

TOOLKIT: SCENARIO-BASED HYPOTHETICALS AND METRICS

It is helpful to use carbon pricing in scenarios and simulations, rather than as a single, catch-all metric for decision-making. The following tools can help capture different scenarios in future carbon regulation and serve as powerful tools for both internal decision-making and external stakeholder communication.

Note: The following visualizations are illustrative mockups and do not use real company data. They are designed to demonstrate how scenario tools such as MACCs, sensitivity analyses, and shadow pricing can be used in practice.

A) Scenario and sensitivity analysis

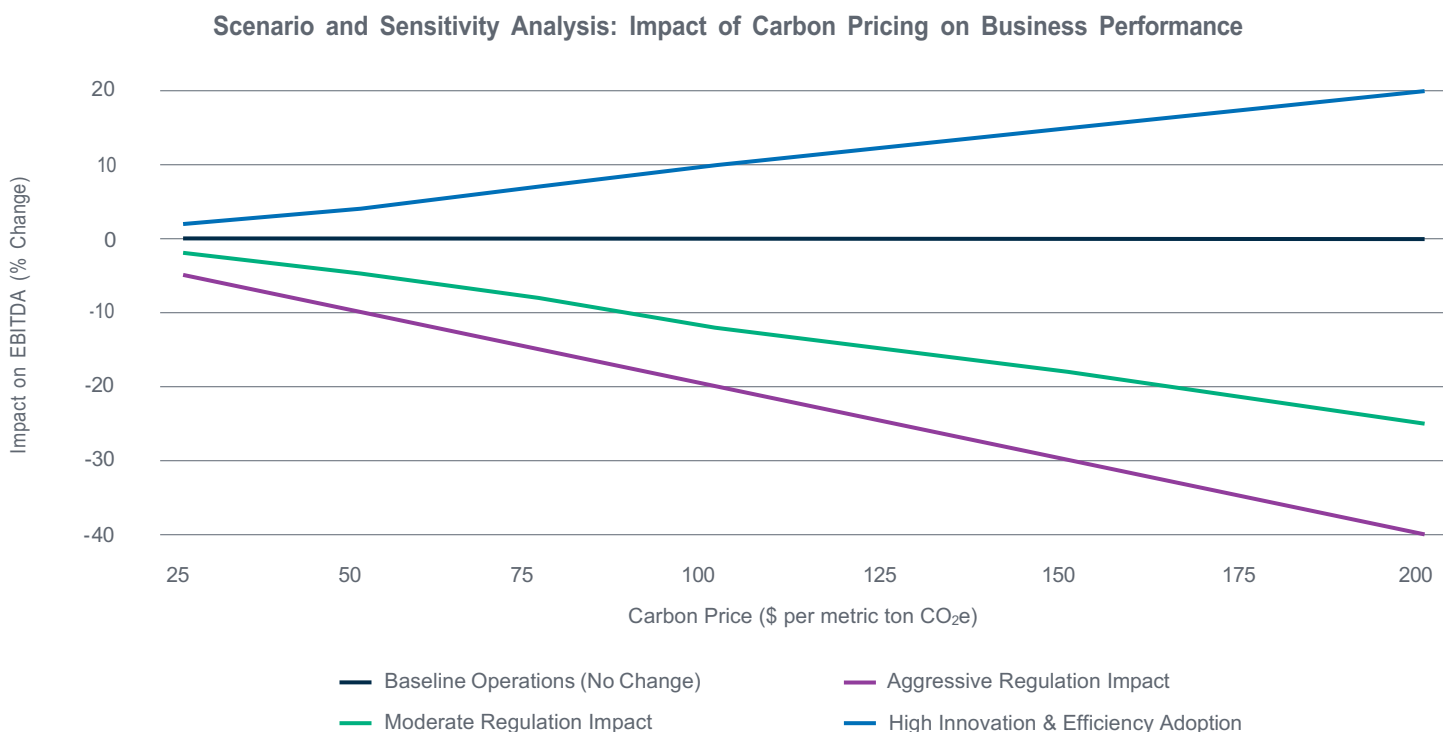
Scenario and sensitivity analysis tools help companies assess how different carbon price levels may impact financial performance, guiding strategic decision-making under regulatory uncertainty.

This visualization illustrates how varying degrees of regulation—from moderate to aggressive—could negatively impact EBITDA, while proactive investments in innovation and efficiency improvements could mitigate financial risks or even enhance profitability.

By modeling different carbon price scenarios, businesses can stress-test their capital allocation strategies and identify which investments are most resilient under a range of policy and market conditions.

These tools can be used to engage internal decision-makers, investors, and regulators by providing a clear financial framework for understanding potential risks and opportunities associated with decarbonization.

As carbon pricing policies evolve, companies can continuously refine their scenario models to ensure their business remains adaptable, competitive, and aligned with long-term sustainability objectives.



Illustrative scenario analysis showing hypothetical EBITDA outcomes (Net of Carbon EBITDA) under different carbon pricing levels.

B) Marginal abatement cost curve

A marginal abatement cost curve (MACC) helps illustrate how different carbon reduction strategies become financially viable at various carbon price levels, enabling companies to assess cost-effective pathways to decarbonization.

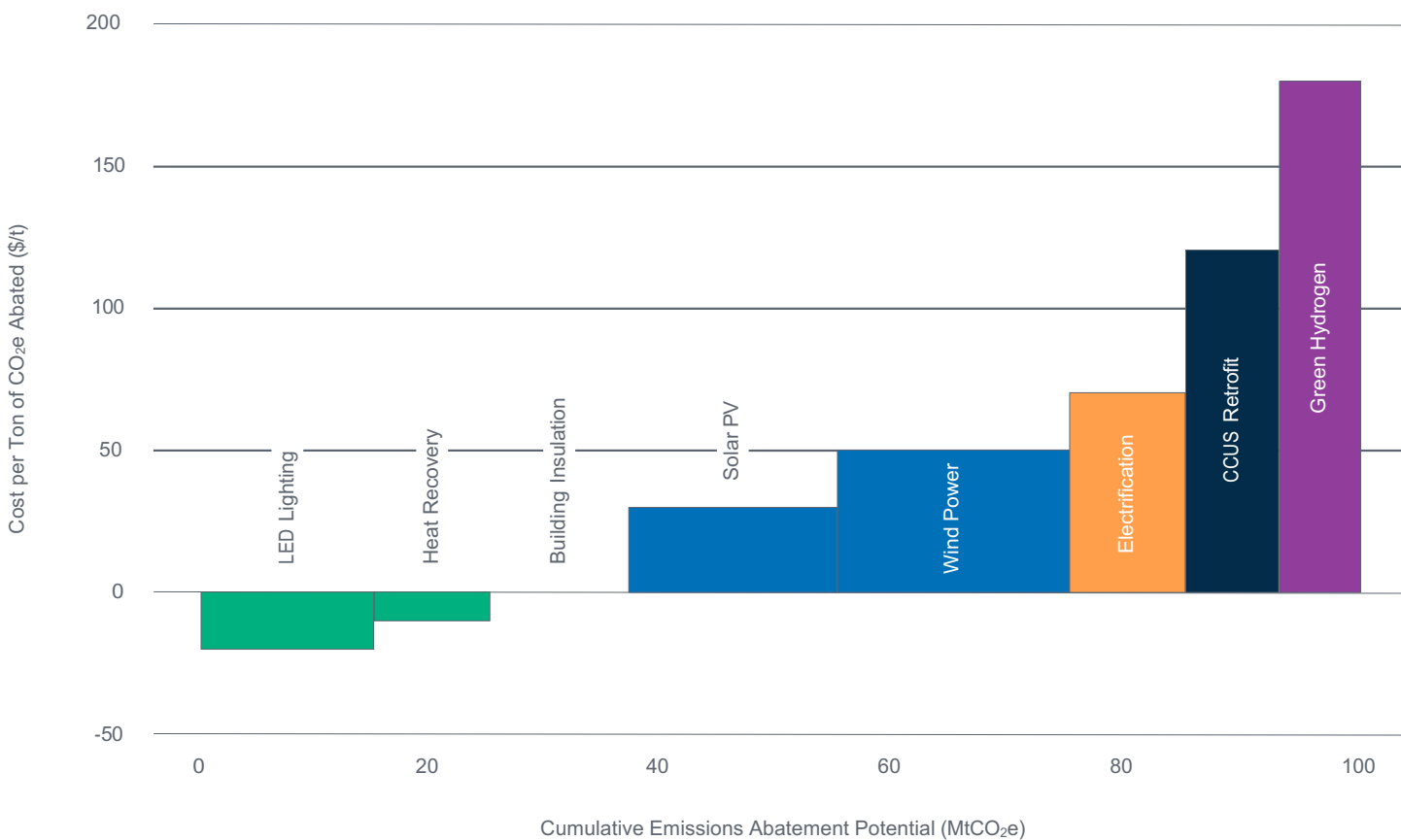
This visualization allows decision-makers to compare the relative cost and impact of different emissions reduction measures, from energy efficiency improvements to advanced technologies like carbon capture and storage (CCS).

By incorporating real or scenario-based carbon prices, companies can use this tool to stress-test their investment strategies and prioritize projects that align with long-term regulatory and financial expectations.

MACCs can support communication with internal stakeholders and investors by providing a clear, quantitative representation of the financial implications of decarbonization initiatives.

As carbon pricing mechanisms evolve globally, companies can update their MACCs to reflect policy changes and technological advancements, ensuring that capital allocation decisions remain forward-looking and resilient.

Financial Lens on Decarbonization: A Marginal Abatement Cost Curve



Illustrative Marginal Abatement Cost Curve. Data shown is notional and intended for demonstration purposes only.

Each bar represents a specific emissions reduction measure. The width indicates the scale of potential emissions abatement (in MtCO₂e), while the height reflects the marginal cost per ton.

Bars below the horizontal axis represent cost-saving opportunities (negative cost), while **bars above the axis** show higher-cost measures that may require regulatory, market, or incentive support. Horizontal lines at \$50, \$100, and \$190/ton illustrate common internal or modeled carbon price thresholds.

C) Shadow pricing in capital allocation

Shadow pricing integrates potential future carbon costs into investment decisions, helping companies prioritize projects that will remain profitable under evolving climate policies.

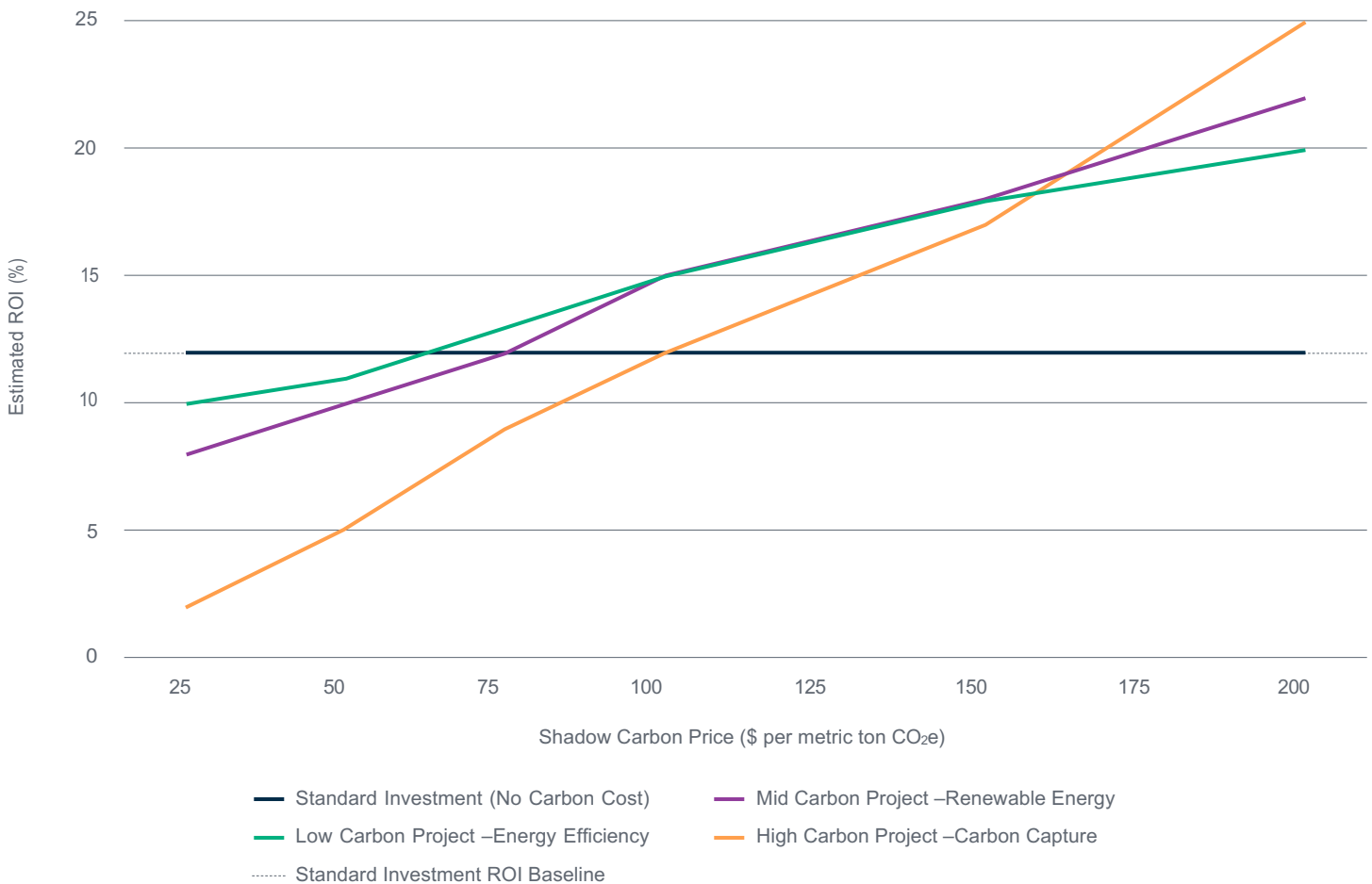
This visualization shows how higher carbon prices can shift capital allocation by improving the relative return on investment (ROI) of low-carbon projects, making energy efficiency and renewables more financially attractive.

By applying shadow pricing to capital planning, companies can proactively assess which projects will provide long-term value in a carbon-regulated economy, reducing the risk of stranded assets.

A well-calibrated shadow price encourages businesses to allocate capital toward sustainable projects today, ensuring resilience and competitiveness as carbon regulations tighten.

This tool supports strategic discussions with investors and stakeholders by quantifying the financial impact of carbon pricing on different investment options, reinforcing the business case for sustainability.

Evaluating Shadow Pricing in Capital Allocation Decisions



Mockup visualizing how shadow pricing might shift capital allocation priorities. Values are illustrative.

D) Alternative P&L metrics

Sometimes, setting climate targets solely based on historical emissions is outdated or insufficient. Companies can benefit from including alternative metrics that reflect financial performance under climate constraints—effectively, a “second set of books,” as one working group member described it. Examples include:

Metric	What it is	Why it matters
Net of Carbon EBITDA	EBITDA adjusted for carbon costs (e.g., internal carbon price × emissions).	Highlights how carbon pricing affects profitability; helps compare high- and low-carbon business models.
Carbon-Adjusted Operating Margin	Operating income minus carbon costs, divided by revenue.	Reveals margin erosion due to carbon liabilities; helps track carbon efficiency of revenue generation.
Carbon Cost per Unit of Output	Total carbon-related cost (taxes, offsets, internal price) divided by units produced or sold.	Useful for benchmarking product-level or site-level emissions intensity and economic viability.
Return on Carbon-Adjusted Capital (RoCAC)	Net income after carbon costs divided by invested capital.	Evaluates efficiency of capital deployment in a carbon-constrained world.
Shadow Carbon ROI	Projected return on investment after factoring in shadow carbon pricing over asset/project lifetime.	Assesses long-term project viability under anticipated carbon regulation scenarios.