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COMPANIES FACE 1.2 TRILLION USD LOSS IF CLIMATE POLICY ACTIONS ARE DELAYED

Building on Carbon Delta's pioneering analysis of costs for 30,000 publicly traded companies across the globe, this issue of *The Emission* focuses on that analysis in more detail - providing deeper insights into the costs and opportunities of immediate action compared with a delay in implementing climate commitments. Despite the ratification of the Paris Agreement in November 2016 where 185 countries came together to cooperatively fight climate change and limit global warming to 2°C, there remains a significant gap between implementation and envisioned goals. This means that the profiles of physical and transition risks are likely to become more complex and severe than anticipated and potentially create detrimental costs for companies in certain segments of the economy.

This analysis is also found in the landmark 'Changing Course' investor guide^[1] published by UNEP FI which investigated scenario-based methods for assessing climate risk whilst piloting the recommendations from the TCFD. In that analysis Carbon Delta demonstrated that companies face a potential additional loss of 1.2 trillion USD over the next 15 years if climate action is delayed.

Policy risk cost and green revenue in a delayed and immediate transition scenario

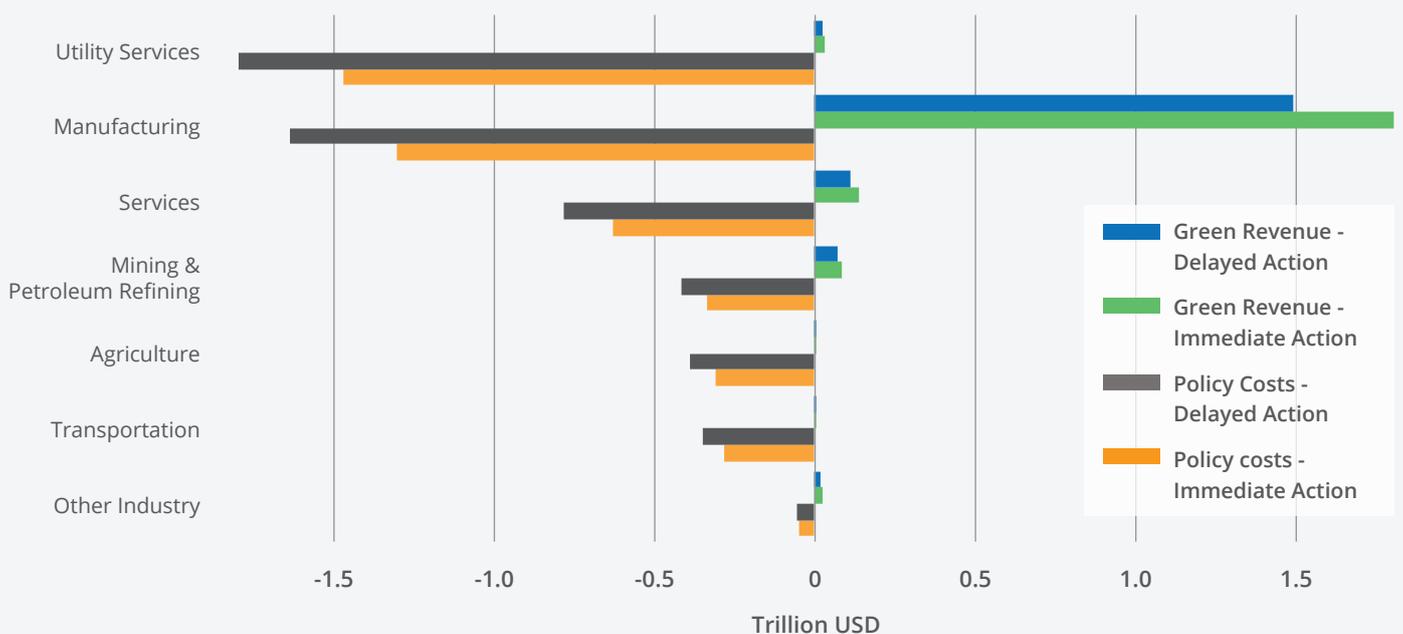


Figure 1: Potential costs and potential green revenues to each sector of the economy are shown above in trillions of USD in both a delayed action and immediate action transition scenario. This is based upon Carbon Delta's emission sector taxonomy (level 1). Clearly seen is the potential impact on utility companies, followed by manufacturing companies and services companies – whereas manufacturing companies are positively exposed to a high technological opportunity (the services sector faces high costs due to the large number of companies operating in this category).

The gap between aspirations and action

There is a growing understanding of the exposure of corporates and their investors to climate change risk. As financial institutions and firms begin to implement scenario analysis and stress testing methods the potential monetary losses are also being explored. However, there are even greater costs inherent in delaying action which has already been committed to by national governments. This gap between not acting immediately on the Paris Agreement may in fact equate to 1.2 trillion USD over the next 15 years when assessing policy risk costs to Carbon Delta's universe of 30,000 companies. Breaking down these costs into sectors, our analysis reveals a great discrepancy in risk between sectors; some are more exposed than others. This is illustrated in figure 1 which details the costs in trillions of USD by sector and by transition risk scenario between sectors.

Transition pathways to a 2°C world

The two scenarios used in this analysis model a 2°C world but use different transition pathways. The immediate action is based on an integrated assessment model called REMIND (Regional Model of Investments and Development) which utilizes SSP2 (a shared socioeconomic pathway, or 'middle-of-the-road' narrative), whereas the delayed action was modelled using GCAM4 (The Global Change Assessment Model) in combination with SSP4 (or an 'inequality' narrative). SSP's describe broad socioeconomic trends that could shape future society^[2]. In order to demonstrate the additional costs from a delayed action transition scenario Carbon Delta chose GCAM4 SSP4. This delay to action translates into a higher carbon price further into the future in order to meet the emission reduction requirements in the 2°C global temperature goal.

Potential costs in a delayed policy scenario vary significantly between sectors

By attributing costs to different sectors in the economy it is possible to determine sector exposure to transition risk in both immediate action and in delayed action scenarios. Figure 1 illustrates that the manufacturing and utility sectors are most at risk. In both transition scenarios these two sectors are respectively responsible for 30% and 33% of the total policy cost. In terms of absolute costs, the difference between an immediate and a delayed scenario for both sectors comes to 300 billion dollars. On the other hand, companies defined as 'Other Industry', and other less material intense sectors such as Services and Transportation, still face a significant although lower risk. As suspected, a delay to action will compound the very high risks that materially intense sectors already face in immediate action transition risk scenarios.

It's not all doom and gloom – high technology opportunities in both delayed and immediate action transition risk scenarios

Despite the high policy costs in both the immediate and delayed policy scenarios there are significant new investment opportunities to be explored. The high costs to the manufacturing sectors are offset by a very high potential green revenue due to the large amount of low carbon innovation taking place in such companies which are investing in research and development to provide the technologies and services to enable the low carbon transition. In spite of the technology opportunity across the sector it is worth pointing out that some companies in the manufacturing sector will struggle to transition business models. Policymakers take note, the results suggest that transitioning to a more stringent policy pathway could also create low carbon innovation and green revenues for sectors under stress. Manufacturing companies would face a less steep reduction curve and have more time to transform business models and develop clean technology, that instead could favor them rather than putting them in the high-risk zone from climate policy.

How should investors act?

This analysis indicates that the future holds both risks and opportunities for investors. Unfortunately, a delayed regulatory environment will increase the risks companies will face and may be detrimental to certain sectors of the economy more than others. Investors have both an interest in understanding the risk and opportunity hotspots within their portfolios and a responsibility to apply forward looking investment strategies to accelerate the transition to the low carbon economy. Carbon Delta's risk metrics indicate that investors which act fast will potentially be able to minimize risks and access high-growth companies whereas investors that are slow to align their strategies with the changing regulatory environment may face significant consequences.

For further insights into the analysis performed and additional insights to scenario-based methods for climate risk assessment, read the full report *Changing Course* by UNEPFI^[1].

References

¹ UNEPFI, 2019: *Changing Course. A comprehensive investor guide to scenario-based methods for climate risk assessment, in response to the TCFD. UN Environment – Finance Initiative.* <https://www.unepfi.org/wordpress/wp-content/uploads/2019/05/TCFD-Changing-Course.pdf>

² <https://www.sciencedirect.com/science/article/pii/S0959378016300681>



Caroline Sundin

Data Analyst

Caroline works on data analysis, product development and quality management at Carbon Delta. She has a background in Environmental Engineering where her advanced studies focused mainly on water resources management. During her studies (B.Sc. and M.Sc.) she focused on integrated assessments in various places in Africa and Caroline has thus become knowledgeable in the water development field in developing countries. As a research engineer at the Royal Institute of Technology, Stockholm, she worked with international organizations on how to tackle complex environmental, social and economic issues with an integrated system approach.

Questions? Ideas? Talk directly to Caroline

+41 44 552 77 60 | c.sundin@carbon-delta.com

CARBON DELTA

For more information, visit www.carbon-delta.com
or contact us at +41 44 552 7760 or contact@carbon-delta.com.