

Sustainability Fusion

Powering business value

A framework for measuring and communicating sustainability impact on business value



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In collaboration with the Aspen Institute
Business & Society Program and its network
of sustainability and finance leaders

Executive Summary



Historically, sustainability investments have often been framed and assessed through a compliance, reporting or societal lens rather than through the same value-creation logic applied to other business investments. As a result, these investments have frequently faced long approval cycles, inconsistent evaluation and skepticism from organizational leaders—particularly finance leaders—because the business logic supporting the investment is not explicit and the cash-flow narrative is unclear.

The challenge is not that sustainability investments are fundamentally different from other business investments; they are not. Like any investment, sustainability investments ultimately affect business value through familiar value-creation mechanisms: they can reduce current costs, avoid future costs, generate future revenue, and/or protect existing revenue—often across multiple pathways and over different time horizons. These mechanisms also inherently incorporate the two principal facets of valuation: return and risk.

The issue is framing. Because sustainability investments have historically been articulated in a language distinct from standard business investment logic, they have been harder to evaluate and prioritize by leaders who rely on financial value creation as their primary decision lens. The purpose of this work is to bridge that gap—placing value creation at the center of sustainability decision-making and enabling sustainability investments to be evaluated in the same way as other business investments.

Over the past six months, Deloitte and the Aspen Institute Business & Society Program collaborated to convene a group of more than 25 senior sustainability leaders from corporations, NGOs and independent advisers—following discussions at the Aspen Institute Business & Society Program Summit in July 2025—to develop a sustainability valuation framework that addresses long-standing barriers to communicating sustainability business value. The shared objectives were to:

- Use established business and finance frameworks to translate sustainability investment assumptions into cash-flow implications
- Enable sustainability leaders to speak the language of chief financial officers (CFOs), investment committees, and boards
- Build financial acumen and decision credibility within sustainability teams, as recent research indicates that chief sustainability officers seek to fill that gap¹

Importantly, this work also surfaced that for many organizations, debating and aligning on the logic of how sustainability investments create business value is often more important than the precision of any individual calculation. In practice, the logic and rationale of this approach supports conversations and planning discussions about strategic commitments and resource allocations among corporate C-suites and boards of directors, and private equity firms.²

Executive Summary

The result is the **Sustainability Fusion** framework. It is called Fusion because the framework fuses two contexts—sustainability and financial decision-making—to release the business value inherent in sustainability.

Like many transformative frameworks, Fusion does not introduce a novel valuation concept but rather introduces a standard language that organizes existing information. For instance, accounting standards, industry classifications, and the balanced scorecard did not invent the underlying metrics they use—their power lies in creating a shared structure. Similarly, Sustainability Fusion applies long-established business investment logic by converting assumptions into cash-flow implications and making remaining strategic judgments explicit—within a sustainability context.

Fusion uses a structured, finance-aligned approach to measure and communicate business value, including:

- **Tax-adjusted cash flow (TACF)** as the core metric for expressing incremental value
- **Multiple layers for framing value**, each a successively deeper level of precision:
 - **Layer 1: Value Categories**—Where value shows up
 - **Layer 2: Value Levers**—How value is created
 - **Layer 3: Value Dimensions**—How much value and over what timeframe
- A structured integration of the two types of Value Levers:
 - **Quantifiable levers**, which can be credibly translated into cash flows
 - **Directional levers**, which influence cash flows or risk exposure but are better treated as explicit strategic judgments rather than forced point estimates³

Sustainability investments are not exceptions to standard investment logic. Similar to investments in brand, technology, safety, supply chain resilience, product quality or talent, they often activate multiple Value Levers simultaneously. Fusion makes these value pathways explicit and translates their impacts—where possible—into cash-flow terms, while treating remaining strategic considerations as transparent judgments rather than barriers to decision-making.

The objective of Fusion is to enable sustainability investments to be evaluated based on their contributions to business value. In doing so, environmental and social outcomes become the result of strong investment decisions rather than the primary justification. Fusion is intentionally focused on business value (i.e., impacts to TACF) and does not seek to quantify those broader impacts.



Why a value framework is needed

Despite advances in sustainability reporting and technical measurement, many organizations continue to struggle with a fundamental question:

How can sustainability investments be consistently evaluated and communicated like any other investment?

One reason is structural. Existing environmental, social, and governance (ESG) and reporting frameworks have introduced a distinct language and analytical paradigm that differs from the frameworks used by finance and investment teams. As a result, organizations have often relied on specialized sustainability functions that do not naturally interface with CFOs, corporate finance, and capital allocation processes.

This separation creates friction. Sustainability leaders cite challenges such as:

- Difficulty expressing value in financial terms
- Limited alignment on how sustainability contributes to enterprise value
- Inconsistent evaluation of diverse sustainability investments
- Pressure from CFOs for clearer cash-flow narratives
- Gaps in financial acumen within sustainability teams

Finance leaders, meanwhile, look for approaches that:

- Anchor on cost, revenue, and risk
- Allow apples-to-apples comparison across investments
- Avoid speculative metrics or inflated proxies, or a black box in which calculations lack transparency and simplicity
- Integrate cleanly with budgeting, forecasting, and investment processes

Fusion is designed as a bridge between these worlds. Rather than replacing ESG or reporting frameworks, it complements them by translating sustainability investments into the same business logic used for other investments, enabling clearer decision-making and faster progress.



Cash flow as the core metric

After evaluating multiple approaches, tax-adjusted cash flow (TACF) was selected as the most credible and decision-useful metric for expressing business value across sustainability investments.

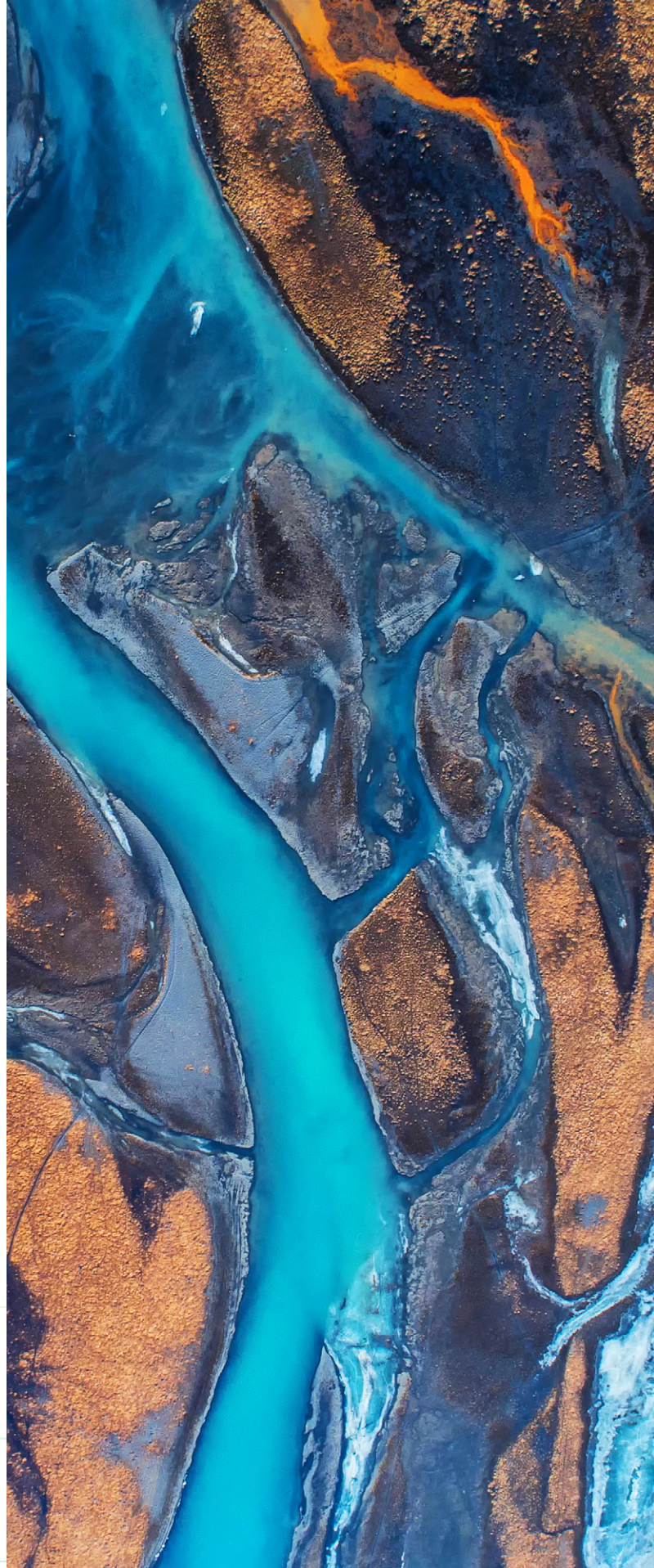
Cash flow is foundational because it:

- Connects directly to enterprise value, which is driven by discounted future cash flows
- Applies consistently across investment types
- Uses financial data that organizations already track
- Integrates with existing finance and capital-allocation processes

Incorporating tax effects improves decision quality because sustainability investments often involve capital investments, depreciation, tax credits, and incentives that materially affect economics. This makes collaboration with corporate tax functions a critical—but often overlooked—element of sustainability valuation.

However, a common conundrum of sustainability value measurement is that some investments include value components that require broad estimates or proxies. As a result, leadership may challenge the value of such investments when expressed as precise cash flow amounts. For example, a risk-mitigation investment may reduce the probability of a catastrophic operational or environmental event. While the expected value of avoided losses can be modeled, the range of outcomes may be broad enough that a single-point estimate adds little clarity.

In these cases, Fusion treats such impacts as directional levers—explicitly acknowledging that they influence future cash flows, while focusing the decision on what must be believed about those impacts for the sustainability investments to be economically rational.



The three layers of Sustainability Fusion

Fusion evaluates sustainability investments through three layers, each increasing in specificity and precision.

Layer 1:

Value Categories — where value shows up

Each sustainability investment is classified into one dominant **Value Category**, reflecting the combination of cost, revenue, risk and return where the value is created

Financial driver: cost vs. revenue (See figure 1, pg.7)

Sustainability investments impact one of two financial drivers: cost and revenue.

- **Cost:** Investments that affect operational or capital costs, including operational expenditures (opex) and capital expenditures (capex)
- **Revenue:** Investments that influence income generation, margin, pricing power, customer preference, market access, etc.

Outcomes: return vs. risk (See figure 2, pg.7)

Sustainability investments generally result in two types of outcomes: return and risk.

- **Return:** Investments that create incremental business value
- **Risk:** Investments that preserve or de-risk existing value by reducing the probability or severity of adverse outcomes

Combining these perspectives yields four **Value Categories**, as depicted in **figure 3**, cost reduced, cost avoided, revenue generated and revenue protected.



Figure 1: Financial driver — cost vs. revenue

Sustainability investments impact one of two financial drivers—cost or revenue...



Figure 2: Outcomes — return vs. risk

...and focus on one of two outcomes—return or risk

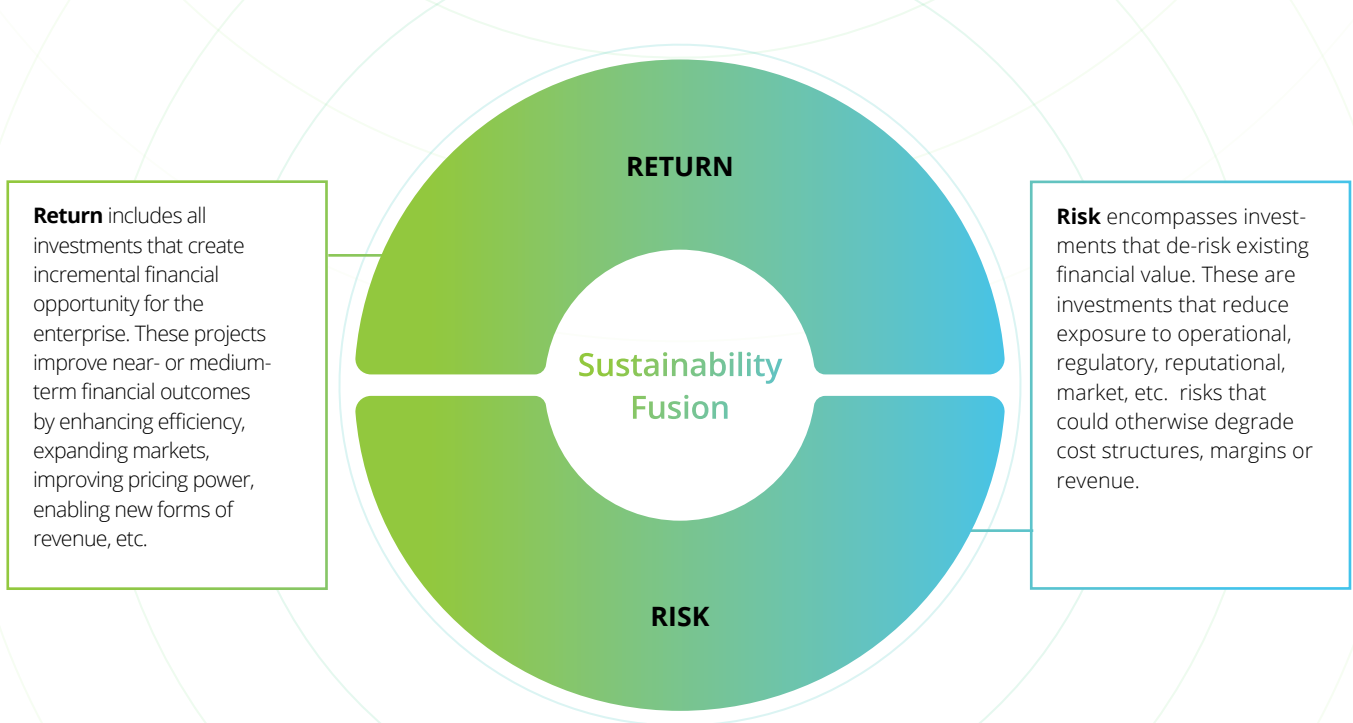
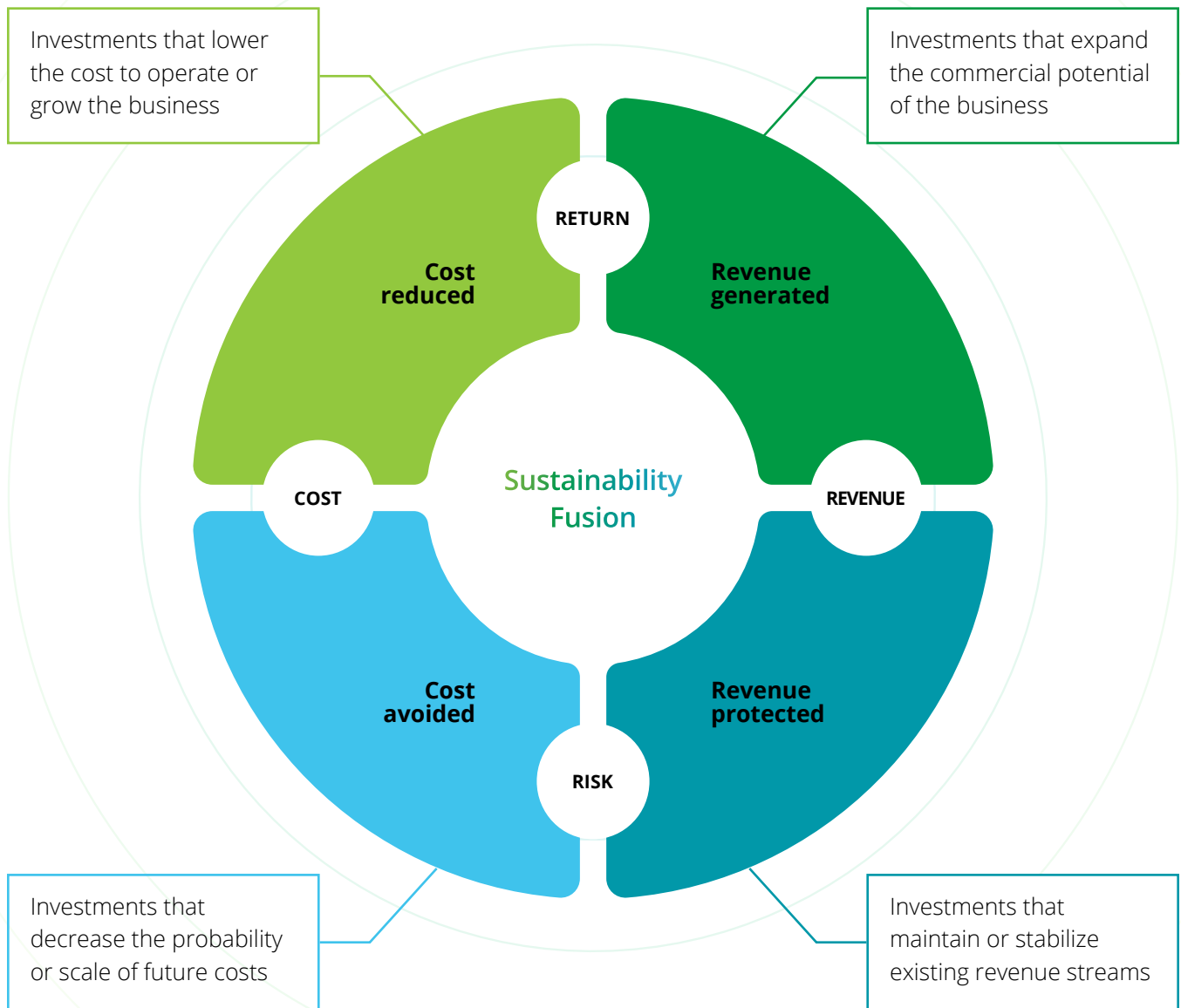


Figure 3: Four Value Categories

Combining these financial drivers and outcomes yields four Value Categories, which comprise the first layer of Fusion



Note: Sustainability investments often affect multiple categories. However, in the majority of cases, one category is typically dominant. Value Categories support with storytelling by clearly identifying what is truly driving an investment decision.

Layer 2:

Value Levers — how value is created

Each of the Value Categories has a number of business drivers enabling value to be achieved. These are the Value Levers in layer 2 that form the explanatory bridge between the investment and its financial outcomes and are often the most valuable part of the framework for cross-functional alignment.

Please see the **appendix** for definitions of each Value Lever listed in **figure 4**.

The list of Value Levers provided in Fusion is intentionally nonexhaustive. There is a universe of plausible Value Levers across businesses and sectors. Fusion provides a structured way to identify and document the ones that matter for a specific sustainability investment.

The sustainability leaders engaged in development of this framework cited that it was often as important for a leadership team to debate and align on how a sustainability investment creates business value as it was to calculate the value itself.

Layer 2 presents a common logic process and common language for a leadership team and/or investor group to align on that logic. In practice, users are encouraged to articulate the value logic in plain language: Because we invest in X, it leads to Y change, which creates Z business value.

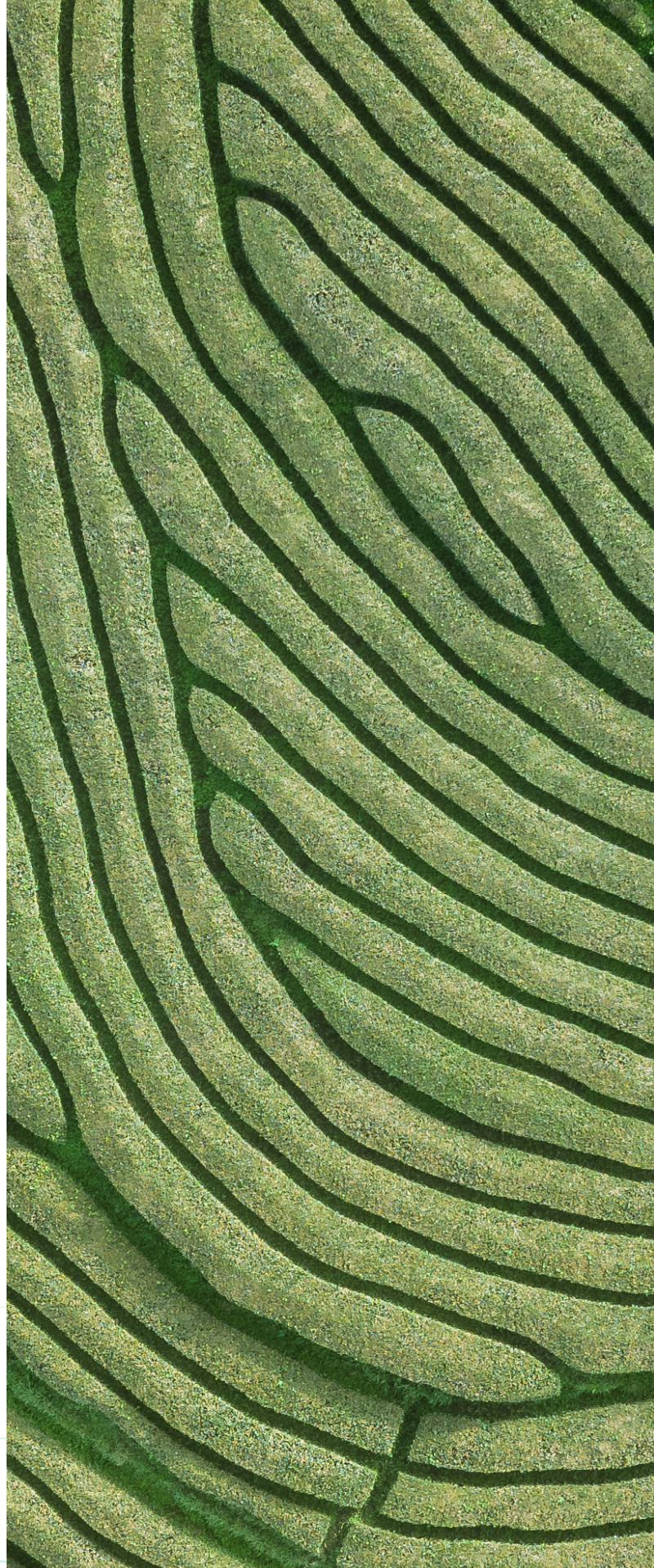
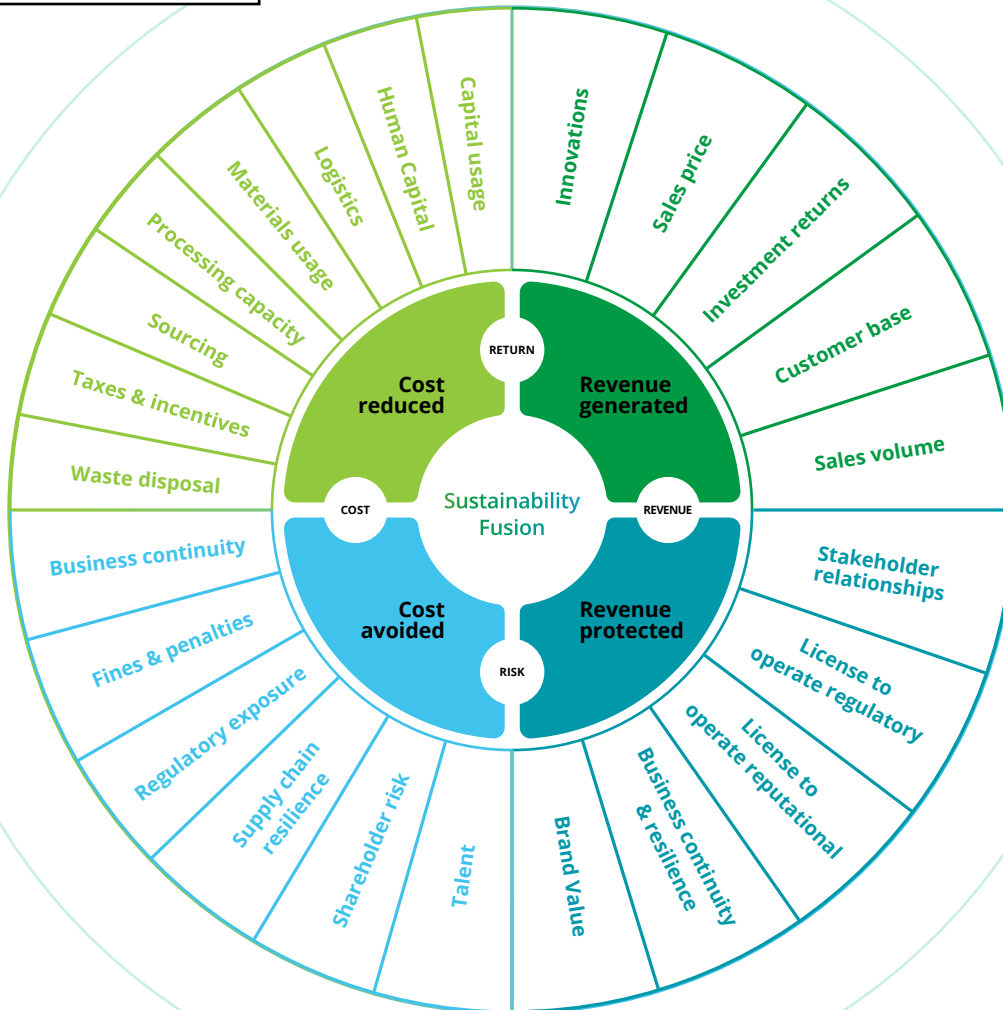


Figure 4: Value Levers

Value Levers specify the drivers of value in layer 2

Value Levers (layer 2) indicate the way in which a **Value Category (layer 1)** is achieved



Key benefits:

- Forms the explanatory bridge between the investment and its financial outcomes
- Often considered the most valuable part of the framework for cross-functional alignment

Layer 3:

Value Dimensions — how much value and over what timeframe

Layer 3 translates each Value Lever into a measurable business impact by defining how much value is created and over what timeframe.

One of the challenges often voiced by sustainability teams is that finance leadership and the C-suite can be skeptical of sustainability valuations, particularly when certain input assumptions are elusive to measure. For example, a company may be evaluating an investment in a \$1 million plant retrofit that avoids a 10% likelihood of a flood event and the associated impact on business continuity. Both the 10% figure and the actual parameter for “impact on business continuity” may lack the mathematical rigor for an ROI calculation.

Fusion addresses this challenge by supporting two approaches for measuring Value Levers: a quantifiable approach when the input parameters can be reliably estimated, and a directional approach when the direction of value movement is clear, but the actual value is not. In the plant retrofit example, management may be able to agree that reducing the risk of a flood event improves business continuity and reduces the severity and duration of downtime, but may not agree on the precise financial value of those impacts. Evaluating the investment using a directional approach avoids decision paralysis.

For each material Value Lever, three questions should be considered:

1. Are data available to estimate the impact in financial terms with reasonable confidence?
2. Is the estimate likely to be within a reasonable range?
3. Will quantification meaningfully improve the clarity of the decision?

If the answer to all three questions is “yes,” then employ the quantifiable approach. If any answer is “no,” then the directional approach should be used.

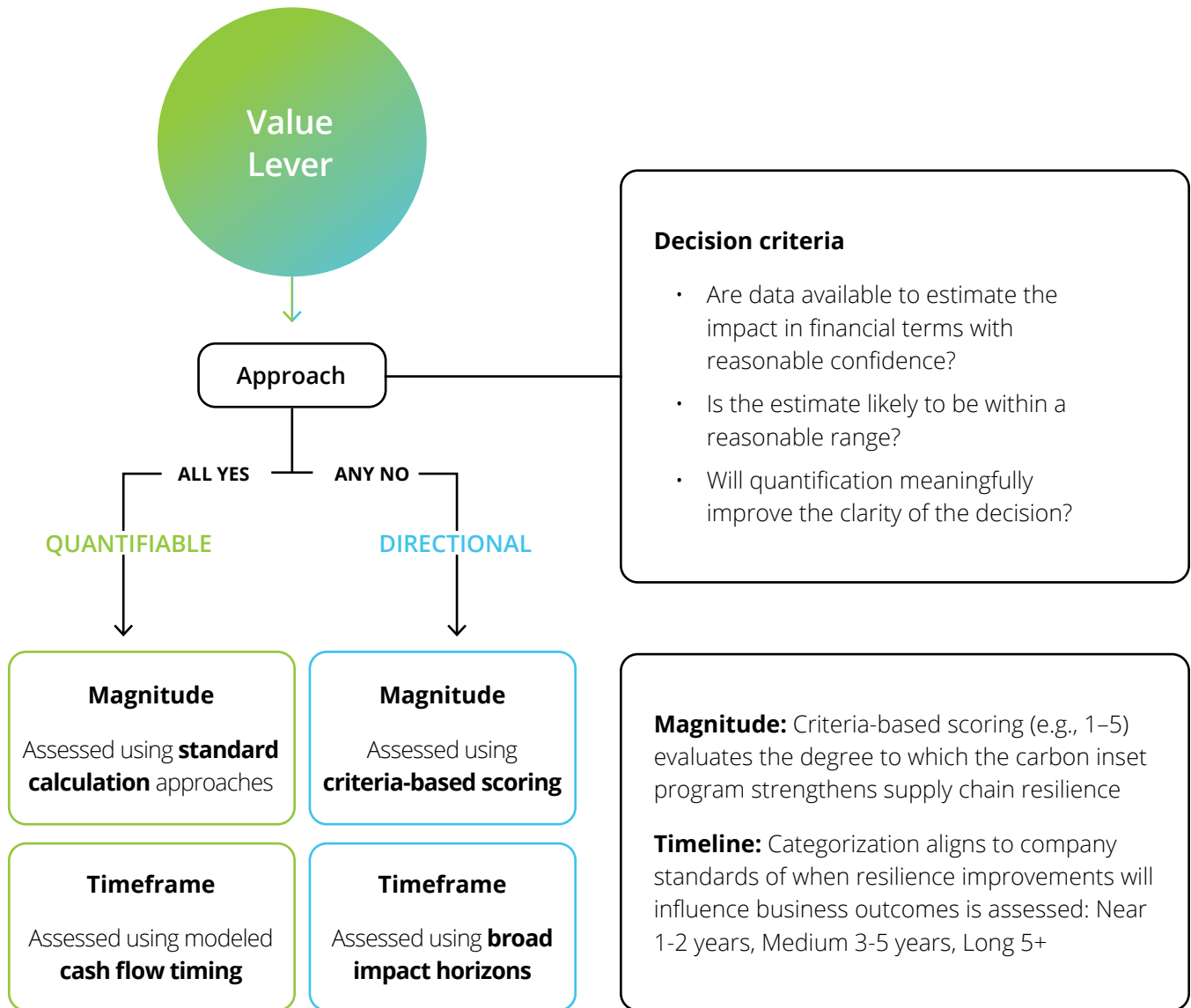
Once the approach has been selected, value is evaluated based on magnitude and timeframe:

1. **Magnitude: What is the impact on TACF?**
How large is the expected change in tax-adjusted cash flow?
 - **For quantifiable levers:** Standard calculation approaches are provided to estimate impact in dollar terms.
 - **For directional levers:** A criteria-based scoring system is used to assess the relative degree of impact.
2. **Timeframe: When will the business impacts occur?**
Over what period will the value be realized?
 - Factors to consider are provided for assessing timing across both quantifiable and directional impacts.
 - In practice, timeframe assumptions are often aligned to organizational planning horizons when applying Fusion.

Figure 5 depicts the relationship between Value Levers and Value Dimensions.

Figure 5: Value Dimensions

In layer 3, Fusion specifies how to assess Value Dimensions (i.e., magnitude and timeframe) for each Value Lever



While a comprehensive list of Value Dimensions for each Value Lever is beyond the scope of this paper, Deloitte is developing a database with common approaches and guidance. The following example for the “business continuity and resilience” Value Lever (cost avoided Value Category) in **figures 6A and 6B** demonstrates the type of information this database includes.

To assess the magnitude of change, Fusion provides both quantifiable and directional measurement approaches and best practices on how to calculate (**please see figure 6A**).

Figure 6A: Value Dimension magnitude

Value Dimension | Business continuity and resilience magnitude: *What is the impact on TACF?*

Impacts reflects the **change in expected financial losses** associated with operational disruptions.

Quantifiable

Common approaches include:

Expected loss reduction model: (Probability of disruption × financial impact per event) compared before and after the investment

Downtime cost avoidance: Reduction in lost production, revenue, or increased operating costs during disruptions

Scenario-based modeling: Estimating avoided losses under defined disruption scenarios

Directional

Recommended directional scoring criteria:

Degree to which the investment reduces exposure to operational disruption and improves resilience across critical operations and supply chains

Score	Interpretation
5 Significant / transformational impact	Substantially strengthen
4 Positive impact	Improves resilience in key areas
3 Neutral / no material change	No meaningful change to resilience profile
2 Minor negative impact	Introduces some new risks or instability
1 Material negative impact	Increases disruption risk or weakens resilience

The framework also provides guidance related to how timing of business impacts may be assessed across both quantifiable and directional approaches (please see **figure 6B**).

Value Dimensions can often vary by industry and sector. Many organizations already maintain a defined set of metrics aligned and unique to their organization. Mapping those organization-specific approaches to the Value Dimensions helps ensure consistency with existing financial, risk, and performance management frameworks.

Figure 6B: Value Dimension timeframe

Value dimension | Business continuity and resilience timeframe: When will the business impacts occur?

Guidance:

Impacts may be realized both as ongoing reductions to expected loss (annualized) and as avoided or mitigated disruption events, which may occur intermittently over time. Time horizons should align with asset lifecycles, supply chain structure, and enterprise risk planning cycles.

Quantifiable

Directional

Impacts are typically expressed as:

- Impacts are often annualized (expected value basis)
- Total value over the life of the investment

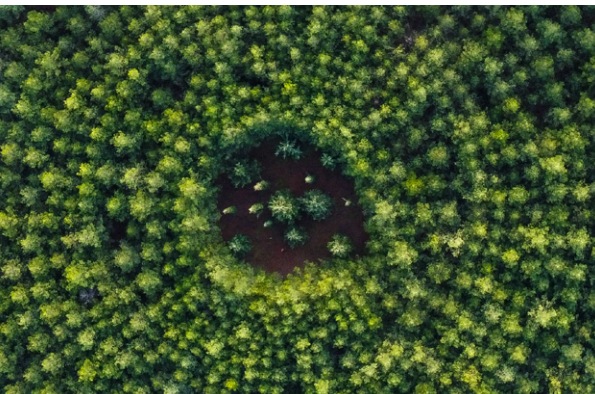
- Timeframe reflects when resilience capabilities are expected to materially influence risk exposure
- Consider when capabilities will become operational and when risks or opportunities are expected to materialize

Example application of Sustainability Fusion

Fusion is designed to be applied to individual sustainability investments, in which underlying value drivers can be clearly articulated and evaluated. While organizations may ultimately aggregate results into a portfolio view, starting at the individual investment level promotes clarity, consistency and stronger decision support. An illustrative case study appears below.



Illustrative case study



A global food manufacturer’s executive team was reviewing its exposure to tightening deforestation regulations in the EU. Several large retailers had already begun signaling stricter sourcing requirements, and regulatory enforcement was expected to intensify within the next few years.

At the center of the discussion was a proposed investment: enhanced supply chain traceability to support deforestation and conversion-free (DCF) commitments.

The question was not whether the investment was “good for the planet.” The question was whether the investment would “outweigh the cost of inaction.” To answer this question, the team applied Fusion.



Example application of Sustainability Fusion:

Illustrative case study

Layer 1: Where value shows up (Value Categories)

As the discussion unfolded, one theme became clear: This was not primarily a growth story; it was a protection story. The investment would determine whether the company could continue to participate in key markets. In the language of Fusion, the value would show up as revenue protected.

That framing shifted the conversation in a way that was understood across the organization. This was not an optional sustainability initiative—it was about preserving existing revenue.

Layer 2: How value is created (Value Levers)

Once aligned on the “where,” the team turned to the “how.” The team articulated the logic in plain terms:

If the manufacturer invests in traceability it can verify DCF compliance, which allows it to maintain access to regulated markets and reduce the likelihood of penalties or disruptions. That in turn protects both the manufacturer’s revenue base and its cost structure.

From that logic, Value Levers identified three distinct value pathways:

- **License to operate – regulatory:** Maintaining access to key markets
- **Fines and penalties:** Avoiding the costs of noncompliance (e.g., rejected shipments, recalls)
- **Brand value:** Sustaining customer and retailer trust in sourcing practices

At this stage, the framework was not driving the conversation—the story was. The Value Levers simply gave the team a shared language to describe what they already understood and highlighted that in addition to revenue protection, cost avoidance is another potential component of the value story.

Example application of Sustainability Fusion:

Illustrative case study

Layer 3:

How much value and over what timeframe (Value Dimensions)

Only after aligning on the narrative did the team move into measurement. Using the Fusion criteria to assess the measurement approach, some Value Levers lent themselves to the quantifiable approach:

Fines and penalties could be modeled using probability-adjusted scenarios based on noncompliance risks and historical enforcement patterns

Other Value Levers were deemed a better fit for the directional approach—but no less important:

License to operate – regulatory was assessed as significant/transformational impact, a score of 5 out of 5 in the directional scoring criteria, given its direct link to market access

Brand value was considered positive impact, a score of 4 out of 5 in the directional scoring criteria, reflecting evolving customer and retailer expectations

Time horizons further clarified the picture:

- Avoided penalties would likely materialize in the near term (1–3 years)
- Regulatory access risks would intensify over the medium term (3–5 years)
- Brand-related impacts would unfold over a longer horizon (5–7 years)

Importantly, the act of measuring did not just quantify the story—it refined it. As the team worked through scenarios, it realized that “license to operate – regulatory” was not just one Value Lever among several—it was the central driver of the investment’s value.

By the time the analysis was complete, the conclusion felt less like a calculation and more like a recognition: This investment was not about generating upside. It was primarily about revenue protection and was secondarily about cost avoidance.

Using Sustainability Fusion not only changed the analysis, but also the conversation:

- By starting with where value shows up (layer 1), the team anchored the discussion in a clear business narrative
- By articulating how value is created (layer 2), the team built alignment across functions
- By then assessing how much value and over what timeframe (layer 3), the team added rigor without forcing false precision

The result was a decision that the organization could confidently stand behind.

Conclusion

Sustainability Fusion can give organizations a clear and financially grounded pathway to document and explain how sustainability investments create return and mitigate risk across both costs and revenues. By anchoring decisions in tax-adjusted cash flow—and by making strategic decisions explicit rather than vague—Fusion brings consistency and credibility to sustainability investment decisions that too often stall due to unclear business logic.

Overall, Fusion can help organizations act more quickly and with greater confidence. Using Fusion, organizations gain a repeatable way to assess individual sustainability investments, to demonstrate how sustainability contributes to business value, and to prioritize sustainability investments across the organization.

Most importantly, Fusion can power and release the business value inherent in sustainability.

Authors / Get in touch

[Laura Bryce](#)

Managing Director
Deloitte Consulting LLP
lbryce@deloitte.com

[Bill Marquard](#)

Managing Director
Deloitte Consulting LLP
bmarquard@deloitte.com

[Sierra Bayles](#)

Senior Manager
Deloitte Consulting LLP
sibayles@deloitte.com

Endnotes

- [1. Deloitte, Chief sustainability officer benchmarking survey, Deloitte, proprietary internal research, 2025.](#)
- [2. Deloitte, proprietary analysis of feedback from a working group of sustainability professionals engaged through the Aspen Institute Business & Society Program along with additional stakeholder interviews, 2025.](#)
- [3. The terms “quantifiable levers” and “directional levers” are defined in “Layer 3: Value Dimensions” in this report, p. 9-11.](#)

Appendix

Cost reduced	
Capital usage	Change in capital expenditure levels or utilization of assets and investments
Human capital usage	Change in labor costs or workforce productivity driven by how talent is deployed
Inventory	Change in inventory holding, obsolescence or carrying costs based on inventory levels and turnover
Logistics	Change in transportation, warehousing and distribution costs across the supply chain
Marketing	Change in marketing spend driven by campaign scope, targeting and effectiveness
Materials usage	Change in material consumption or yield within production processes
Processing capacity	Change in throughput, utilization or downtime affecting per-unit processing costs
Resource usage	Change in consumption of energy, water or other operational resources
Sourcing	Change in procurement costs resulting from supplier strategy and sourcing decisions
Taxes and incentives	Change in tax liabilities, fines or penalties due to compliance and regulatory outcomes
Waste disposal	Change in waste handling, treatment or disposal costs
Revenue generated	
Customer base	Change in revenue resulting from growth in the number of active customers
Sales volume (existing customers)	Change in revenue driven by variations in purchase volume or frequency from existing customers
Investment returns	Change in returns driven by investment in financial assets
New products and services	Change in revenue attributable to the introduction and performance of new products or services
Price premiums	Change in realized pricing relative to baseline, benchmarks or competitive alternatives

Appendix

Cost avoided	
Business continuity and resilience	Change in costs associated with operational disruptions or downtime events
Economic exposure	Change in financial impact from macroeconomic, currency or commodity fluctuations
Fines and penalties	Change in costs resulting from regulatory or legal monetary sanctions imposed due to violations of laws, regulations or contractual obligations
Legal exposure	Change in legal costs, settlements or litigation-related expenses
Regulatory exposure	Change in compliance-related costs, fines or remediation efforts
Shareholder risk	Change in potential value impact related to governance, performance or investor confidence
Supply chain continuity and resilience	Change in costs arising from supplier disruptions or supply interruptions
Talent acquisition and retention	Change in revenue or productivity influenced by the ability to attract and retain talent
Revenue protected	
Brand value	Change in revenue stability influenced by brand perception and reputation
Business continuity and resilience	Change in revenue impact associated with service interruptions or outages
License to operate – regulatory and legal	Change in revenue impact associated with compliance with laws and regulations
License to operate – reputational	Change in revenue impact associated with maintaining community trust and social acceptance to operate
Stakeholder relationships	Change in revenue outcomes influenced by customer, partner and community relationships

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