Energy-intensive industries at the crossroads

Simon-Kucher CEM (Chemicals/Energy/Materials) Study

SIMON KUCHER
Unlocking better growth

Executive Summary

Energy-intensive industries are at a crossroads

Where can energy-intensive firms still win in a world of fragmented energy access, political friction, and rising sustainability expectations?

RE-SHAPING LANDSCAPES

Industrial roots remain strong, but pressure is building

- Most stay anchored to their home regions, yet 1 out of 4 chemical firms invest abroad
- Site “stickiness” is fragile: only 28% of companies proactively shield for soaring energy and supply chain costs
- Demand-tied industries (cement, glass) must balance competitiveness with staying close to customers

POWER PLAYS

Considering moving, energy costs, grid access, and politics are now location-critical

- 95% of companies rank energy prices as top factor for site selection
- Incentives like IRA/IPCEI drive investment (for >50% of companies), but regulatory complexity continues to delay execution
- Access to renewables is becoming a core differentiator – PPAs, on-site generation, and hybrid models are the new baseline

THE GREEN PARADOX

Sustainability ambitions are high, tangible commercial impact is low

- +80% place sustainability at the core of strategy – yet fewer than 40% achieve tangible commercial traction
- Key barriers are regulatory hurdles (22%), too low prices, and unclear ROI (18% each)
- Leaders break the green paradox by co-developing with customers, providing verified impact data and ensuring robust commercialization including market design

◆ Compete or Retreat?

Energy-intensive industries face a stark choice: adapt to rising energy, regulatory, and sustainability pressures – or fall behind

Source: Simon-Kucher

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RESPONDENTS

◆ 240
Chief Executives and Board Members[1]

INDUSTRIES

◆ Energy intensive industries
Base Chemicals, Steel, Glass, Cement

◆ Energy generators

FOCUS REGIONS

◆ Europe
Germany, Austria, Belgium, France, Netherlands, Switzerland

◆ USA

1. Composition of respondents: C-Suite (N=61), 1 level below C-Suite (N=125), 2 level below C-Suite (N=39), Board Member and Advisors (N=15)

Energy-intensive industries face unprecedented pressures – but also, a unique opportunity. Those who revisit site strategies to their industrial realities, secure renewables, and actively shape markets will turn sustainability into profitable growth.

Jan Haemer, Partner in **C**hemicals/**E**nergy/**M**aterials-Practice at Simon-Kucher

Source: Simon-Kucher

Energy-intensive industries at a strategic crossroad: Volatility in energy, policy, and infrastructure is reshaping industrial logic

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Macroeconomic factors

VOLATILE & RISING ENERGY PRICES

High energy costs erode cost parity and force companies to rethink site competitiveness.

UNCERTAIN POLITICAL SHIFTS

Fragmented rules and subsidies raise investment risks and demand sharper regulatory strategies.

INFRASTRUCTURE BOTTLENECKS

Grid limits and permitting delays slow the transition and inflate CAPEX needs.

SKILLED LABOR SHORTAGES

Talent scarcity hampers scaling of green technologies and industrial modernization.

To secure their future, leaders in energy-intensive industries are facing THREE PRESSING QUESTIONS:

1 ◆ *Stay or relocate?*
Which sites can sustain competitiveness long-term?

2 ◆ *Navigate costs & policy?*
How to manage energy shocks and regulatory shifts?

3 ◆ *Monetize sustainability?*
Can green strategies shift from compliance to profitable growth?

Source: Simon-Kucher

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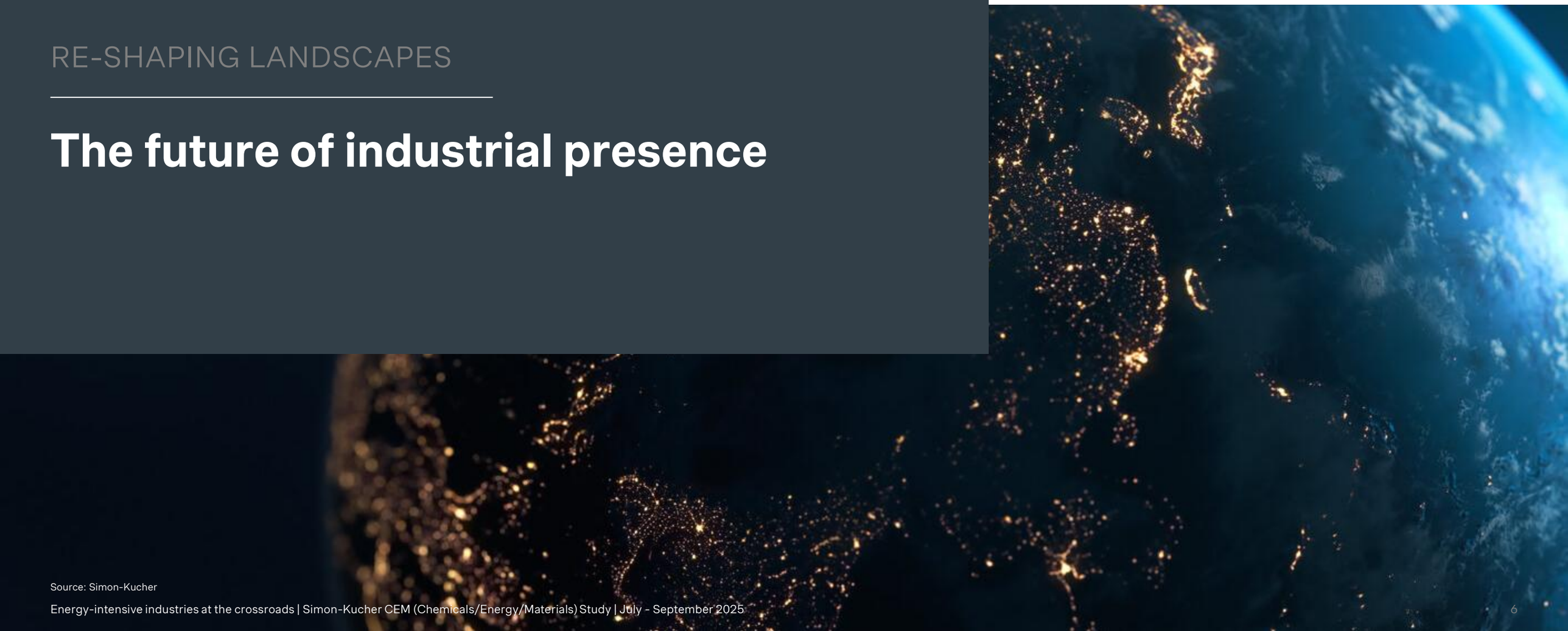
Source: Simon-Kucher

RE-SHAPING LANDSCAPES

The future of industrial presence



Source: Simon-Kucher

Industrial logic is shifting:
Base chemicals and steel relocate; cement and glass remain tied to customers

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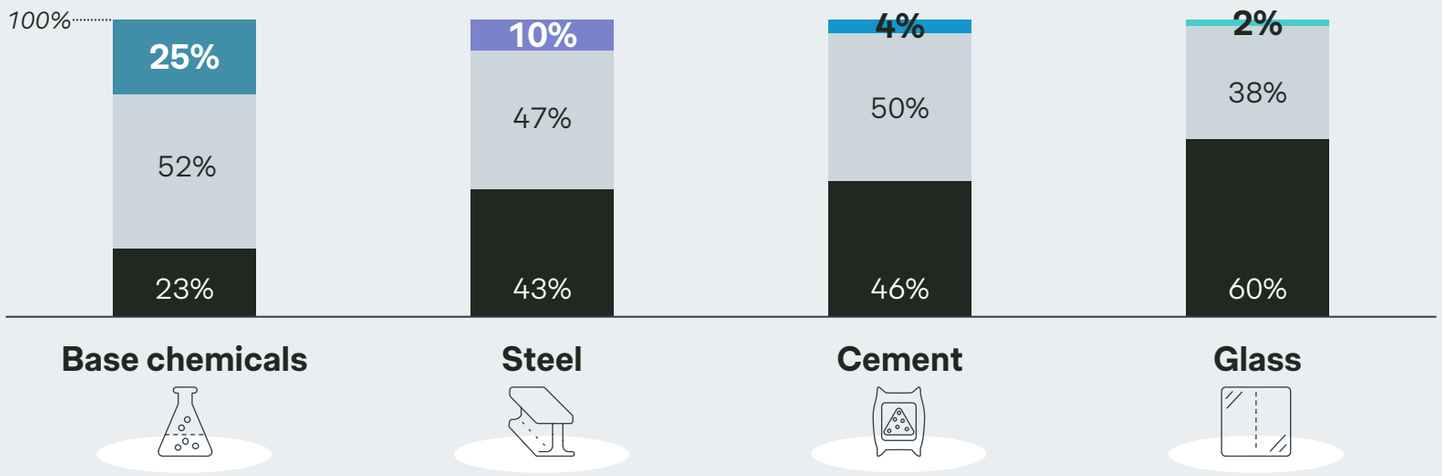
Investment and location strategy
(Percentage of respondents)



N=[240]. Question: Which of the following best describes your company's current investment or location strategy?
Source: Simon-Kucher

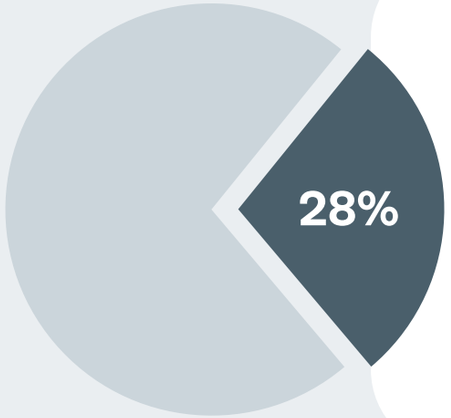
Implication

Relocation patterns reflect industry economics: trade-exposed sectors shift production abroad to other continents, while demand-tied sectors depend on local competitiveness.

Relocation is stronger in Western Europe (12%) than the USA (7%) – with base chemicals leading the relocation investments in Western Europe (32%) and USA (17%).

Resilience is fragile:
only 1 in 4 companies act proactively

Current approach to strategic resilience
(Percentage of respondents)



- Proactive – resilience is a core driver of planning and investment decisions
- Others (emerging, reactive and not adressed at all)

Top strategy to reduce supply chain risk by industry

Nearshoring/
Regionalization of production

Cement **Glass** **Steel**

Inventory Buffer/
Strategic stockpiling

Base chemicals

Implication

Cement and glass, as demand-tied industries, build resilience mainly through nearshoring. Base chemicals, as trade-exposed commodities, rely more on stockpiling. Steel shows a mixed pattern, reflecting both global trade exposure and local integration needs.

N=[240]. Question: How would you describe your organization's current approach to strategic resilience? (e.g., ability to adapt to energy price shocks, regulatory shifts, or supply chain disruptions)
N=[66]. Question: What strategies is your company using to reduce supply chain risk?
Source: Simon-Kucher

Europe's market reality check:
Relocations, investments and closure highlight diverging industry logics

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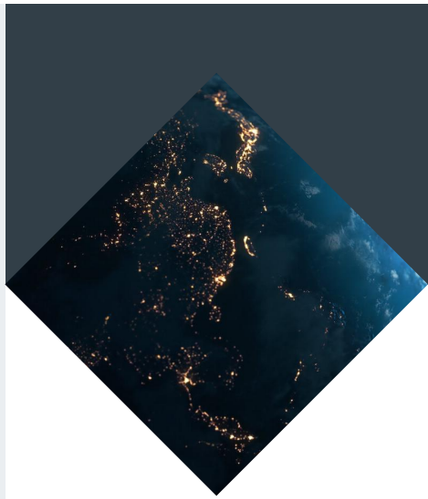
Industry	Industry logic	Recent cases
Base chemicals TRADE EXPOSED	Globally mobile industry; higher EU costs trigger relocation and competitiveness loss	▪ BASF closing some EU upstream capacity ▪ LyondellBasell selling Polyolefins assets ▪ Dow closing assets in EU (ethylene cracker, chlor-alkali/vinyl, siloxanes)
Steel HYBRID	Legacy assets locked in place, but green investments can be flexibly located	▪ DOE announces green steel plants ▪ ThyssenKrupp announces job cuts ▪ ArcelorMittal cutting EU blast furnace capacity
Cement DEMAND TIED	Heavy and local; production must follow demand, making low-carbon upgrades essential	▪ Heidelberg Materials CCUS projects ▪ LafargeHolcim green clinker pilots ▪ EU low-carbon cement CAPEX increasing ▪ Local expansions in growth markets
Glass DEMAND TIED	Region-bound; weak demand drives closures, green pilots remain small-scale	▪ Overall demand dip in construction glass ▪ Saint-Gobain shutting lines in low-demand regions ▪ Pilkington investing in low-carbon glass pilots



◆ Europe shows the clearest patterns of site pressure, closures, and green investments

– while in the US, incentives drive more investment than relocation

Source: Simon-Kucher, Press releases

POWER PLAYS

Energy and politics at the center

Source: Simon-Kucher

Importance of energy costs:
Energy costs and access now define site competitiveness

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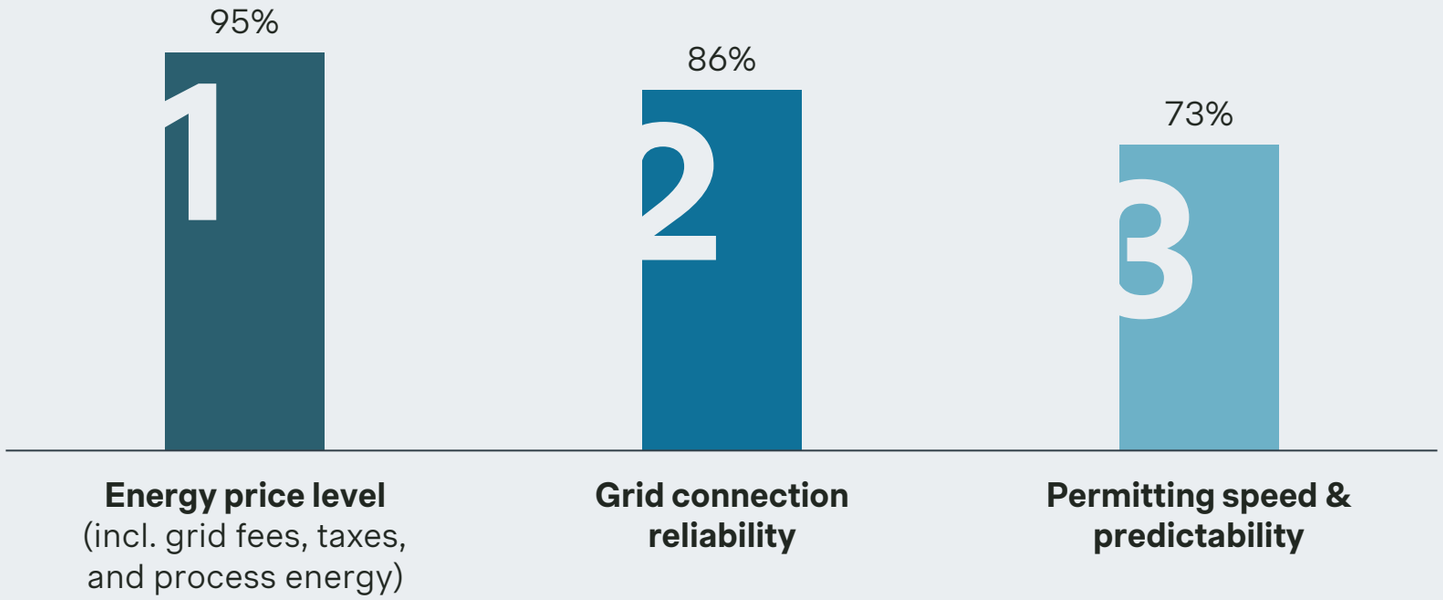
Top 3 factors in next location decision (at least somewhat important)
(Percentage of respondents)



Implication

Location choices are strongly driven by energy reliability and affordability – Next to tax & labor costs a new critical location factor.

N=[240]. Question: How would you rate the importance of the following factors in your next location decision?
Source: Simon-Kucher

Rising energy relevance boosts renewables:
Firms secure access, but differ in risk appetite and CAPEX exposure

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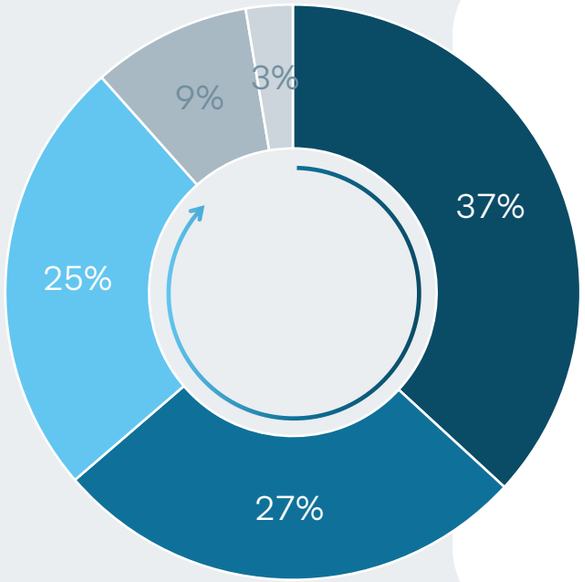
Approach to securing access to renewable energy
(Percentage of respondents in energy-intensive industries)



88% of respondents with a strategy to secure access to renewable energy

- Long-term Power Purchase Agreements (PPAs) in place or planned
- Mix of self-generation and contracted supply
- Direct investments in renewable energy assets (e.g. wind, solar, biogas, hydrogen)
- No specific strategy – we rely on market availability
- Currently under evaluation/undecided

Implication

Most companies now have a renewable strategy. PPAs provide stability, while direct investments offer the highest security but demand heavy CAPEX.

Europe's higher direct investment (32% EU vs. 19% US) may reflect **stronger energy price pressures**, prompting firms to secure cost stability through own generation.

N=[240]. Question: What is your company's approach to securing access to renewable energy (e.g., electricity, hydrogen, biogas)?
Source: Simon-Kucher

PPAs set the standard:
Direct investments reveal industry split

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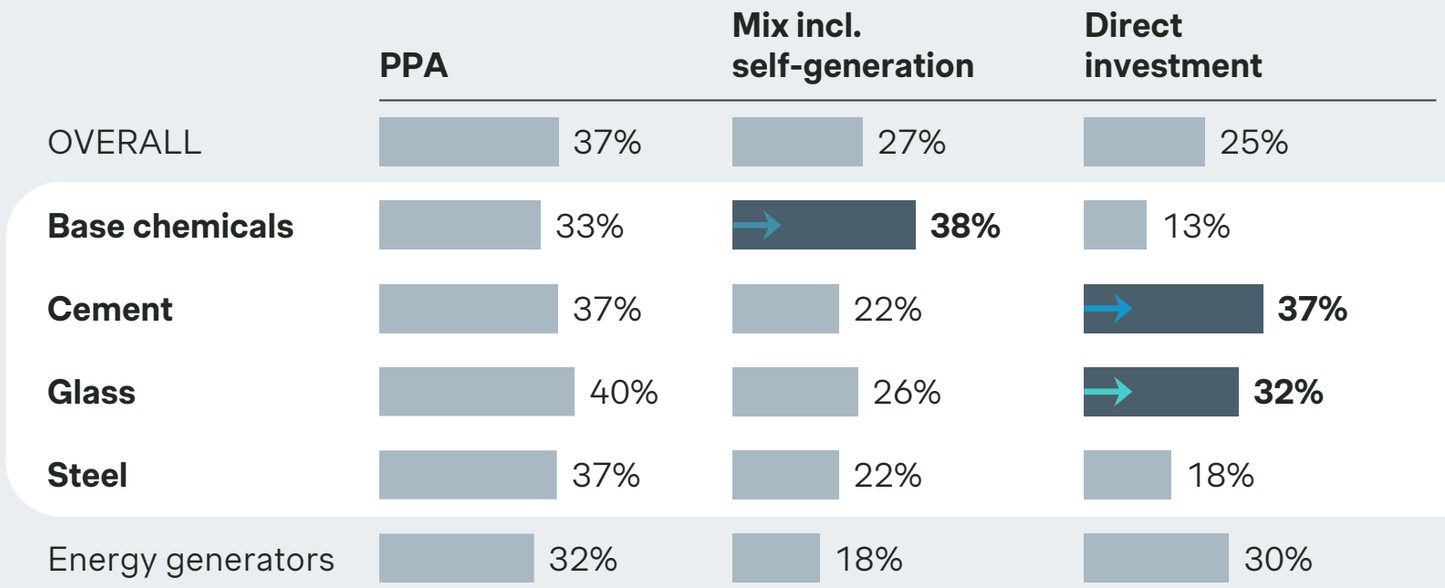
Top 3 approaches to securing access to renewable energy
(Percentage of respondents)



■ > 25% deviations from the average

Implication

PPAs remain the standard across industries – the low-risk, common path to renewable security.

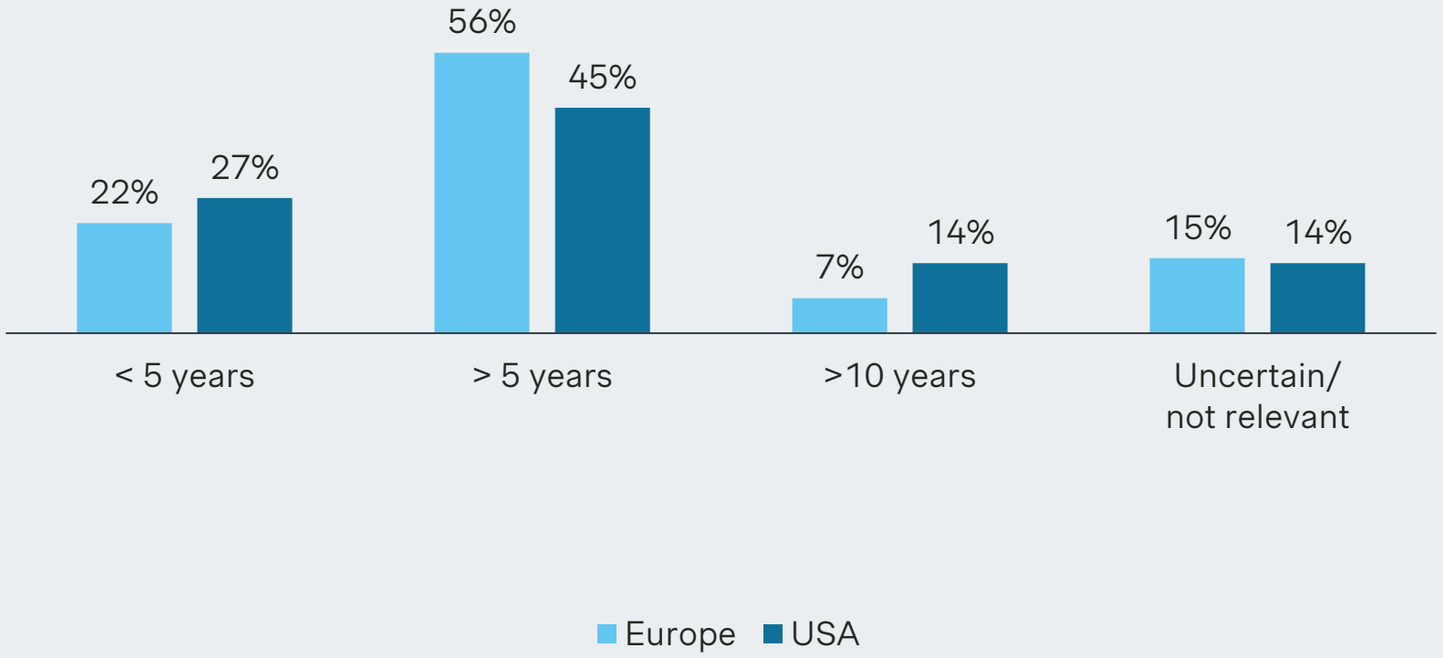
Chemicals and steel combine contracts with partial self-generation for flexibility, while cement and glass stand out with higher direct investment.

Industry logics align: demand-tied sectors invest locally, while trade-exposed sectors prefer flexible mixes – mirroring relocation and CAPEX patterns.

N=[240]. Question: What is your company's approach to securing access to renewable energy (e.g., electricity, hydrogen, biogas)?
Source: Simon-Kucher

Hydrogen required within the decade: With renewables on the rise, hydrogen set to gain relevance – but technology must deliver

When companies expect hydrogen to impact competitiveness
(Percentage of respondents)



Implication

Hydrogen is seen as promising, but regional expectations differ.

In Europe, 3 out of 4 expect relevance within the next 10 years, reflecting regulatory mandates and decarbonization roadmaps.

In North America, views are more polarized: some anticipate adoption within 3–5 years, while others push it beyond 2035 – a reflection of incentive-driven, economics-first strategies.

N=[240]. Question: When – if at all – do you expect hydrogen to become a relevant factor for your company's competitiveness?
Source: Simon-Kucher

Common barriers to scale low-carbon energy generation:
Regulation and financing remain top barriers to scaling low-carbon energy

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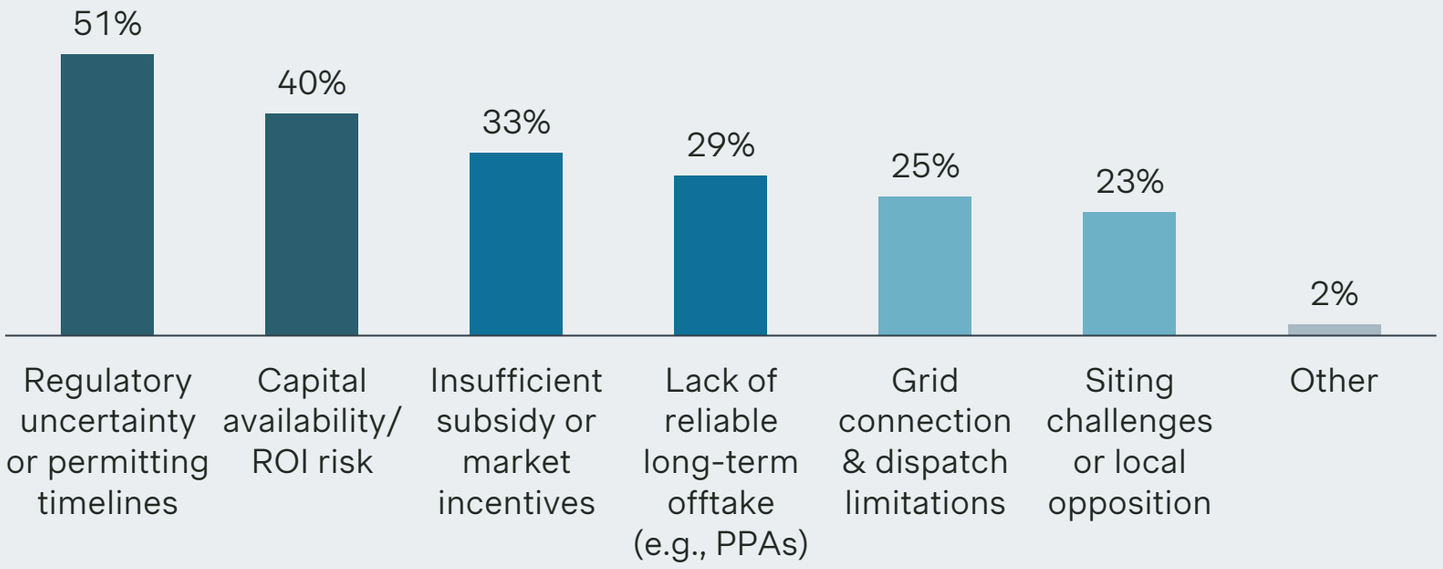
Barriers that limit ability to scale low-carbon energy generation
(Percentage of respondents)



N=[240]. Question: Which of the following barriers limit your ability to scale low-carbon energy generation?
Source: Simon-Kucher

Implication

Industry readiness exists, but scaling low-carbon energy requires streamlined regulation and improved financing conditions to unlock investment.

Despite Green Deal funding, **EU firms more often** cite **insufficient subsidy or market incentives (39% EU vs. 26% US),** likely as fragmented schemes feel outweighed by ambitious regulation.

Incentive frameworks critical: Only strong incentive frameworks provide strategic clarity – compliance rules add little but paperwork

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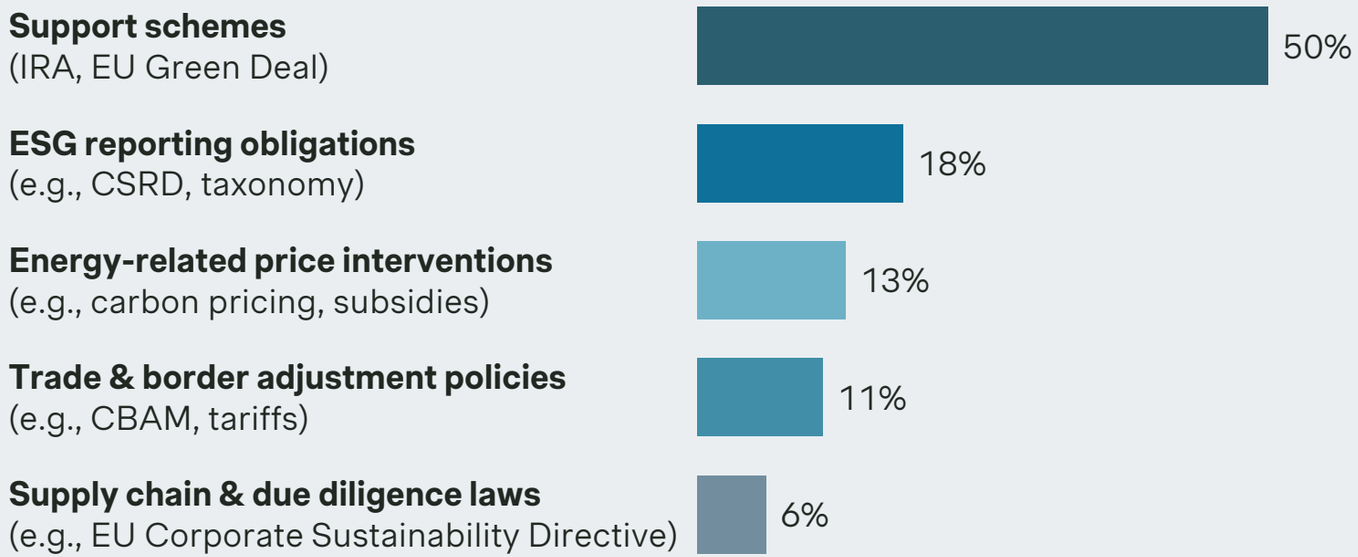
Policy frameworks or regulatory trends with greatest impact on strategic planning
(Percentage of respondents)

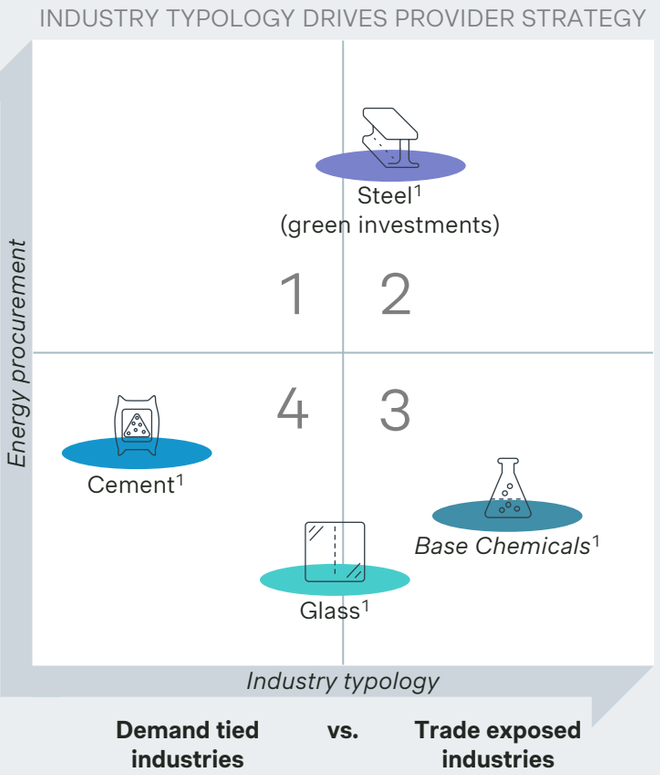


Implication

Large-scale incentive schemes (IRA, Green Deal) provide strategic clarity. Compliance-driven rules add cost and paperwork, but little adoption impact.

N=[240]. Question: Which policy frameworks or regulatory trends have the greatest impact on your company's strategic planning?
Source: Simon-Kucher

Energy Providers:
Winning by tailoring plays to industry archetypes



Energy Provider Play

1. MOBILE CAPEX (seeking cost reduction and subsidy upside)
PLAY: Short-term PPAs and modular solutions to capture subsidy windows.
VALUE: Enable rapid entry/exit and cost flexibility to attract mobile investments.

2. NEED AGILITY (balancing volatile demand swings)
PLAY: Hybrid PPAs with exit options plus onsite renewables & storage.
VALUE: Provide flexibility despite immobile infrastructure constraints.

3. LARGE-SCALE PLAYERS (seeking long-term cost reduction)
PLAY: Long-term PPAs combined with co-investments and risk-sharing.
VALUE: Anchor industrial investments by securing a stable energy cost base.

4. IMMOBILE ASSETS (needing cost certainty)
PLAY: Long-duration PPAs and selective self-generation pilots (e.g., hydrogen).
VALUE: Lock in predictable costs and enable gradual decarbonization.

◆ Energy providers that tailor offerings to industry archetypes can move from commodity sellers to strategic partners

1. Industries may span quadrants, reflecting heterogeneity in demand patterns
Source: Simon-Kucher

THE GREEN PARADOX

The commercial gap

Source: Simon-Kucher

Sustainability priority:
Firmly embedded in corporate strategies

Sustainability integral to firm’s strategic agenda
(Percentage of respondents)

	USA	Europe
Glass	**95**%	**88**%
Cement	**85**%	**88**%
Steel	78%	**92**%
Base chemicals	78%	**88**%
Energy generators	74%	**96**%

N=[240]. Questions: How high is sustainability commercialization on your company's strategic agenda? Has your company introduced any low-emission or sustainability-enhanced offerings (such as renewable, circular or other environmentally friendly) in the past 3 years?
Source: Simon-Kucher

Implication

Sustainability is firmly anchored in strategies across industries. But integration alone does not secure growth – companies must turn ambition into commercial results.

Europe leads with broad integration across sectors, while in the USA adoption shows stronger sector peaks (e.g., glass, cement).

Sustainable market maturity: Optimism remains high, maturity is still low

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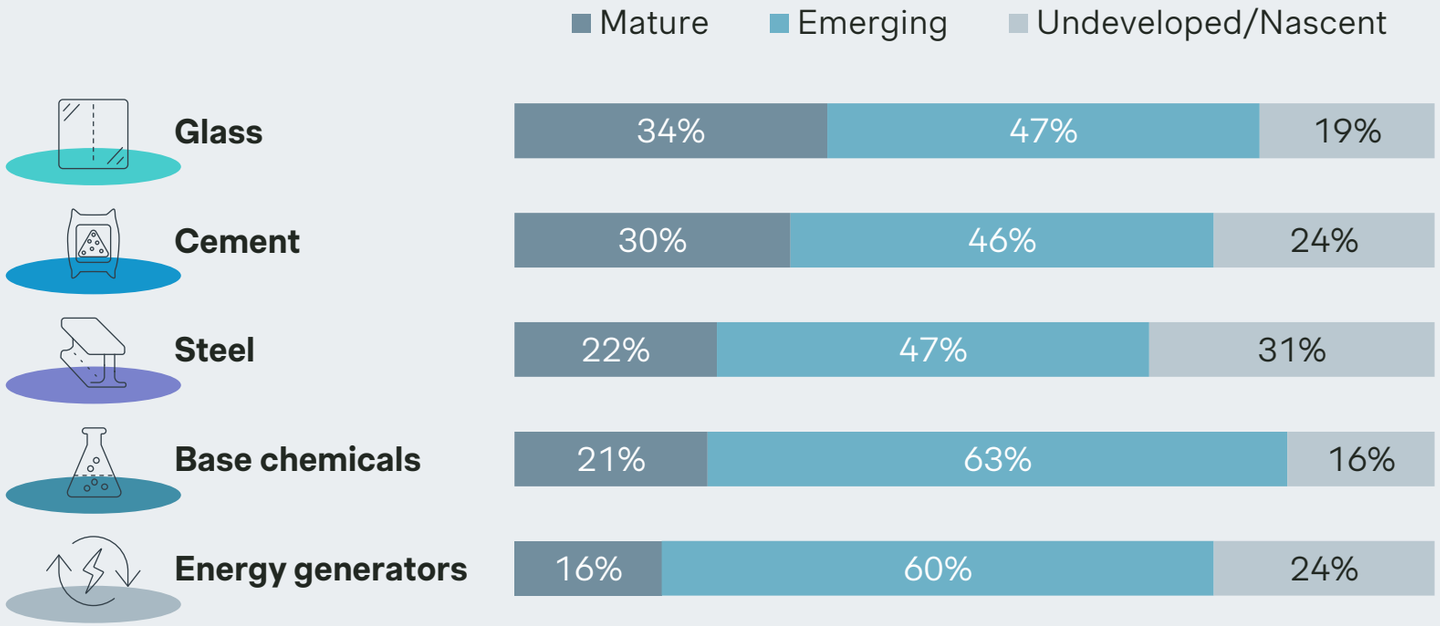
Market maturity of sustainability-enhanced offerings
(Percentage of respondents)



N=[240]. Question: How would you describe the maturity of your target market(s) for sustainability-enhanced offerings?
Source: Simon-Kucher

Implication

Executives see sustainability as a growth opportunity, not a saturated niche.

This optimism creates a window for pioneers to set standards and capture first-mover advantage, but only if they can scale effectively.

Commercialization success:
Most firms launch sustainable offerings – but only a few achieve real market traction

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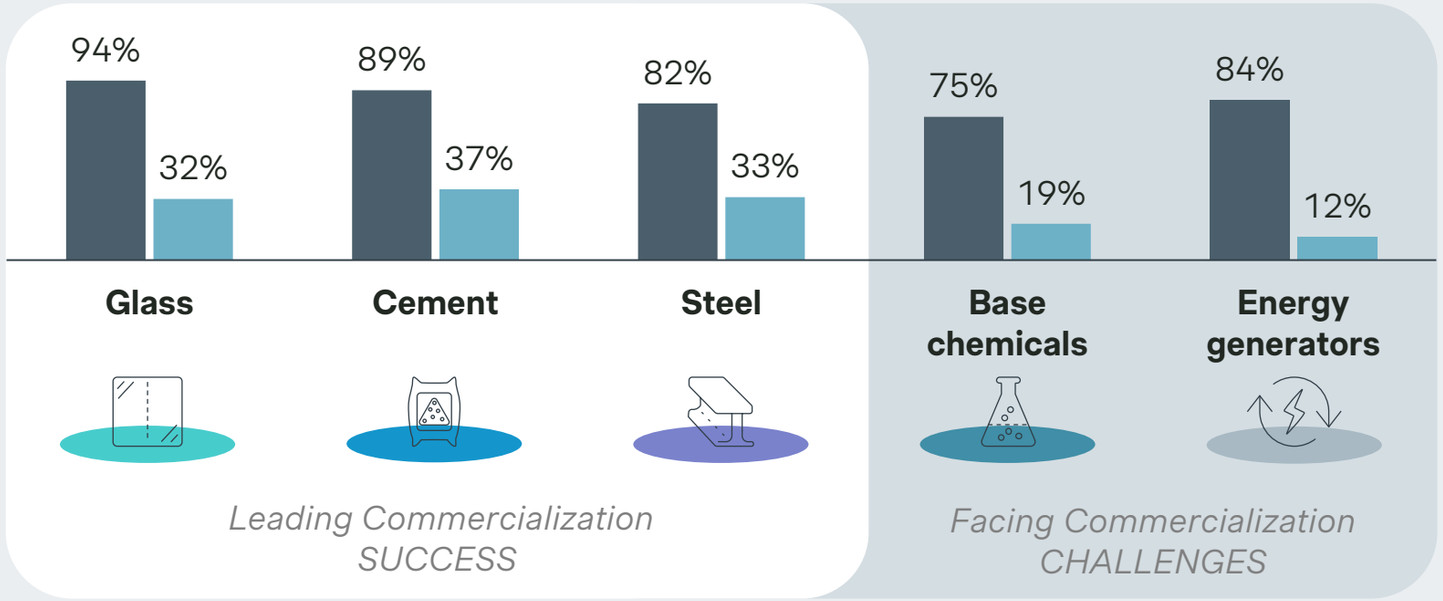
Launch of sustainability-enhanced offerings
(Percentage of respondents)



Implication

Most firms have launched sustainable products, but only a minority achieve traction.

Glass, cement, and steel lead with >1/3 showing commercial results. Base chemicals and energy generators remain stuck in compliance mode unless they scale commercialization.

N=[240]. Question: Has your company introduced any low-emission or sustainability-enhanced offerings (such as renewable, circular or other environmentally friendly) in the past 3 years?
Source: Simon-Kucher

Commercial success barriers:
A mix of regulatory uncertainty, limited willingness to pay and ROI – rather than single barrier

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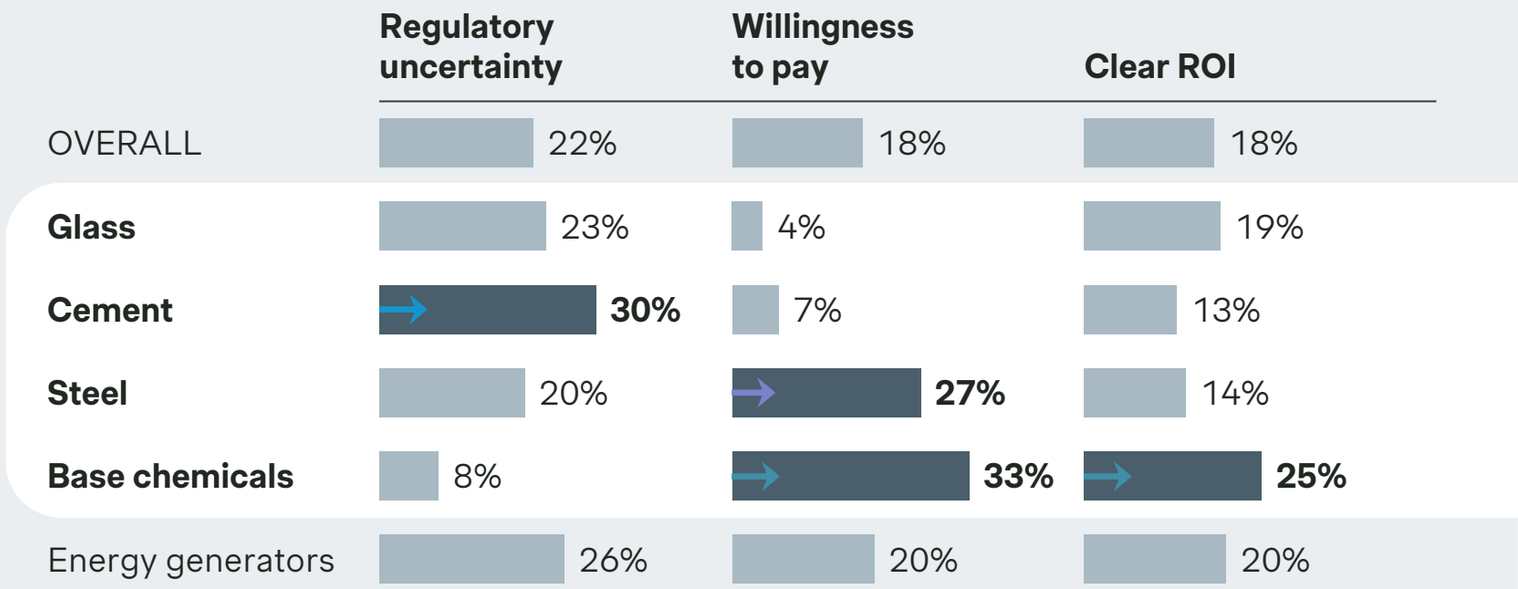
Top 3 Barriers for companies turning sustainability into profitable growth
(Percentage of respondents)



Implication

Challenges are heterogeneous. Base chemicals and steel struggle with weak customer willingness to pay, cement (and glass) faces regulatory risk, energy generators cite policy uncertainty. This fragmented picture underlines the need for tailored transition strategies rather than one-size-fits-all approaches.

N=[177]. Question: What are the biggest barriers to turning sustainability into profitable growth in your company?
Source: Simon-Kucher

Commercial success drivers:
USA sustainability leaders lean market-driven, European leaders emphasize policy

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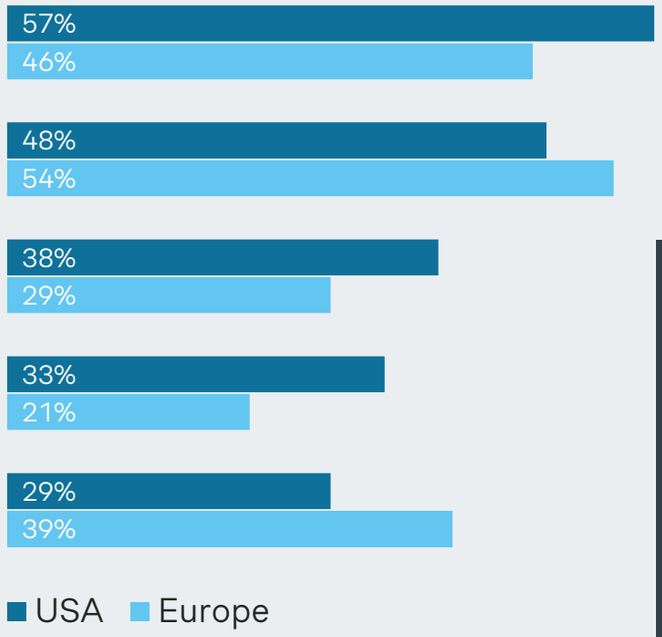
Levers of sustainability leaders to increase market traction of sustainability offerings
(Percentage of respondents with commercial success)



Implication

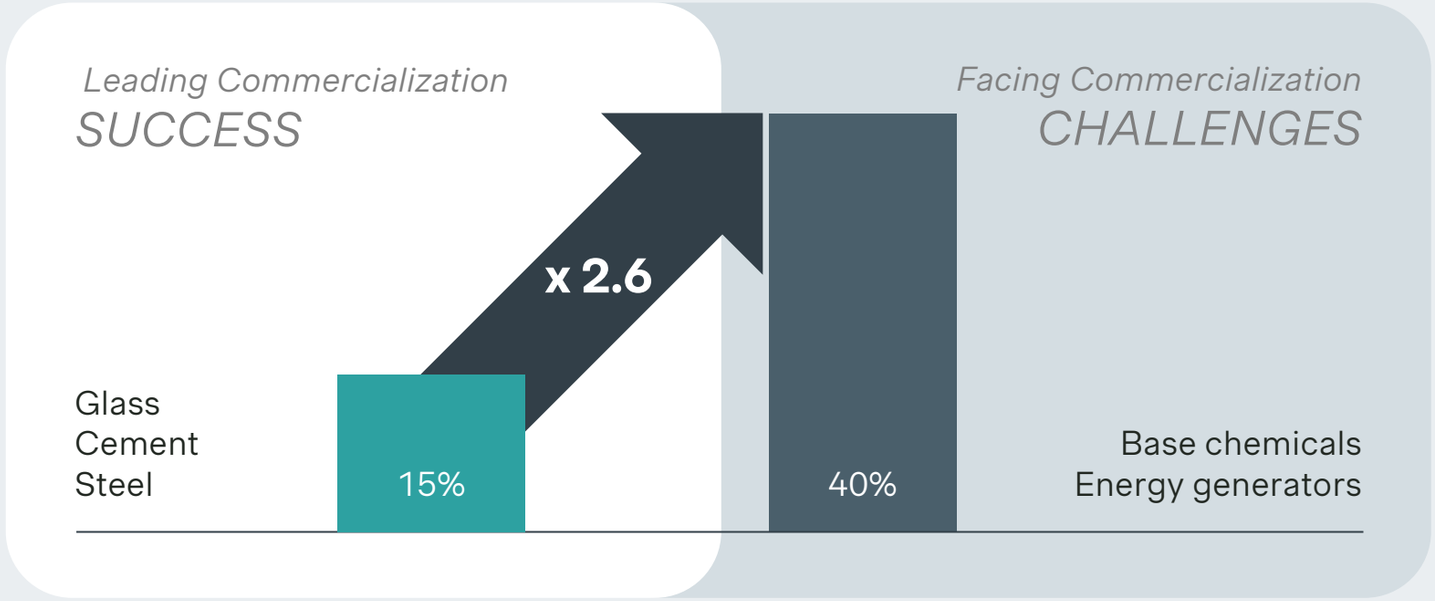
Sustainability leaders achieve commercial success by co-developing with customers and providing robust impact data.

USA leaders emphasize market-driven levers such as customer collaboration and standardization, while European leaders lean more on ecosystem and policy engagement.

N=[63]. Question: Which levers have you used to increase market traction of your sustainability offering?
Source: Simon-Kucher

Shaping demand:
Lagging industries push harder to shape demand, but need the right activities to succeed

Demand shaping activity by industry
(Percentage of respondents)



Implication

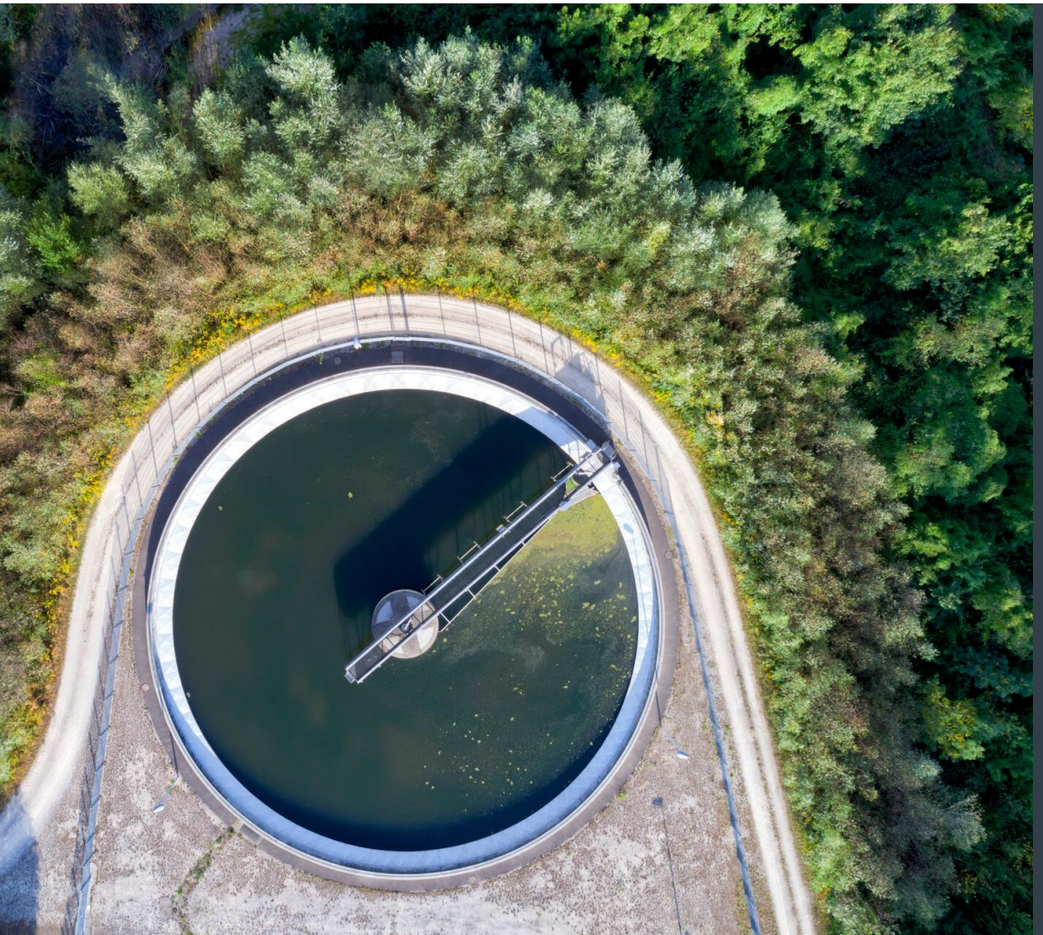
Industries with weak commercial success in sustainability offers (e.g., base chemicals, energy generators) put 2.6x more effort into demand-shaping because their markets are less mature.

But more activity alone doesn't resolve the green paradox. To scale, firms must link demand-shaping to clear customer benefits and robust monetization – from pricing to market design.

N=[240]. Question: How would you describe your company's approach to actively shaping customer demand for sustainable offerings?
Source: Simon-Kucher

From Compliance to Growth: The Strategic Reset

Energy-intensive industries are at a crossroads. The winners will reset strategy, secure energy resilience, and shape markets to turn sustainability into profitable growth.



Revisiting strategy

Reassess priorities and stress-test competitiveness under shifting energy, regulatory, and market conditions – adjust course decisively where needed.

Unlocking energy transition

Offer products that combine PPAs, self-generation, and flexible demand & supply – delivering affordable low-carbon energy and driving a reliable transition.

Shaping demand

Increase customer pull through co-development, partnerships, and smart engagement – creating conditions for sustainable growth at scale.

Commercializing sustainability

Turn green investments into profitable growth with clear target segments, aligned portfolios, and innovative pricing. Scale up with compelling value propositions and a robust go-to-market strategy.

Source: Simon-Kucher

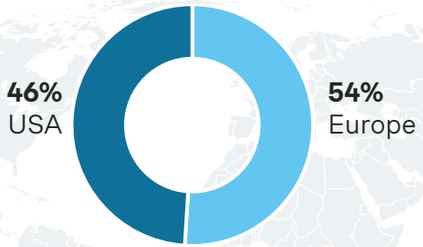
CEM Study by Simon-Kucher:
Methodology and Sample Size

Survey
with executives from the board and top management level

N=240
Total sample size

Jul 25 – Sept 25
Interview Period

Company Headquarters



United States	46%

Germany	13%
France	13%
Switzerland	8%
Netherlands	8%
Belgium	8%
Austria	4%

Company Size (Revenue)

250m to <500m	18%
500m to <750m	11%
750m to <1bn	10%
1bn to <5bn	37%
5bn to <10bn	11%
10bn or more	13%

Position of Respondents

C-Suite (CEO, CFO, COO, etc.)	25%
Board member/advisor	6%
1 level below C-Suite (e.g., President)	52%
2 levels below C-Suite (e.g., Executive)	16%

Industry

Base chemicals	20%
Cement	19%
Energy generation	21%
Glass	20%
Steel	20%

Source: Simon-Kucher

www.simon-kucher.com