# *Ahead of the Curve: Factoring the Cost of Carbon Into Long-Term Decision-Making*

Project Brief

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Climate considerations, particularly carbon pricing, are an inevitable financial reality that must be integrated into capital allocation decisions. Forward-thinking organizations are staying "ahead of the curve" by proactively embedding carbon costs into their financial decision-making, and, in the process, creating a distinct competitive advantage. Read the full report.

## Facts and Figures

- Current carbon prices average around $23/ton globally.
- Only 24% of global emissions are covered by pricing mechanisms.
- Climate transition impacts could affect equity portfolio values significantly, with sector-specific losses reaching 10-60% in vulnerable industries.
- Only 18% of MSCI ACWI companies use internal carbon pricing, steadily increasing over the last 5 years. Among those that do, the median price is $49/ton

## Key Insights

- **Mixed market signals:** Current carbon prices create weak investment signals due to their low levels and fragmented coverage. Markets are at various stages of pricing carbon emissions, creating a patchwork of regulatory treatment worldwide.
- **Payoffs to climate investments follow a J-curve:** Companies are faced with the decision to "pay now or pay later."
- **Portfolio risk assessment:** The economics of carbon may not be completely captured in asset prices, leaving significant gaps in measuring transition risk in portfolios.
- **Climate transition creates both risks and opportunities:** Missing technological breakthroughs and green innovation could be as financially damaging as exposure to transition losses.
- There are **seven barriers** companies face in carbon integration—from time horizon mismatching to a lack of anchor shareholders.

## Target Outcomes

- **Asset owners** include carbon pricing scenarios in their asset allocation process
- **Asset managers** include carbon price as a financial input in investment decision-making
- **Companies** with material carbon emissions factor internal carbon pricing in capital allocation decisions

## To Focus Capital on the Long Term...

### Investors can:

- Treat the cost of carbon as a financial input in asset valuation
- Develop research processes, due diligence, and analytics in support of generating views on carbon markets.
- Lean into familiar financial tools and indicators like EBITDA, EPS, ROI, and IRR, adjusted for the effects of carbon
- Consider carbon beta as a tool to measure public equity sensitivity to carbon risk factors
- Leverage carbon derivatives markets for risk management and internal carbon pricing models

**Toolkits:**

- Indicators for Scenario Analysis
- Carbon Beta

### Corporations:

- Develop a clear, long-term climate strategy that can endure beyond regulatory cycles
- Use shadow pricing and scenario analysis to capture a range of future scenarios
- Update metrics and assumptions regularly to reflect changes in science, markets, and regulation
- Translate climate metrics into familiar investor concepts and report or disclose as part of the MD&A.
- Integrate carbon costs into strategic planning before new regulations take effect (i.e., EU CBAM)

**Toolkits:**

- Commonalities of Companies "Ahead of the Curve"
- Scenario-based Hypotheticals and Metrics

## Examples from Leading Practice

**Temasek**: Applies $65/ton internal carbon price with biennial reviews and proprietary "carbon spread" metrics

**GIC**: Developed Carbon Earnings-at-risk Scenario Analysis estimating portfolio impact under various climate scenarios

**NBIM**: Uses bottom-up climate value-at-risk modeling projecting impact to portfolio valuations

**Votorantim Cimentos**: $100/ton shadow pricing across all CapEx projects with integrated MACC analysis

**Hines**: Market-specific carbon pricing frameworks adapting to jurisdictional variations in real estate investment

**Aon**: Quantifying both physical and transition risks to address climate protection gaps in insurance markets

**Dow** integrates carbon price assumptions into both short- and long-term capital planning, such as in its $2 billion Path2Zero project in Alberta