Counting the cost of carbon to shareholders: Taking first steps
Companies are facing the prospect of being taxed on greenhouse gas (GHG) emissions, which could reduce profitability and, ultimately, shareholder value. Our analysis finds that even for sectors that are not traditionally viewed as “heavy emitters” this impact is unlikely to be negligible. (This is before considering Scope 3 emissions or more sophisticated liability redistribution mechanisms.). It is imperative for investors and management teams to understand GHG emissions exposure, the strategic implications, and alternative decarbonisation pathways, rather than wait for certainty on the future regulatory environment.

As governments around the world grapple with the challenge of decarbonisation, a key policy instrument under consideration (and in some countries, already implemented) is taxation on carbon and other GHG emissions. The thinking is that escalating emissions taxes over time will incentivise and accelerate the transition of the private sector to “net zero”. The key enabler for this is a robust and standardised accounting approach for GHG emissions across different economic sectors and jurisdictions, in line with the Scope 1/2/3 classifications. While there is still some way to go in having an established common framework, many corporations are voluntarily reporting their carbon emissions on a recurring basis. Also, there is now substantial published research available (e.g., IEA, Bloomberg NEF) that takes a view on how global average carbon pricing will need to evolve over the long-term in order meet the Paris Agreement climate change targets.

### Assessing the shareholder value implications of carbon emissions taxation

Combining company emissions reporting with carbon price forecasts provides a foundation for creating a preliminary insight into the shareholder value implications of carbon (and equivalents) emissions taxation. At Marakon, we use Economic Profit spread (EP) to measure value creation for shareholders (calculated as ROIC minus WACC). Figure 1 sets out the results of our analysis—a today-forward view on the EP impact of forecast carbon taxes across key industry segments through to 2050.

**Figure 1: Economic Profit Impact of Carbon Taxes Across Industries**

(based on self-reported Scope 1 & 2 GHG emissions)

<table>
<thead>
<tr>
<th>Year</th>
<th>2011–2020</th>
<th>2030 (Carbon tax: US $115 tonne CO2)¹</th>
<th>2040 (Carbon tax: US $186 tonne CO2)¹</th>
<th>2050 (Carbon tax: US $229 tonne CO2)¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Profit</td>
<td>ROIC – WACC²</td>
<td>Highest impact on Economic Profit</td>
<td>Industry¹</td>
<td>Lowest impact on Economic Profit</td>
</tr>
<tr>
<td>Utilities</td>
<td>Materials</td>
<td>Energy</td>
<td>Consumer (staples)</td>
<td>Information Technology</td>
</tr>
<tr>
<td>0.0%</td>
<td>2.0%</td>
<td>4.0%</td>
<td>6.0%</td>
<td>8.0%</td>
</tr>
</tbody>
</table>

Notes: 1. Carbon price is a weighted average taken from the IEA World Energy Model; 2. Economic Profit (EP) is a measure of value creation over and above the cost of capital and is the foundation for calculating intrinsic value of a company. In this analysis EP was calculated using income statements between FY2011-2020, ROIC = Return on Invested Capital and WACC = Weighted Average Cost of Capital; 3. Weighted average of the top 25 public companies in each industry by market cap, latest as of 10/12/2021. Sources: IEA, S&P Capital IQ, Refinitiv Eikon, Company disclosures.
We have four observations on the results:

1. Carbon tax is expected to have a material impact on value creation across many sectors—over half of the sectors analysed are expected to experience EP erosion of 1% through to 2050, equating to a >25% reduction vs. 10-year historical average in almost all cases.

2. For the heavy emitting sectors (i.e., utilities, energy, and materials), there is potential for major pressure on value creation as early as 2030 due to taxation of Scope 1 & 2 emissions alone.

3. Scope 3 emissions are the missing “elephant in the room”, and could materially shift EP negatively across all sectors; however, it remains a largely under-reported exposure by most corporates.

4. There are interdependencies across many sectors, and therefore, policy mechanisms that distribute emissions tax liability across value chains (or the commercial decision of companies to pass through additional taxation costs to customers) could materially reduce value creation in sectors which, in isolation, may appear to be relatively resilient.

Although this is a simplified analysis (it does not, for example, factor in industry decarbonisation plans nor structural changes in industry profitability); it does provide preliminary insight into the shareholder value implications of GHG emissions exposure, and how they may evolve over time.

Implications for investors and management

For investors, there is a clear imperative to ensure decisions on investment strategy are informed by insight on how board and management teams are monitoring and responding to climate change risks. The assessment needs to be more than a cursory analysis of the industry status quo and forecast; a longer-term perspective is needed, potentially using a scenario-based approach to reflect uncertainties in the future policy environment and techno-economics.

For management teams, the results of the analysis raise important considerations that span strategic and operational themes:

1. What benchmarks are current and prospective investors using to assess our firm’s climate risk?
2. Is decarbonisation “table stakes”, or a potential source of competitive advantage in our industry?
3. Do we have sufficient insight into additional climate costs that may arise through our value chain over time?
4. How does our investor proposition shape our decarbonisation roadmap, and vice versa?
5. What input should we provide to policymakers to shape the regulatory debate?

Summary

While there is still much uncertainty around the feasibility and economics of achieving a net-zero economy, there is now sufficient data to suggest that the cost of inaction to shareholders is unlikely to be immaterial across industry sectors. Few companies can truly afford to ignore their GHG emissions footprint if it were to be taxed, and even then, other forms of regulatory or societal pressure may necessitate change. As the policy landscape continues to evolve, the best mitigation companies can rely on is getting a head start on understanding the strategic and financial implications of their emissions footprint, and scenario plan different pathways to continue generating shareholder value in a low-carbon future.
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About Marakon

Marakon is a strategy and organizational advisory firm with the experience and track record of helping CEOs and their leadership teams deliver sustainable profitable growth. We get hired when our client’s ambitions are high, the path to get there is not clear (or taking too long) and lasting capabilities are as important as immediate impact.

We help clients achieve their ambitions for sustainable profitable growth through:

• Stronger strategies and advantaged execution based on:
  a. A better understanding of what drives client economics and value
  b. Insight into changing industry dynamics and the context in which clients need to succeed
• A stronger management framework to generate better ideas and link decisions and actions to value
• A stronger organization with a more focused top management agenda and well-aligned resources
• A more confident and effective leadership team that’s focused, decisive, and strategic

We have a joint team delivery approach where client ownership and engagement is paramount. Partners are highly engaged in the work product and supported by strong analytical and industry relevant capability. We work as advisers and catalysts in close, trust-based relationships with top management teams.

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