BUSINESS IN THE COMMUNITY

The Prince's Responsible Business Network

FACTSHEET

UNDERSTANDING THE SOCIAL COST OF CARBON – THE MOST IMPORTANT NUMBER YOU HAVE NEVER HEARD OF[i]

The last few months have seen COVID-19 cause unprecedented disruption to businesses and communities around the world. The social cost has been huge, and the impacts are likely to last for years. What we have seen is that the real-life impacts for people and companies have been far beyond the economic headlines.

With some economists suggesting that COVID-19 could be seen as a 'dress rehearsal' for the climate crisis[ii], it is crucial that we learn the lessons and do all we can to minimise the extent of climate breakdown, to avoid even bigger societal costs that will be in the post if we don't act now.

New research conducted by Route2 for BITC gives us an insight into the benefits that accelerating climate action can bring.

The research found that even though we expect an absolute decrease of 37% in UK GHG (greenhouse gas) emissions between 2030 and 2050, the social cost of these emissions increases by 50% - from £43bn per annum (p.a.) in 2030 to £66bn p.a. in 2050. This means that business will have a significant impact on future emissions:

£1.1tn of social cost could be avoided if UK businesses achieve net zero by 2030 rather than 2050.

What is the Social Cost of Carbon (SCC)?

The SCC captures the economic damage that results from the increased concentration of GHGs in the atmosphere. This damage will be felt through the impacts of climate change – more extreme weather, droughts, floods and disruptions to key supplies of food, water etc. In 2019 alone, 15 extreme weather events driven by climate change cost more than $1bn, with four of those events costing more than $10bn each[iii]

By modelling different variables and their impacts on global GDP, it is possible to assess the likely costs of inaction. Whilst there are always some uncertainties with any attempt to understand the future[iv], the SCC is an important tool to help inform policy[v]. And as the UN Principles for Responsible Investment (UNPRI) argue, a rapid policy response is expected in the next five years[vi]. As a result, it is critical that business understands the SCC and takes steps to act now, to reduce the risk to future business stability.

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Key points about the Social Cost of Carbon:

- The SCC estimates the 'net present value' of future social costs of one additional tonne of carbon emitted in terms of today's value.
- The 2020 social cost is increased over time to reflect the increasing cost of damage from emissions using the UK Government's rate of 1.5% p. a[vii].
- Today's value of future costs is calculated using a social discounting rate of 3.5% p.a, as recommended by the UK Government's Green Book[viii].
- The SCC used by Route2 was developed by economist Richard Pindyck and based on a survey of expert economists and climate scientists. It focuses on catastrophic events that would lead global GDP to fall by ≥20%[ix]. To put this into context, COVID-19 is expected to see a fall in global GDP of 5%[x]
- There were wide variations, with different confidence levels, but there was strong confidence that the SCC is significantly higher than currently assumed by most governments.

The SCC is valued at $80[xi] a tonne with high confidence, compared to just $30[1] per tonne in the EU Emissions Trading Scheme in June 2020.[xii]

Understanding the costs by sector

It is clear from the research that some sectors will contribute more highly to the SCC than others. Of the £1.1tn:

- The Transport and storage sector makes the largest contribution with £181bn of additional costs between 2030 and 2050;
- Closely followed by Manufacturing, at £175bn;
- Agriculture, Forestry and Fishing is the next biggest contributor at £114bn.
- No other sectors incur more than £100bn of additional costs, but many are dependent on the top three sectors, so businesses would need to include some of these emissions in scope 3 carbon management.

Regional variations

- London businesses contribute the most to the SCC. Moving to net zero by 2030 instead of 2050, would avoid an additional cost of £205bn.
- The South East could save £149bn.
- Followed by Scotland at £121bn.
- And the North West at £112bn.

Why do businesses need to start thinking about the SCC now?

For businesses to be successful it is essential that they understand and act to mitigate against the costs they create for society. As the UNPRI report shows, a significant policy response is around the corner[xiii]. With a strong push from the Bank of England, banks, insurers and investors are

[1] Actual value is €27 calculated into USD using https://www.foreignexchange.org.uk/fx-rates/conversion/1/EUR/USD.

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increasingly concerned about the climate risks to their portfolios and will be increasingly questioning business actions to ensure they are secure[xiv]. The public also increasingly wants to see action to tackle the climate crisis at the top of every leaders' agenda as we build back from COVID-19.[xv]

What actions should business take?

BITC's Challenge 2030 Campaign calls on businesses to take rapid action to help make the climate crisis history and will provide the support you need to progress.

BITC is asking businesses to increase:

- **The speed with which they will achieve net zero carbon targets aligned to the Paris agreement.**
- **The scale of ambition in their climate action plans to cut carbon and prepare for the impacts of climate change.**
- **The scope of their influence by collaborating with employees, suppliers, customers, and sectors to unlock barriers to action.**

Our two most recent factsheets will help you to get started on your journey[xvi].

Offsetting carbon emissions

The research highlights the importance of offsetting emissions as an important contributor to reducing the social cost of carbon.

For most businesses, offsetting carbon emissions that cannot be reduced through innovation and efficiency will be part of their climate action plans.

Whilst large industrial polluting companies are likely to come under the EU Emissions Trading Scheme (EU-ETS)[xvii], others can participate voluntarily.

With the EU ETS valuing carbon at $30 a tonne in June 2020[xviii] and voluntary schemes often costing much less, it seems clear that investing now makes sense. Waiting is likely to see both a higher cost for investments as the true social cost of carbon is factored in and as the cost of climate impacts hit the bottom line. However, when Route2 analysed the effectiveness of different offset schemes, some concerns became apparent:

- Carbon offsets may not yield one tonne of carbon per unit of investment, even when verified.
- There is a wide variation in the risk profiles that offset projects may entail.
- Not all offsets are equal as each technology type, region and individual proposal contains its own risks of over or under crediting.
- The Clean Develop Mechanism (CDM) will, the UN approved guidelines for carbon offsetting, expires this year, leading to uncertainty about what will come next.
- Multiple social and environmental benefits, such as transferring expertise, improving air pollution and enterprise opportunities are increasingly important to ensure long term viability.

Where next for the social cost of carbon?

The current measure of the SCC is limited as it mostly focuses on the impact on GDP in the year 2100, discounted to today, so providing a current value on future reductions in GDP. Any change in GDP caused by GHG emissions will result from climate change impacts including extreme weather events, food shortages, drought, etc.

Climate change is likely to cause an additional 250,000 deaths a year between 2030 and 2050[xix] and lead to losses of 50% in 49% of insects, 44% of plants and 26% of vertebrates[xx].

COVID-19 is showing us what a 5%[xxi] reduction in GDP looks like and how the impacts on health and wellbeing for individuals, broader society and nature are not reflected in the scale of GDP fall.

As a result, the next steps are to understand the true costs of carbon in terms of human and ecological health. Route2 is now working on this and initial estimates suggest that the likely cost is closer to £288 ($360)[2] per tonne of carbon – more than three times higher than the $80 used here.

For businesses, starting to think about the cost, and therefore the price, of carbon at a higher level will be important in preparing for future developments. A good example is the Co-op in Switzerland, where they set an internal price of carbon at $150 a tonne and purchase offsets accordingly.

Conclusions

Today's models and methods do not accurately account for the costs of impacts from the carbon we emit and how these costs will increase in the future. The costs may be much higher.

While avoiding facing these costs now may be tempting, the risks are that the costs – both in terms of the price of carbon and the damage to your business from climate change impacts – will be grow rapidly. Responsible businesses are factoring in these costs today by reducing carbon emissions as quickly as possible and investing in quality offset projects to compensate for what they can't reduce yet and create additional social value. With such a significant price differential, acting now makes real business sense.

[2] Calculated using https://www.foreignexchange.org.uk/fx-rates/conversion/1/GBP/USD.

Next steps

At BITC, The Prince's Responsible Business Network, we want to help our members understand the risks and opportunities of climate change and put them at the heart of business strategy. Our 'Challenge 2030' Campaign, will do just that.

A key piece of the puzzle is figuring out the next steps in relation to offsetting and ensuring that investments add up to the social and environmental benefits that are needed to help make the climate crisis history. Businesses will be critical players in this, as net zero carbon targets are set and offsets to balance reductions are bought. We would welcome input from our members as we work with our NGO partners to influence the future shape of both voluntary and regulatory schemes.

How BITC can support you:

- We are supporting BITC members to set net zero carbon targets that align to the UN target to limit temperature rises to 1.5°C above pre-industrial levels and develop climate action plans. If you haven't already – join BITC. We have a wealth of resources, access to experts and support from other members to help you.
- Sign up to our series of webinars that will take you through the steps in more detail, learning from leading companies and having the opportunities to develop your own action plans.
- Speak to your Relationship Manager about an environmental advisory services package to get bespoke support for your business or email environment@bitc.org.uk to find out more about how we might be able to support you.
- Join our Climate Action Leadership Team or Net Zero Carbon Taskforce to collaborate with other businesses at the forefront of the journey.

A word on the Route2 Research methodology

- Route2 forecast UK greenhouse gas (GHG) emissions based on UK Government projections in broad industry categories out to 2035.
- These estimates were matched to more specific industry categories, assigned by region where these industries operate and extended until 2050, based on the forecasted trend.
- Finally, the social cost of carbon (SCC) was applied to the projected emissions pathways to estimate the cumulative societal costs generated by UK business.

Thankyou

To the team at Route2 for producing this research for BITC. We hope to continue to explore the challenges and opportunities of tackling the climate crisis together over coming months so that we can help businesses more effectively plan their course of action.

Route2

Find out more about their work here.

Endnotes

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[xiii] UNPRI (2019) The Inevitable Policy Response. Preparing financial markets for climate related policy/regulatory risks. Available here.
[xiv]Bank of England (no date) Climate Change. Available here.
[xv] Edie (2020) Brits believe a non-green Covid recovery would be bad for the economy. Available here.
[xvi] BITC (2020) Why now is the time to get started on your net zero carbon journey. Available here. BITC (2020) Target setting: getting started on you rnet zero carbon journey. Available here.
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[xix] World Health Organisation (2018) Climate Change and Health. Available here.
[xx] Warren et al. (2018) The projected effects on insects, vertebrates and plants of limiting global warming to 1.5°C rather than 2°C. Science, 360, 6390, pp 791-795.
[xxi] World Bank (2020) Global Economic Prospects. Available here.