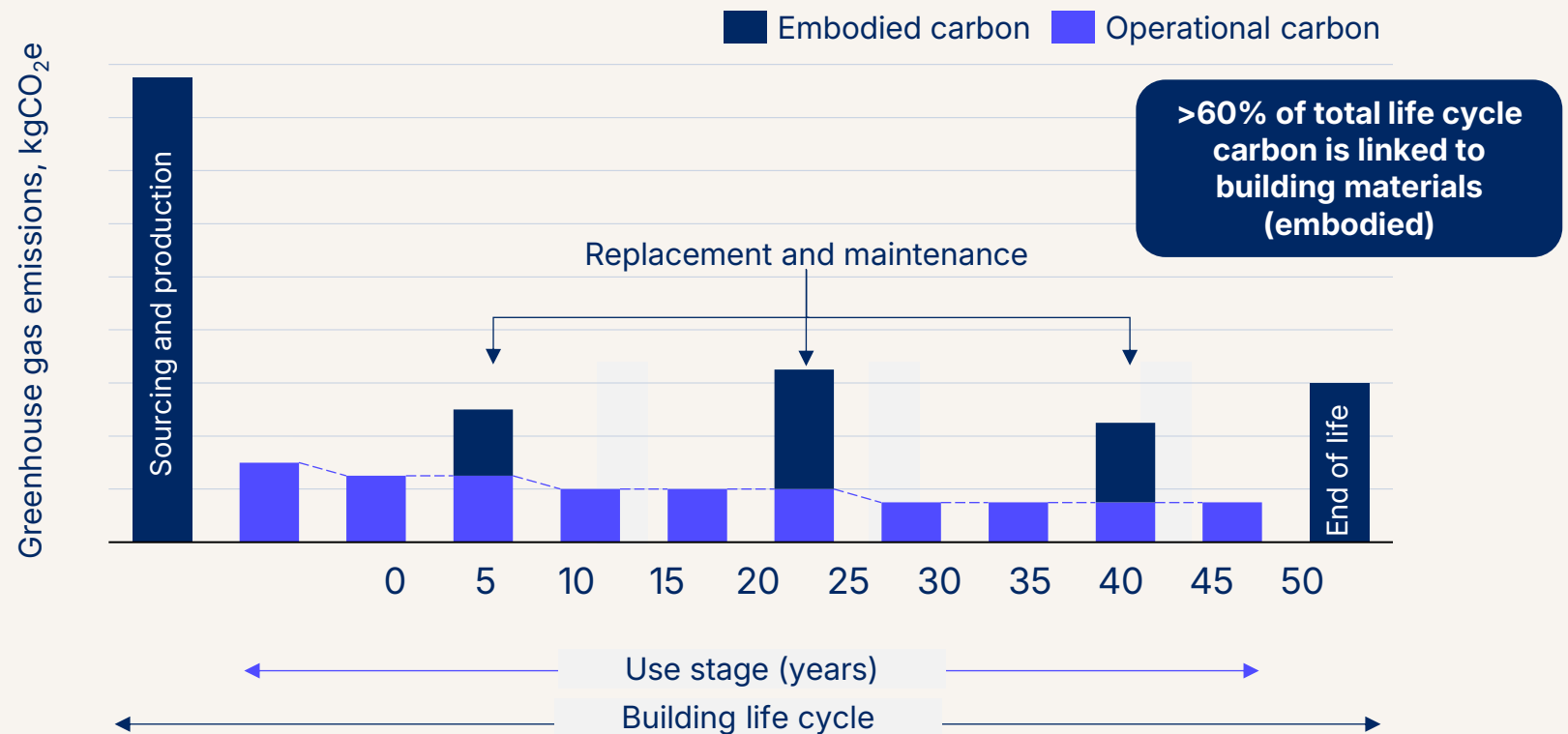


EPBD INTRODUCES EMBODIED CARBON

- Compared to previous versions of the EPBD, the 2024 recast covers **embodied carbon**¹ with its requirement of life-cycle global warming potential (GWP) disclosure, **the biggest source of which are materials**
- Materials most affected by the thresholds will be **heavy building materials**, like concrete, cement and structural steel, because of their carbon-heavy footprint and their large volumes in buildings



ILLUSTRATIVE SHARE OF EMBODIED VS. OPERATIONAL CARBON OVER A BUILDING'S LIFE-CYCLE



Notes: 1) Embodied carbon covers also other sources of emissions, such as transport of materials, construction-site activities, and demolition, transport and management of waste materials and their reuse. Then building's carbon footprint is measured across lifecycle stages defined in EN 15978 and EN 15804

Sources: Graph adopted from European Commission DG Energy presentation in the Nordic Climate Forum for Construction, Oct 2025. European Commission (2025), Nordic Sustainable Construction (2025)

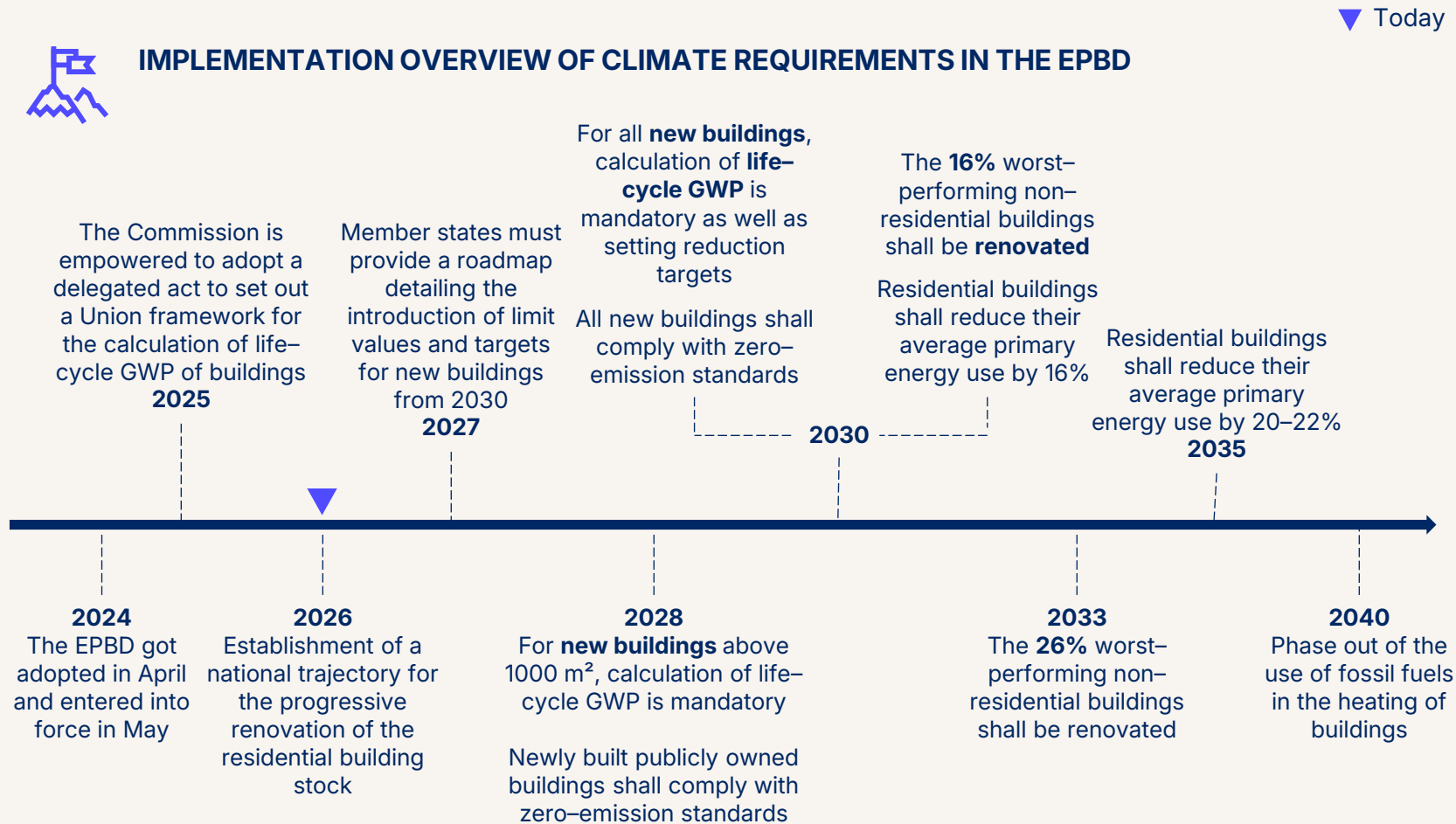
MEMBER STATES' TRANSPOSITION '26-'27 WILL GIVE CLARITY OF PACE OF NATIONAL REQUIREMENTS

MEMBER STATES NEED TO TRANSPOSE EPBD

- Member states have until May 2026 to publish national roadmaps for **renovation**, Jan 2027 for carbon limits on **new buildings**
- Denmark and Finland **have imposed carbon limits on new buildings ahead of EPBD mandatory deadline** of 2028 for buildings above >1000 m²



IMPLEMENTATION OVERVIEW OF CLIMATE REQUIREMENTS IN THE EPBD



THE NEW CPR MADE ENVIRONMENTAL DOCUMENTATION A REQUIREMENT FOR MARKET ACCESS

THE REVISION OF CONSTRUCTION PRODUCTS REGULATION (2024/3110) INTRODUCED MANDATORY SUSTAINABILITY INFORMATION

CONTEXT

- The CPR imposes harmonised rules for the marketing of construction products in the EU, mandatory CE marking and **Declaration of Performance**, and it applies to any product intended for permanent use in buildings or infrastructure, whether made inside or outside the EU
- The scope covers **36 product families** ranging from structural materials such as concrete, steel and timber to insulation, windows, doors, and flooring
- The 2024 revision (Regulation (EU) 2024/3110) **introduced mandatory environmental and sustainability reporting** across various indicators such as global warming potential (2026 wave), water consumption (2030 wave), and human toxicity (2032 wave). This declaration will be based on EN 15804+A2¹ and must be included in the Declaration of Performance and Conformity (DoPC). The alignment ensures consistency across EU markets
- The DoPC will be a key component of **Digital Product Passports (DPPs)**, which are more broadly mandated by the ESPR from 2028
- The revision came into full application on **8 January 2026**, and being a directly applicable EU regulation, it doesn't require national transposition. This means manufacturers need to already comply with the requirements to secure market access
- While the CPR currently mandates phased environmental reporting, the regulation also **provides the legal architecture for mandatory performance thresholds** to be set by product-family in the future through the harmonised standardisation process and codified via delegated acts

FUTURE-FIT IMPLICATIONS

PRODUCT IMPLICATIONS

- EN 15804+A2-aligned EPDs will shift into a baseline requirement for manufacturers' market access
- Digital enablement (e.g., DPP-readiness, BIM-compatibility) to compare and consolidate EPDs will differentiate material suppliers

CUSTOMER PERSPECTIVE

- Both large customers and SMEs will be affected by the requirements – they can be supported by simplifying and facilitating compliance
- The compliance burden falls primarily on manufacturers and importers, who are responsible for ensuring products meet CPR requirements

IMPACT TIMING

- **2026:** Most rules of new CPR apply, incl. mandatory GWP declaration
- **2029–2030:** Expected implementation of DPPs
- **2030–2032:** Additional environmental indicators introduced in two further waves

MANDATORY SUSTAINABILITY INDICATORS WILL BE PHASED IN ACROSS THREE WAVES – FIRST ALREADY APPLY



CPR WILL DRIVE EPD DEMAND

- The CPR does not directly mandate EPDs, but it requires manufacturers to declare an expanding set of lifecycle environmental indicators in the DoPC, using the same methodology that underpins EPDs
- As mandatory indicator requirements expand from 2026 to 2032, and as more product families come into scope, demand for EPDs across the construction supply chain will accelerate



TIMELINE FOR MANDATORY SUSTAINABILITY INDICATORS IN EPDS, AS PER ANNEX II OF THE CPR (CUMULATIVE)

2026	2030	2032
a) climate change impacts – total b) climate change impacts – fossil fuels c) climate change impacts – biogenic d) climate change impacts – land use and land use change	e) ozone layer depletion f) acidification potential g) freshwater eutrophication h) marine eutrophication i) terrestrial eutrophication j) photochemical ozone formation k) abiotic depletion – minerals, metals l) abiotic depletion – fossil fuels m) water consumption	n) particulate matter o) ionising radiation, human health p) freshwater ecotoxicity q) human toxicity, carcinogenic effects r) human toxicity, non-carcinogenic effects s) impacts related to land use

CONCRETE, CEMENT AND TIMBER ARE AMONG FIRST PRIORITY GROUPS

- Over the coming years, **harmonised standards will be developed for each product family**, specifying how environmental indicators must be calculated and declared in line with EN 15804. The pace is determined by the standardisation process, which sequences product families by priority
- CPR covers **36 product families**. The families closest to mandatory environmental declarations are **precast concrete, structural metallic products, reinforcing steel, cement and hydraulic binders, and thermal insulation, with doors, windows and flat glass following closely**
- Once a harmonised standard for a product family is made mandatory, **manufacturers will have a transition period** to calculate and declare their environmental performance in the DoPC
- Manufacturers with an **existing EPD process** will be **best prepared** for the requirements and face least extra work

TECHNICAL SPECIFICATION STATUS ACROSS CPR PRODUCT FAMILIES AS OF DEC 2025

Product family	Product family no.	Standardisation request status, as of Dec 2025 ¹
Precast normal/lightweight/autoclaved aerated concrete products	1	Adopted
Structural metallic products and ancillaries	20	Adopted
Reinforcing and prestressing steel for concrete (and ancillaries) – Post tensioning kits	16	Adopted
Doors, windows, shutters, gates and related building hardware	2	In preparation
Cement, building limes and other hydraulic binders	15	Adopted
Thermal insulation products – Composite insulating kits/systems	4	In preparation
Flat glass, profiled glass and glass block products	30	In preparation
Structural timber products/elements and ancillaries	13	In preparation
Wood based panels and elements	14	Only CPR acquis work started
Products related to concrete, mortar and grout	26	Only CPR acquis work started
Masonry and related products – Masonry units, mortars, and ancillaries	17	Only CPR acquis work started
Aggregates	24	Only CPR acquis work started
Curtain walling/cladding/structural sealant glazing	9	Only CPR acquis work started
Fixed fire fighting equipment ²	10	CPR acquis work not started
Road construction products	23	CPR acquis work not started
Floorings	19	CPR acquis work not started
Building kits, units, and prefabricated elements	34	CPR acquis work not started
Attached ladders	36	CPR acquis work not started
Internal & external wall and ceiling finishes – Internal partition kits	21	CPR acquis work not started
Gypsum products	7	CPR acquis work not started
Structural bearings – Pins for structural joints	5	CPR acquis work not started
Space heating appliances	27	CPR acquis work not started
Roof coverings, roof lights, roof windows, and ancillary products – Roof kits	22	CPR acquis work not started
Circulation fixtures: road equipment	12	CPR acquis work not started
Waste water engineering products	18	CPR acquis work not started
Construction adhesives	25	CPR acquis work not started
Sealants for joints	32	CPR acquis work not started
Fire stopping, fire sealing and fire protective products, fire retardant products–Fire retardant products	35	CPR acquis work not started
Fixings	33	CPR acquis work not started
Membranes, including liquid applied and kits (for water and/or water vapour control)	3	CPR acquis work not started
Geotextiles, geomembranes, and related products	8	CPR acquis work not started
Sanitary appliances	11	CPR acquis work not started
Pipes-tanks and ancillaries not in contact with water intended for human consumption	28	CPR acquis work not started
Construction products in contact with water intended for human consumption	29	CPR acquis work not started
Power, control and communication cables	31	CPR acquis work not started
Decorative paints and wallpapers	N/A	CPR acquis work not started
Chimneys, flues and specific products	6	Only CPR acquis work started

EU LEVEL(S) FRAMEWORK IS CREATING CONVERGENCE IN METHODOLOGIES ACROSS EUROPEAN MARKETS

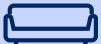
CONTEXT

The CPR, EPBD, and EU Taxonomy each introduce sustainability requirements through different mechanisms, but they rely on a shared methodological foundation. EU Level(s) provides that foundation.

Level(s) is the European Commission's common framework for assessing building sustainability, providing standardised indicators, metrics, and calculation methods across six areas. It directly underpins the regulations covered in this report: the EPBD uses Level(s) indicator 1.2 (lifecycle GWP) for its whole-life carbon disclosure from 2028 and requires all EU countries to adopt Level(s)-aligned energy performance templates from May 2026. The EU Taxonomy references Level(s) for its climate mitigation screening criteria. Certification schemes including DGNB, BREEAM, and Nordic Swan are aligning with Level(s) indicators, creating a common data language across regulation, finance, and certification.

Future EU documentation requirements will follow Level(s) methodologies, making early familiarity a practical advantage for market actors across the value chain.

LEVEL(S) FRAMEWORK

 Greenhouse gas emissions along a building's life cycle Minimise the whole life carbon output, considering both energy consumption during the use phase of the building and embodied energy. Indicators: 1.1 Use stage energy performance (kWh/m²/yr) 1.2 Life cycle Global Warming Potential (CO₂ eq./m²/yr)	 Resource efficient and circular material life cycles Optimise the building design to support lean and circular flows. Indicators: 2.1 Bill of quantities, materials and lifespans 2.2 Construction & Demolition waste and materials 2.3 Design for adaptability and renovation 2.4 Design for deconstruction, reuse and recycling	 Efficient use of water resources Use water efficiently, particularly in areas of identified long-term or projected water stress. Indicators: 3.1 Use stage water consumption (m³/occupant/yr)
 Healthy and comfortable spaces Create buildings that are comfortable, attractive and productive, focusing on four aspects of quality in the indoor environment. Indicators: 4.1 Indoor air quality 4.2 Time outside of thermal comfort range 4.3 Lighting and visual comfort 4.4 Acoustics and protection against noise	 Adaption and resilience to climate change Futureproof building performance against a changing climate and extreme weather. Indicators: 5.1 Protection of occupier health and thermal comfort 5.2 Increased risk of extreme weather 5.3 Sustainable drainage	 Optimised life cycle cost and value Take a long-term view of the whole life costs and market value to deliver more sustainable buildings. Indicators: 6.1 Life cycle costs (£/m²/yr) 6.2 Value creation and risk factors

CONSTRUCTION CIRCULARITY IS A PRIORITY IN EUROPE – TIGHTENED REQUIREMENTS EXPECTED TOWARDS 2030

NATIONAL REGULATIONS ARE AHEAD AT END-OF-LIFE STAGE, WITH EU REGULATION. EXPECTED TO RAISE BAR ON CIRCULARITY

CONTEXT

Construction and demolition waste is a priority focus for the EU’s circularity ambitions, as it makes up **40% of all waste**¹. The **Waste Framework Directive** (WFD, 2008) required Member states to achieve a **minimum 70% recovery rate** (by weight) of construction and demolition waste (CDW). While most Member States have met this target, the majority of **recovered material is downcycled rather than reused, limiting real circularity gains**.

CDW is given similar priority in national circularity strategies, and several Member States have introduced additional national measures such as selective demolition rules (Denmark) and design-for-recycling requirements (Finland), though enforcement at the project level remains inconsistent across the EU.

The forthcoming **Circular Economy Act** is expected to **shift the focus from waste recovery toward material reuse and value retention**, while emerging technologies show potential for advanced solutions.

SELECTED REGULATIONS LEADING THE WAY



Circular Economy Act (CEA) – expected in Q3 2026

Goal to increase EUs recycling rate from 12% to 24% by 2030. Expected requirements¹ incl.:

- Refined, harmonised definitions for CDW recycling (**high-quality recovery, no backfilling**)
- Recycled-content targets for construction products
- Stronger enforcement mechanisms at Member state level



BEK nr. 496 af 21/05/2024

- Legally binding selective demolition rules from 2025 (for buildings >250 m2). Building material needs to be mapped before demolition on recyclability and reusability



Amended Construction Act (Rakentamislaki)

- Demolition permits require documented plans for reuse and recycling of materials, and buildings must be designed so that demolition leads to significant reuse or recycling

FUTURE-FIT IMPLICATIONS

PRODUCT IMPLICATIONS

- **Enabling reusability:** products need documentation on their recyclability and modularity (aligned with DPP) to enable sorting and material recovery at end-of-life
- **Recycled content:** products need to meet targets for secondary raw material content from CEA

CUSTOMER PERSPECTIVE

- Demand for take-back and recycling solutions can come from large customers and projects who might be affected first by selective demolition requirements (like in DK)
- As recyclability requirements rolled out will affect all customers, opportunity for distributors to enable compliance

IMPACT TIMING

- **2026:** CEA text published, creating clarity of future direction and requirements
- **2028– 2030:** Increasing requirements: expected phase-in of CEA requirements, in parallel with enforcement of national circularity strategies

THE CEA AND EMERGING TECHNOLOGIES WILL UPGRADE CIRCULARITY STANDARDS

UPCOMING EU CIRCULAR ECONOMY ACT AND EMERGING TECHNOLOGIES REPRESENT AN OPPORTUNITY – AND REQUIREMENTS – TO ADVANCE REAL CIRCULARITY IN BUILDINGS

- Most EU states reached the Waste Framework Directive 70% target already in 2016¹, however, **most of the recovery in the EU results in backfilling and low-grade applications** (e.g., recycled aggregates in road sub-bases), setting the EU's **effective circular material use rate at 12%**²
- Given its scale, closing the gap between reported recovery and genuine circularity could generate **combined benefits of lower resource use, reduced embodied carbon, and stronger supply chain resilience**. However, there is currently weak demand for secondary materials, driven by **concerns over quality and longevity, additional costs associated with sourcing and certification, and unresolved insurance and liability questions**
- The regulatory and technological landscape is expected to shift materially over the next five years. **The Circular Economy Act (CEA)**, with its legislative proposal expected in Q3 2026, will introduce legally binding obligations for Member States, including **tighter recovery definitions and likely recycled-content requirements**
- **Emerging technologies** like AI-powered sorting, digital twins, and Digital Product Passports will further enable higher-quality recovery and material traceability. The business case for secondary materials is additionally **strengthened by rising virgin material costs**, with recent energy market disruption contributing to production surcharges of up to 30% on cement and steel³

MATERIAL SOLUTIONS CAN HELP SUPPORT THE TRANSITION

- Building material products can support the transition by ensuring the development and availability of solutions designed for **modularity, disassembly, and high-quality recovery**, as well as products with **secondary raw materials**
- Distributors can capture value by offering **information and traceability solutions alongside physical products**, e.g., providing material documentation and DPP integration transforms the distributor's role from product supplier to trusted circularity partner
- **Risk and liability solutions will be a key enabler of secondary material adoption at scale** – distributors that can facilitate quality certification, performance guarantees, and insurance-backed coverage for reclaimed and recycled products can unlock demand from mainstream customers currently deterred by uncertainty

NATIONAL AMBITIONS ECHO THE EU – STRATEGIES GRADUALLY BEING TRANSLATED INTO REGULATION

Market	National circularity strategy in place	Year	Built environment focus	Strategic commitments★ and regulation made as a result 🪵
	 Handlingsplan for cirkulær økonomi	2021	 Yes, one out of 5 focus areas	★ Focus on quality, flexibility and durability in materials ★ Use of recycled and bio-based materials ★ Standardized demolition plans and competency requirements for selective demolition 🪵 BEK nr. 496 of 21/05/2024, mandatory selective demolition rules for buildings $\geq 250 \text{ m}^2$ from 1 July 2025, requiring pre-demolition resource mapping and material-specific sorting.
	 Strategi för cirkulär ekonomi	2020	 Partially, CDW is a priority stream, not focus area	★ Separate and sort CWD ★ Limit hazardous material and waste ★ Make information on material and products use in a building available
	 Kiertotalouden strateginen edistämishjelma	2021	 Yes, one of key sectors to focus on	🪵 Construction Act (Rakentamislaki) that mandates demolition materials report required at permit stage, updated post-completion with actual volumes, destinations and treatment. Buildings must be designed for long service life and adaptability
	 Nasjonal strategi for ein grøn, sirkulær økonomi	2021	 Yes, one out of seven priority value chains of 2024–2025	🪵 TEK 17 mandates that all new buildings must be planned for easy future disassembly. Projects $\geq 300 \text{ m}^2$ must sort minimum 70% of construction site waste. Demolition and rehabilitation must include hazardous waste mapping and resource mapping of materials suitable for reuse before demolition starts. Amended in July 2022.
	 Nationale Kreislaufwirtschaftsstrategie	2024	 Yes, one out of 8 pillars	★ Prioritize preservation of existing buildings over demolition ★ Digital Building Resource Passport ★ Recycling takes precedence over backfilling ★ Review of landfill ban on recoverable construction waste before 2030
	 Kreislaufwirtschaftsstrategie	2022	 Yes, first out of seven priorities	★ Landfill ban for specific mineral CDW ★ Landfill ban for gypsum products
	 Circular Economy Growth Plan expected in early 2026		 Yes, to be one of five priority sectors ¹	Strategy expected to be published sometime in 2026

Notes: 1) As communicated by the Circular Economy Taskforce (est. 2024) responsible for developing the strategy

Sources: DK Action Plan for Circular Economy; SE Cirkulär ekonomi– strategi för omställningen i Sverige; FI Circular economy in key sectors; NO Handlingsplan for en sirkulær økonomi Handlingsplan 2024–2025; Nasjonal strategi for ein grøn, sirkulær økonomi; DE Circular Economy Strategy Germany; AU Austria on the path to a sustainable and circular society; UK Circular Economy Strategy now expected in 2026

EU TAXONOMY, ETS AND CBAM ARE CREATING MARKET INCENTIVES FOR SUSTAINABLE BUILDING MATERIALS

EU MARKET MECHANISMS ARE CHANGING PRICE STRUCTURE TO THE BENEFIT OF LOW-CARBON MATERIALS

CONTEXT

EU Taxonomy, EU Emissions Trading System (ETS), and Carbon Border Adjustment Mechanism (CBAM) are EU instruments affecting the cost structure of building materials and favouring more sustainable alternatives – backed up by the appropriate documentation.

These mechanisms are designed to shift demand towards sustainable alternatives.

KEY REGULATIONS / MECHANISMS

- ① **EU Taxonomy:** The EU Taxonomy classifies buildings and construction activities as sustainable if they meet defined sustainability thresholds. Asset owners who can demonstrate alignment gain access to green finance instruments, including green bonds and green mortgages at more favourable terms, creating a direct financial incentive to specify low-embodied-carbon materials and demand verified environmental data from suppliers. Companies reporting under CSRD¹ will need to report on their taxonomy alignment.
- ② **EU ETS:** The ETS prices carbon emissions from steel, cement, and glass producers, and ETS₂, expected in 2028, will cover heating and powering buildings. The carbon costs are expected to rise sharply with the phase-out of free allowances between 2026 and 2034. As a result, effective carbon costs on steel projected could rise by up to 30% of product price by 2035.¹
- ③ **CBAM:** Starting in 2026, CBAM will phase out free emission allowances for carbon-intensive imports cement, iron, steel, fertilisers, electricity and hydrogen.² It makes high-carbon materials more expensive and encourages local, sustainable alternatives. Importers will be required to declare the emissions of their imports, and manufacturers will need to consider carbon intensity as a procurement cost

KEY TAKEAWAYS

PRODUCT IMPLICATIONS

- Customers (especially large) will increasingly demand products that meet the EU taxonomy thresholds, with the appropriate documentation ('taxonomy declaration')
- Carbon-intensive raw materials will increase in cost (e.g., steel), shifting demand for low-carbon alternatives

CUSTOMER PERSPECTIVE

- Large developers' and asset owners' cost of capital is directly affected by Taxonomy, and ETS/CBAM pass-through costs will be visible in steel and cement pricing³
- The reporting burden can cascade down onto smaller players if they supply to larger developers or asset owners

IMPACT TIMING

- **2026:** all mechanisms are already in place, ETS and CBAM gradually tightening towards 2034
- **2026-2032:** phasing-out of free ETS allowances making emission costs progressively higher

EU TAXONOMY CREATES FINANCIAL INCENTIVES FOR MORE AMBITIOUS SUSTAINABILITY PERFORMANCE

★ Deep dive on page 73

The EU Taxonomy Regulation (EU 2020/852) establishes a classification system that defines environmentally sustainable economic activities, focusing on life-cycle greenhouse gas emissions (GHG) and circularity. Increasingly across STARK Group markets, customers are requesting taxonomy declarations to demonstrate alignment to taxonomy criteria and unlock cheaper funding.

1

To align with the taxonomy, developer has to first identify the relevant economic activity

Most typical economic activities for building materials

7.1 Construction of new buildings

7.2 Renovation of existing buildings

7.3 Installation, maintenance and repair of energy efficiency equipment

2

Under selected applicable economic activity, the developer must demonstrate compliance to defined criteria

To align with Taxonomy, the activity has to comply with the following requirements



Compliance with technical criteria for at least one substantial contribution

+



Cause no significant harm on other environmental objectives (compliance with all technical criteria for DNSH specified for the activity)

+



Compliance with all Minimum Safeguards, apply across activities

NEW BUILDINGS CAN QUALIFY FOR EU TAXONOMY VIA MITIGATION, ADAPTATION OR CIRCULARITY PATHWAYS

7.1 Construction of new buildings

iii Minimum safeguards are the same across all pathways²

i Substantial contribution criteria (need to meet all criteria)

Climate mitigation

1. Achieve **≥10% lower Primary Energy Demand than NZEB requirements** (verified via EPC)
2. For buildings >5000 m²:
 - **Calculate and disclose lifecycle GWP** using EN 15978:2011, covering the scope of Level(s) framework indicator 1.2 – *only disclosure requirement*
 - Conduct **airtightness and thermal integrity testing** (or equivalent QA)

Circular economy

1. **≥90% (by mass)** of non-hazardous CDW **prepared for reuse or recycled (excluding backfilling)**, in line with the EU CDW Protocol
2. Calculate and disclose **lifecycle GWP** to investors and clients on request
3. Design for **adaptability and deconstruction** (*correct, could optionally reference Level(s) but not essential*)
4. Maximum **primary raw material content thresholds**
 - Concrete & stone / Brick & ceramic / Glass & mineral insulation: **70%**
 - Bio-based materials: **80%**
 - Non-bio-based plastic: **50%**
 - Metals: **30%**
 - Gypsum: **65%**
5. Digital tracking of building materials (e.g. **material passports / EPD-based data storage**)

Climate adaptation

1. **Adaptation solutions** must be implemented to reduce material physical climate risks to the activity
2. A robust and proportionate **climate risk and vulnerability assessment** must be conducted, using climate projections aligned with the asset's lifetime
3. Climate risk assessments must be based on best practice and **state-of-the-art climate science**, including IPCC guidance and peer-reviewed models
4. Adaptation measures must **avoid negative external impacts**, align with relevant strategies, prioritise nature-based solutions where possible, and be monitored using defined indicators

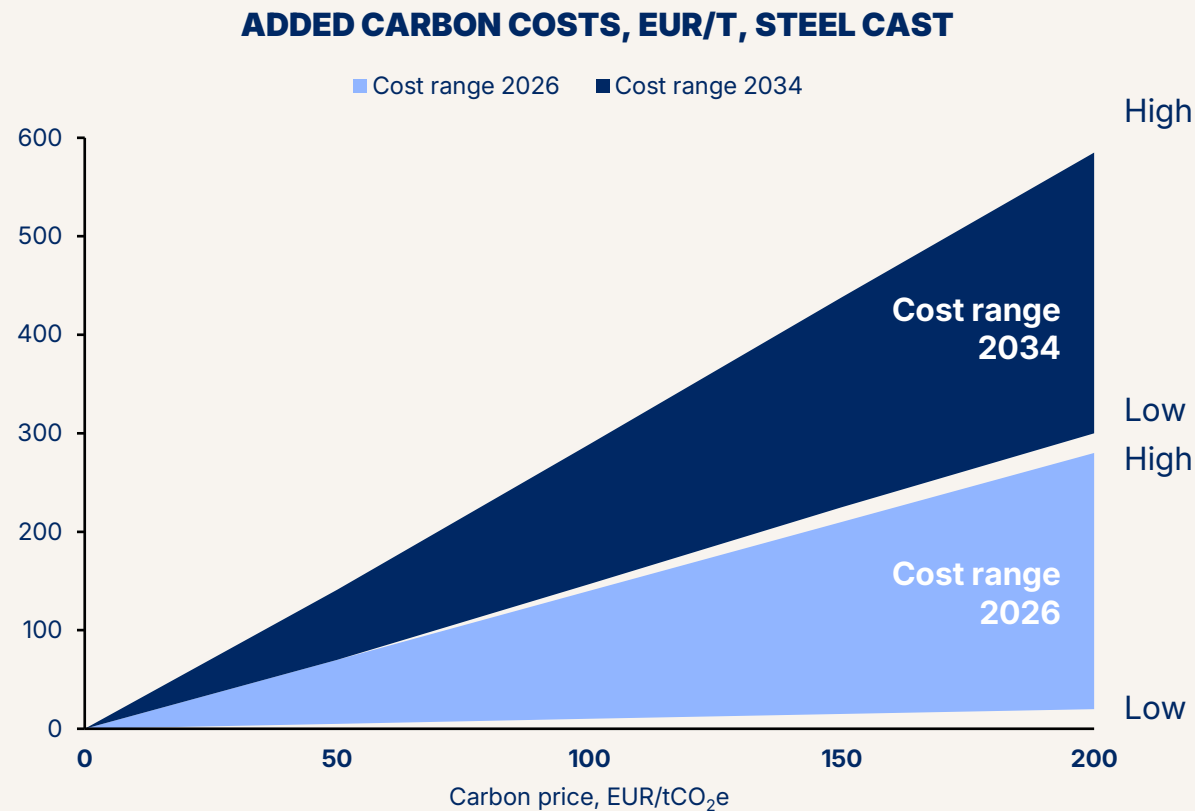
ii Do No Significant Harm (need to meet all criteria)

- **Climate adaptation:** A **climate risk and vulnerability assessment** must be conducted, and **appropriate adaptation measures implemented** to address identified risks (e.g. flooding, heat stress)
- **Water:** for non-residential buildings, product datasheet attesting specified water used for different water appliances
- **Circularity:**
 - At least **70% by weight** of non-hazardous construction and demolition waste (CDW) must be prepared for reuse, recycling, or other material recovery
 - Design and construction incorporate principles of **disassembly and adaptability**, guided by standards such as ISO 20887 or other standards
- **Pollution prevention:** building components in contact with occupants must emit less than **0.06 mg/m³ of formaldehyde** and less than **0.001 mg/m³ of Category 1A/1B carcinogenic volatile organic compounds**
- **Biodiversity:** Construction must **not occur on protected or high-biodiversity land**, primary forests, wetlands, high-carbon stock land

- **Climate mitigation:** The building's Primary Energy Demand (PED) must **not exceed national NZEB (nearly zero-energy building) thresholds**, with performance verified through an **as-built Energy Performance Certificate (EPC)**
- **Climate adaptation:** A **climate risk and vulnerability assessment** must be conducted, and **appropriate adaptation measures implemented** to address identified risks (e.g. flooding, heat stress)
- **Water:** For non-residential buildings, installed water appliances must meet **EU flow performance thresholds**, evidenced via product datasheets (e.g. taps ≤6 L/min, showers ≤8 L/min, WCs ≤6L flush)
- **Pollution:** Building materials that come into contact with occupants must meet indoor air quality limits, incl. **<0.06 mg/m³ formaldehyde** and **<0.001 mg/m³ carcinogenic VOCs (Cat. 1A/1B)**
- **Biodiversity:** New construction must avoid environmentally sensitive land, incl. high-fertility agricultural land, high-biodiversity areas, habitats of endangered species, and forest land

- **Climate mitigation:** Buildings must **not be linked to fossil fuel activities** and must meet **NZEB energy performance thresholds**, verified via **EPC**
- **Water:** Non-residential buildings must meet **EU water efficiency thresholds** for key appliances (e.g. taps ≤6 L/min, showers ≤8 L/min), supported by product documentation
- **Circular economy:** At least **70% of non-hazardous construction and demolition waste** must be reused, recycled, or recovered, with **waste minimisation and selective demolition practices**. Buildings must be designed for **adaptability, disassembly, and resource efficiency** (e.g. aligned with ISO 20887)
- **Pollution prevention:** Materials must meet **strict indoor air quality thresholds** (<0.06 mg/m³ formaldehyde; <0.001 mg/m³ carcinogenic VOCs), with additional measures for **brownfield risk assessment and reduction of construction-related emissions** (dust, noise, pollutants)
- **Biodiversity:** Construction must **avoid high-risk land types**, incl. high-fertility agricultural land, high-biodiversity areas, endangered species habitats, and forest land

THE CARBON BORDER ADJUSTMENT MECHANISM (CBAM) COULD ADD ~€500/TONNE TO STEEL COSTS BY 2034



- Added carbon costs for steel cast will rise from near-zero today to potentially €500+/tonne by **2034**, with the steepest acceleration coming after 2029 as free emissions allowances are withdrawn faster each year
- In broader terms, **carbon costs could account for roughly 30%** of total blast furnace steel production costs by 2035, adding an estimated €100–170/tonne at current carbon price levels¹
- Actual cost exposure varies widely **depending on carbon price trajectory, production route, and country of origin**, meaning the difference between a high- and low-carbon supply chain could amount to hundreds of euros per tonne
- For construction manufacturers and distributors, **supplier origin and emissions verification are becoming cost-critical procurement decisions**

APPENDIX 3

SECONDARY DRIVERS 04-06



CERTIFICATIONS RAISE THE “CEILING” FOR SUSTAINABLE CONSTRUCTION AND CONVERGE WITH TAXONOMY



ENABLING TAXONOMY ALIGNMENT – AND BEYOND

- Voluntary certification schemes have long enabled **sustainability differentiation** through multi-criteria frameworks (e.g. energy, materials, indoor environment, lifecycle impacts)
- As regulation raises minimum standards, certifications remain a way to demonstrate best-in-class performance, continuously **evolving and converging with EU Taxonomy criteria**
- In several markets, **institutional investors and public projects require certification** (e.g., BREEAM in new government estate in the UK¹), making them a key demand driver for low-impact products, and as well as further reinforcing the need for environmental documentation

	Certification	Focus areas	EU Taxonomy alignment	STARK Group markets ²
International		Full lifecycle of a building, balancing environmental, economic, and social aspects, with a strong emphasis on LCA (embodied carbon) and long-term performance	✓ Default part of certification	  
		Covers a broad range of sustainability topics including energy, materials, health, and management, using a points-based system to rate overall building performance	✓	  
		Emphasizes energy efficiency, environmental impact, and material transparency, with a strong global focus and structured credit system		  
		Focuses on occupant health and wellbeing (air, light, comfort). Complementary to environmental certifications		  
Regional/national		National Swedish scheme covering energy, indoor environment, materials and lifecycle impacts, incl. chemical content control and product documentation	✓	  
		Swedish systems that focuses on energy performance, indoor climate, and material safety, with an emphasis on building performance and user comfort	✓ Gold level	
		A Finnish system that evaluates buildings based on lifecycle impacts, energy use, and indoor environment, aligned with national standards and practices	✓ ≥3-star level	

Notes: 1) The UK Sustainability and Net Zero Annex is a Government Property Agency (GPA) guide outlines mandatory standards for achieving net-zero carbon emissions across the government office estate by 2050. 2) DGNB and BREEAM have country-specific adaptations with separate thresholds, e.g., in Denmark (DGNB) and Norway (BREEAM-NO)
Sources: Guide to Green Building Certification (2020), UK Government Property Agency, certification websites

CERTIFICATIONS AND COMMITMENTS DRIVE LARGE PLAYERS' AMBITIONS ABOVE REGULATORY MINIMUMS

CERTIFICATES AND COMMITMENTS DRIVE DEMAND FOR LOW-CARBON, DOCUMENTED BUILDING MATERIALS

CONTEXT

Leading developers have long used green building certifications (e.g., BREEAM, LEED, DGNB) to prove sustainability performance and improve asset value. SBTi and net-zero commitments are now extending decarbonization pressure across the full value chain, including embodied carbon from materials.

Certifications stay ahead of regulation while increasingly aligning with the EU Taxonomy, helping developers demonstrate best-in-class sustainability and unlock green financing.

LARGE DEVELOPERS AND INVESTORS CASCADE SUSTAINABILITY DEMAND VIA TWO PATHWAYS

Green building certifications go beyond regulatory minimums and cover broader set of indicators like indoor air quality, social value and lifecycle economics. They are converging methodologies with EU Taxonomy to act as a gateway to green financing and improving asset value but are largely contained to large commercial new-builds.

- Certifications increasingly enable EU Taxonomy and EPBD alignment, e.g., DGNB leading the way for integration
- Many national markets have their own certifications or adaptations tailored to national regulation and focus areas (e.g., BREEAM-NO, Finnish YL-tool)
- Costs of certification and desire for substantial ROI (via higher rent and lower operating costs) make large commercial properties the primary market – e.g., commercial offices in London command a rental premium of 12%¹
- Demand for certifications signals steady growth: between 2019 and 2023, the share of certified office properties in the analysed markets increased from 15% to 22%²

Corporate climate commitments, particularly Science Based Targets (SBTi), require asset owners and developers to set verified decarbonisation targets covering the majority of their value-chain emissions, including the embodied carbon of specified materials, as specified in **SBTi Buildings Criteria**. In practice, this creates a pull-through effect: material suppliers who cannot provide low-carbon, documented products risk exclusion from the supply chains of committed clients.

KEY TAKEAWAYS

PRODUCT IMPLICATIONS

- Large customers will demand for low-impact alternatives (also on circularity, indoor air quality etc.) that contribute to obtaining green certifications, with right documentation
- Material suppliers who can support easy compliance will become preferred partners

CUSTOMER PERSPECTIVE

- Large customers (commercial, high-rise, large-scale new build) are the main segment with interest to certifications and Scope 3 decarbonization
- SMEs will be indirectly affected as requirements pass through supply chains

IMPACT TIMING

- **2024:** SBTi's Buildings Criteria published, explicitly including targets for embodied carbon from materials
- **Continuous:** Certifications and corporate targets will be updated on a continuous basis, and is expected to stay ahead of regulation, to be sustainability differentiators

CLIMATE CHANGE IS CHANGING WHAT BUILDINGS MUST WITHSTAND

BUILDING MATERIALS WILL NEED TO BE RESILIENT AGAINST PHYSICAL CLIMATE HAZARDS THAT ARE INTENSIFYING ACROSS EUROPE

Europe is warming twice as fast as the global average, and climate impacts on the built environment are already significant. Annual climate-related losses in the EU now average EUR 45bn.¹

The World Economic Forum's Global Risks Report 2025 ranks **extreme weather events as the number one global risk by likelihood**, with environmental risks occupying five of the top ten positions.²

For construction materials, this means that **physical resilience and performance thresholds will rise**, as asset owners want to safeguard their investment and avoid higher insurance costs.



Temperature

Buildings that are not designed for cooling will become health risks: non-insulated structures can reach 44°C in projected 2054 heatwave conditions. At the same time, construction projects get delayed because of cold winters.³



Flooding

Intense rainfall in combination with rising groundwater, creating demand for water-tight, moisture-resistant materials. The 2021 floods in Germany and Belgium damaged 70,000 buildings and caused nearly €50 billion in damage.



Wildfires

2025 was the EU's most destructive wildfire season, with over 1 million hectares of damage, and the risk is expanding beyond Southern Europe into Central and Northern regions. This will drive demand for non-combustible materials, fire-rated facades, and products that slow fire spread.



Storms

Warmer air is increasing storm intensity and wind-driven rain, particularly in coastal and Northern European markets. Higher structural loads and debris impact are driving demand for ductile, impact-resistant materials and for facade systems with certified wind ratings.



Moisture

Tighter building envelopes and more extreme humidity increase risks of condensation, mould, and material degradation, making moisture buffering and vapour control a more central requirement.

KEY TAKEAWAYS

PRODUCT IMPLICATIONS

- **Demand for higher performance** : thermal, moisture, fire and impact performance in "mainstream" products (e.g. mineral wool insulation, plasterboard, membranes)
- **Growth in select categories**: insulation, roofing and waterproofing membranes, sealants, treated timber

CUSTOMER PERSPECTIVE

- Builders serving large asset owners and investors are likely to request resilience-related specifications earlier as driven by risk management considerations
- SMEs are more likely to adopt gradually, mainly in response to building codes and customer demands, with a stronger focus on cost and ease of implementation

IMPACT TIMING

- **2026-2030**: heat waves, flooding and storms account for ~90% of EU climate-related economic losses⁴
- **2030- beyond**: increased risk of intensified weather events

Notes: 1. European Scientific Advisory Board on Climate Change (2026) 2. World Economic Forum, Global Risks Report 2025; 3. Heatwave calculations from Elnagar et al. (2024). In early 2026, many construction projects saw delays due to cold weather in Europe; 4. According to the European Energy Agency, floods, storms and heat waves account for 47, 27%, and 18% respectively, of EU losses 1980-2024. EEA - European Environment Agency (2024).
Other sources: EEA - European Environment Agency, BCG (2025)

CLIMATE ADAPTATION TO EXTREME WEATHER RAISES DEMAND FOR FUTURE PRODUCT PERFORMANCE

EXISTING AND EMERGING CATEGORIES

Physical climate change reshapes demand for building materials in two distinct ways.

1. Shift in specification: existing product categories remain relevant, but the performance bar within them rises. E.g., higher thermal resistance, better moisture buffering, greater fire ratings.

2. Shift in assortment: previously small product categories become larger. E.g., waterproofing membranes, site covers.



CLIMATE ADAPTATION WILL CAUSE SHIFTS IN SPECIFICATIONS AND IN ASSORTMENT

	Enhanced specifications	New assortment ¹
 Temperature	- Higher thermal resistance in insulation (e.g., mineral wool, wood fibre) - solar heat gain control in glazing and facades	- New high-performance insulations, e.g., aerogels) - Cool roof membranes and reflective coatings - Side covers for construction
 Flooding	- Water tightness and impermeability - Moisture and rot resistance in boards, cladding, and structural systems	- Waterproofing membranes (roofing and below-grade) - Flood barriers and door/window seals - Permeable concrete and drainage paving
 Wildfires	- Fire resistance rating (REI classification) - Reduced combustibility across insulation and facade materials	- Intumescent coatings and fire stops - Fire-resistant cladding panels - Non-combustible structural boards
 Storms	- Structural ductility and flexibility under wind load - Fastener and fixing strength	- Laminated and impact-resistant glazing - Wind-rated cladding and facade systems, e.g., impact-resistant glass
 Moisture	- Vapour permeability and moisture buffering (e.g., wood fibre insulation) - Mould resistance in boards and substrates	- Vapour control layers and airtightness membranes - Moisture-buffering materials (clay boards, wood fibre)

BUILDING MATERIAL SUPPLY CHAINS ARE LIKELY TO BE AFFECTED BY INCREASING VOLATILITY

SUPPLY CHAINS WILL NEED TO BECOME INCREASINGLY RESILIENT TO ADAPT TO A MORE VOLATILE WORLD

	 Energy-intense production	 Bio-based products	 Composite products
Natural disasters	Relatively protected from natural disasters other than at production sites which are high-value assets and appropriately secured	Droughts and wildfires may impact the available stock of raw feedstock of bio-based products	Relatively protected from natural disasters other than production sites, similarly to energy-intense products
Availability of supply	Production may become restricted in the event of energy crises where other needs must be prioritised	May be restricted in the event of conflict breaking out in regions that are vital to the majority of supply of products (i.e. certain types of wood)	Dependence on e.g. fossil-fuel based sources such as binders or similar, may become increasingly challenged due to geopolitical turmoil
Other geopolitical risk	Products originating outside of the EU may be subject to regulatory financing mechanisms, e.g. CBAM impacting steel and concrete	Relatively protected due to nearness of materials and reduced processing other than treatment, planing, etc.	Fossil fuels are increasingly becoming central to armed conflict across the globe and may impact cost of crude oil

KEY TAKEAWAYS

PRODUCT IMPLICATIONS

- Exposure to price volatility in fossil-fuel based products such as plastics, bitumen, etc.
- Energy-intense products will similarly be exposed to price volatility due to increasing energy costs unless renewable roll-out

CUSTOMER PERSPECTIVE

- builders prefer working with well-known products and solutions and are concerned about supply availability. Breakdown in value chains or price fluctuations can delay delivery or change cost, ultimately impacting project economy

IMPACT TIMING

- The WEF Global Risks Report 2025 ranks geoeconomic confrontation and supply chain disruption among the top ten risks over a two-year horizon¹
- Past 2030, most manufacturing must be removed from fossil sources and feedstock should be renewable

