Net Zero Leaders

Turbo-charging the Race to Zero

Campaign and policy recommendation

September 2020

REGENERATE

Summary

There is a clear need, alongside dealing with the impacts of Covid-19, for the UK to lead the charge in tackling climate change.

In 2015, under the Paris Agreement, most of the countries in the world pledged to decrease greenhouse gas emissions in order to limit global warming to 2°C, and 1.5°C if possible. To that end, the UK has enshrined in law a commitment to achieve Net Zero by 2050. The UK will host the next landmark COP in Glasgow in November 2021, with a full assessment of progress towards the goals.

In recognition of the role of businesses as drivers of change, the UNFCCC created a campaign called the "Race to Zero", which the UK Government is already committed to supporting. As we have seen in response to Covid-19, when the Government sets the right conditions, business can be galvanised to positive action. While there is decent engagement from UK companies on the Race to Zero, there is a chance to turbo-charge this and make more of the power of business to help tackle climate change.

This paper presents a recommendation, called "Net Zero Leaders" which is a wrapper for the Race to Zero and provides incentives for UK companies, such as preference in procurement, tax incentives and a revamped certification mark, alongside a concerted campaign to improve sign up. It aims to maximise the number of UK businesses committing to becoming Net Zero by 2050, and to be a global role model.

Context

Climate Change is here to stay

Climate Change is a problem where the timescales, geographical reach and inherent complexities confound response planning and action. A particular nuance is the slow-moving, but accelerating, process of cause and effect. Actions that were made decades ago are only being felt today and actions we take today will be felt by our children and grandchildren before the end of this century. This has created an inertia in human response that has led to unfortunate delays in addressing the clarion calls that have been made by scientists since the nineteen-sixties[1] and really brought to global political attention in the 1990's.[2]

At the 2015 United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties in Paris (otherwise known as COP21), most countries in the world committed to taking steps to limit the world to 2°C warming, while pursuing efforts for 1.5°C.[3] In 2018 the Intergovernmental Panel on Climate Change (IPCC) published a special report describing the differences in impacts of 1.5°C compared to 2°C warming.[4] Three findings are illustrated that very clearly show the difference half a degree makes:

1. For almost all measures the impacts on humanity were larger and significantly worse,[5]
2. The types of pathways (actions) that are required to slow climate change all require extreme and immediate changes to behaviours at an unprecedented scale, particularly in relation to fossil fuel emissions,[6]
3. The opportunities presented by change are not all negative and there can be many co-benefits for improvements.[7]

Despite this, projections currently predict that the most likely scenario for the end of century warming to be just over 3°C above pre-industrial times.[8,9,10] This is why action on ensuring we reach Net Zero by 2050, and using COP26 as a means through which to galvanise world-wide support, is crucial.

The UK has made a legal commitment to Net Zero by 2050

In 2018, the UK committed to a binding target of a 40 percent domestic reduction of greenhouse gas (GHG) emissions by 2030 compared to 1990 levels.[11] In June 2019, the UK took a further step towards leadership on the global climate agenda by becoming the first major economy to legislate a commitment to reach Net Zero emissions by 2050.[12] This makes changing or reversing this commitment very challenging. While Net Zero is an aspirational goal that is agreed upon by almost all political parties, there is still debate on the timeline and pathways to get there.

Opportunities and obstacles from the Covid-19 global pandemic

The Covid-19 pandemic has required unprecedented intervention from the government in order to keep the economy going.[13] There will also need to be a concerted effort to rebuild the economy over the coming years as, despite the level of government intervention, the economy is still due to suffer significantly in the coming months as we deal with the effects of world-wide lockdowns. This creates an opportunity to "build back better" and deliberately seek to create an economy that is greener and creates more sustainable jobs.

It is worth noting, too, that Covid-19 creates significant obstacles. A key one is that it will be tricky to place onerous requirements on many businesses. For example, attempting to put in place punitive taxes on certain industries would likely threaten the viability of a number of businesses at the moment, which could prove counterproductive as we strive for economic recovery alongside sustainability.

The Government has three big levers to engage business on this mission

The UK Government has three main levers at their disposal to engage UK business and accelerate progress to Net Zero. The first two listed below are fairly well developed but there is a necessary requirement to maximise the opportunity presented by the third. For this reason, our policy focus has been on this third category.

1. <u>Government investment in infrastructure, adaptation and resilience</u>: In the June 2020 progress report, the Committee on Climate Change made specific policy recommendations for each department.[14] This represents the spending of hundreds of billions of pounds on infrastructure projects for reducing GHG emissions and further spending for adaptation and resilience. These investments should have considerable co-benefits on the public health and Levelling Up agendas. For example, from upgrading housing insulation and transitioning to renewable energy and electric vehicles, air quality should improve leading to better public health and a decrease in expenditure on energy bills. Left behind regions could see boosts in employment as part of workforce mobilisation required to carry out the projects. UK businesses should benefit from the large-scale government procurement that will be required.

2. <u>Government investment in innovation</u>: Much of the required transition to a low emission economy relies upon access to technology that either does not fully exist yet at the scale required, or is currently too expensive. Through Innovate UK and other grant schemes, the government has planned considerable spend on research and innovation. Not only are UK businesses able to apply for grants but the wider benefits will include attracting additional local and foreign investment and the lowering of the cost of access to these technologies. Existing examples include how the cost of wind generated electricity has decreased enabling it to become a viable and significant energy source.

3. <u>Business leadership</u>: The UK will only be successful in meeting its emission targets if businesses, alongside the government, lead from the front. The government is able to put in place the right policies and incentives to make it easier for businesses to play their part. By creating the right ecosystem, businesses large and small, operating in the UK should then be able to lead on the global stage, influencing and providing services around the world.

   This third lever requires further development and is the focus of this paper.

The time is now

The UK co-hosting COP26 creates an exciting time bound opportunity

The UK was due to chair the COP26 meeting in Glasgow in November 2020. With the onset of the Covid-19 global pandemic, the meeting has been postponed until November 2021. It was scheduled to be a landmark meeting that included a full stocktake on commitments and progress towards each country's National Determined Contributions (NDC) to emissions reductions.

As a host of COP26, the UK's contribution towards tackling climate change will be centre stage. In order to remain credible while asking nations around the world to unite in action, it is essential that the UK sets the example.

UK leadership on climate change

With the UK's history as being both an historically high-emitting country as well as having a good track record of recognising and adapting to the challenges of climate change, many put forward the argument of a moral imperative for the UK to be a global leader.[15] The postponement of COP 26 provides the space within which to develop a strong agenda to enable this..

The UK has been recognised as a leader in addressing climate change. Between 1990 and 2017, the UK successfully reduced emissions by 43 percent while the economy grew by two-thirds.[16] However, progress has slowed and although the UK made strong commitments towards its NDC and enshrined the Net Zero target in law, it has largely been felt that the UK is behind where it should be in terms of progress and it is forecast to miss the fourth and fifth carbon budgets.[17]

The recommendation presented below are designed to help the UK provide global leadership in supporting businesses to play their full role in tackling climate change.

Recommendation:

Net Zero Leaders policy & campaign

ReGenerate proposes a policy and campaign recommendation to encourage as many businesses, large and small, to commit to becoming Net Zero by 2050 as possible. It builds upon the UNFCCCs “Race to Zero” and turbo-charges it, by adding a wrapper of incentives for businesses alongside a government led campaign.

The ambition, ReGenerate believes, should not solely be contained to more UK companies signing up to the Race to Zero, but for this reform to inspire other countries to follow suit.

If the campaign is successful we believe that there will be greater awareness about responsibility to climate change, the UK public will be able to make better informed decisions about where to spend their money and that private local and foriegn investors have more comprehensive and consistent information about GHG emissions in their portfolios.

The rest of this section sets out in more detail how this recommendation would work, showing how the UNFCCC's Race to Zero currently works, and how it can be turbo-charged. (See annex A for a list of desired outcome statements).

How the "Race to Zero" currently works

Race to Zero is a global campaign run by the UNFCCC that encourages businesses to make commitments to emissions reductions in line with 1.5°C warming[18] and to demonstrate progress on their reduction roadmap. It is an initiative that is being actively promoted by the Secretary of State for Business, Energy and Industrial Strategy (BEIS).[19] It already has a robust framework and benefits from global reach. It operates on a "Pledge, Plan, Proceed and Publish" approach:[20]

Pledge	<u>Businesses pledge intent to achieve Net Zero</u>: Similar to country-level NDC's, businesses declare that by 2040 or sooner, and by 2050 at the very latest, they will become Net Zero. Businesses publish their intent through existing declaration networks, following the standards of each network (e.g. the B Corporation Climate Collective or the Business ambition for 1.5°C).[21] Emphasis is made that Net Zero should be achieved primarily through emissions reductions and that offsetting should only be used as a last resort option.
Plan	<u>Businesses commit to a pathway and timeline</u>: Before COP26, businesses prepare a description of the steps and interim targets, reflecting a 50 percent reduction by 2030.
Proceed	<u>Businesses begin to act</u>: Businesses take immediate action towards Net Zero in line with interim targets.
Publish	<u>Businesses are transparent about progress</u>: Businesses make a commitment to publicly publish progres to a platform that feeds into the UNFCCC.[22]

Net Zero Leaders - turbo-charging the Race to Zero

While ReGenerate supports the Race to Zero, we believe that more could be done to rapidly accelerate the number of businesses signing up to become Net Zero, and therefore play their full role towards helping tackle climate change. This section sets out how this could happen, setting out plans for a government led campaign and set of incentives.

1. A Government-led campaign

The government could fund a nationwide campaign to raise awareness of the need for businesses to become Net Zero and the opportunity for them to become certified by committing to this. The campaign could be built around the urgency of climate change action, instilling a sense of pride by showcasing leaders already addressing the challenge and raising awareness of a revamped certification mark (see below) and the set of incentives available to businesses. The idea of role models and leading by example should run through the narrative of the campaign.

Further to this, the UK Government could orientate the way it talks about COP26 around business. The Paris meeting (COP21) focused on the commitments that nation states would make to tackle climate change. COP26, with a strong focus on the role of business and government working side-by-side, could focus more on the role that business can play to ensure we reach Net Zero by 2050. To achieve this, we also propose the UK Government to engage with other countries to encourage them to also get behind the Race to Zero ahead of COP26.

At the time of writing, 955 businesses have signed up to the UNFCCCs Race to Zero and the UK's contribution is 11 percent of overall commitments (see annex B).[23] This is both positive and negative. The UK is currently ranked second in terms of the number of companies signed up, which is good, but overall only 995 companies have signed up, meaning there is much room for improvement. We need millions of businesses engaged. Number of sign ups is a proxy indicator, the UNFCCC states that "collectively these actors now cover nearly 25% global CO2 emissions and over 50% GDP".[24] Again, this feels like a strong start but shows that there is a lot of room for improvement. Getting several high-emitting businesses on board can certainly shift the needle, but there must be engagement with the vast majority of businesses (SME's) that comprise the long tail. There will be an increasing marginal cost associated with reducing carbon, and the cost of this for SME's is as yet unknown. Furthermore, by getting a broad set of businesses on board with the Race to Zero, it will help create a cultural norm that business has a strong role to play in helping reach net zero.

The campaign must target both those organisations that can move the needle themselves, as well as targeting the SMEs that make up the long-tail. By engaging the majority of businesses, it will help create a cultural norm around the responsibility of business towards climate change.

2. Incentives for businesses to become a Net Zero Leader

We suggest that, alongside the campaign, the incentives listed below to become a "Net Zero Leader" would help encourage businesses to sign up (see annex C for the criteria used to assess our recommendations). Although these are targeted towards UK businesses, climate change requires a global response. Therefore, the UK government should encourage other world leaders to also ramp up their support for Race to Zero, continuing the theme of setting the example and enabling COP26 to bring business action under the spotlight.

- <u>Revamping the Race to Zero branding and information architecture</u>: The Race to Zero framework is comprehensive and robust. However, more work can be done to enhance Business to Business and Business to Consumer brand recognition, which is essential for the success of certification, and improve the access to information, clearly signposting the pathways to the declaration networks.

  The Race to Zero is a powerful and emotive identity that suffers when joined with the lengthy "United Nations Framework Convention on Climate Change" and even "U.N.F.

Triple-C". Race to Zero should have its own dedicated microsite, not as a subset of the UNFCCC site, and the information on the site could be more clearly signposted. Starting with tailoring content based on country of access, but also steering visitors to the "B Corp Climate Coalition" or "SBTi Business Ambition 1.5°C - Our only future" more clearly and overtly based on which is most appropriate for the size and type of business. Understanding the desired business audience is important, meaning that the language and information could be updated to be more business-friendly without losing the nuance relating to emissions reductions.

Adding a revamped consumer-friendly certification mark to packaging, marketing and websites would help attract customers to build and strengthen trust and address the issue of green-washing.[25] There is an increasing demand for organisations 'doing good' but because reliable information is scarce, it is difficult to find and recognise those businesses.[26] The current SBTi mark is arguably not particularly consumer friendly and work could be done as part of the Government campaign to address this.

- Preference in procurement: The government spends billions every year in procurement. This is due to increase as investment in infrastructure is a key part of their Levelling up agenda. Being a Net Zero Leader could become a prerequisite to becoming a prime contractor to the Government. In order to have a rippledown effect along the value chain, thereby allowing the incentives to reach more SME's, additional points could be awarded for subcontractors that have also declared. A specific SME portal will soon be launched by the UNFCCC to help facilitate this. Alternatively, the prerequisite filter could be that, as a minimum, Scope 1 and 2 emissions are reported, with scope three as an aspirational target that is rewarded in the procurement process.
- Weighting emissions in the Greenbook: Due to the existing powers of agglomeration that exist in London and the South East, decisions that are based primarily around the biggest return on investment mean there is a tendency to invest in London and the South-East. As part of the Government's efforts to Level Up the country, they are known to be reviewing this to ensure sufficient investment in areas of the UK that are often bereft of such opportunities. There is an opportunity to incorporate into these changes, too, a preference towards green investments.
- Prince William's Earthshot / Prince Charles' / Queen's honours awards: Business leaders can be motivated by recognition for their contributions to reducing global GHG emissions. Although the number of recipients would be low, there is opportunity for a lot of media attention and business to business competition. Net Zero Leaders in the Race to Zero could potentially become part of the Earthshot awards that were announced by Prince William at the start of 2020.[27]
- Tax incentive for research and development for Net Zero Leaders: Technology and innovation can be a blocker to achieving Net Zero for businesses in some sectors of the economy. Tax incentives could be given to encourage businesses to go further than their own emissions, either to those that can demonstrate that their research and development will benefit many others (as some high-profile businesses are already

declaring)[28] or for those that produce gross negative emissions thereby enabling offsetting of emissions.

Instead of reinventing the wheel, we propose replicating the framework of successful tax schemes that have worked in the UK and around the world, such as the research and development (R&D) tax credit[29] and Renewable Heat Incentive (RHI).[30] Via the R&D tax credit companies can recoup up to 33 percent of R&D spend either as a reduction in Corporation Tax or a cash repayment. It is attractive and available to both SMEs and large organisations with the redeemable rate depending on the company size, and it is well understood by accountants. Via the Business RHI, eligible renewable heat installations receive quarterly payments over 20 years based on the amount of heat generated and are based on the Energy Performance Certificate of the properties.

An emissions-based tax credit could be created where eligibility is based on "climate conditionalities". For example, a percentage of the cost of business investment specifically aimed at carbon neutrality (e.g. improving energy efficiency, clean energy transition) could be redeemed. If a condition is added to promote gains in efficiency or reduction in emissions then this could have a double positive impact of encouraging more businesses to begin reporting emission. The exact structure will have to be made in consideration of the EU Emissions Trading Scheme and Carbon Emission Tax, which may come into effect after Brexit.

- Using Innovate UK to tackle the Scope 3 reporting barrier: The costs associated with understanding the complexity of emissions in the entire value chain required for Scope 3 reporting represent a significant barrier to entry and a reason why many businesses do not undertake the reporting, particularly for SME's. Innovate UK could provide grants to businesses to help break down this barrier and increase the number of businesses providing full disclosures.

Complementary policy for improved progress monitoring

In order to help incentivise businesses to become Net Zero Leaders, there is also a strong case to strengthen reporting requirements for all companies. Not only would this create a level playing field on reporting for all businesses, but it would make the jump to being a Net Zero Leader lower than if there were no general push for greater reporting requirements.

We hope that greater transparency for emissions will create more completeness and consistency of information available to investors, who are calling for improvements to ESG,[31] which in turn should attract more local and foriegn investment to Net Zero Leaders. To this end we propose two further initiatives:

- Mandatory reporting: The government could make reporting Climate-related Financial Disclosures mandatory for businesses. This could be targeted to all businesses above a certain size. People are already calling for all FTSE listed companies to report via the Climate Disclosure Standards Board (CDSB) framework.[32,33] There is argument that since a large number of FTSE 350 companies and nine out of ten Fortune 500 companies are already disclosing emissions to CDP[34] using the GHG Protocol,[35] that mandating compliance may not be onerous for businesses and could instead provide an excellent PR opportunity to show further leadership. Moreover, the lack of transparency, completeness and inconsistency of metrics confounds investment decisions for portfolio holders.

- **Integrate Scope 1 and Scope 2 emissions reporting with accounting software**: To facilitate the standardisation of emissions reporting, the government could encourage major accounting software firms (e.g. Sage, SAP, Xero and others) to integrate Scope 1 and Scope 2 emissions[36] into their interfaces. Although companies like the Carbon Trust[37] and Carbon Analytics[38] already provide a service that is compatible with Streamlined Energy & Carbon Reporting (SECR)[39,40] and CDP and integrates with Xero, more could be done to make this a competitive marketplace.

  Although Scope 1 and 2 emissions provide only part of the emissions picture, gaining the visibility of Scope 1 and 2 would cast a light on part of the picture that has historically been in darkness. By expanding the fields available in major accounting software, providers would centralise and therefore simplify accounting for SMEs. Finally, if these can be integrated into the existing CDP reporting framework it could enable far greater visibility and oversight of emissions for responsible investors.

About ReGenerate

ReGenerate is investigating how the growth of the ecosystem for purpose-driven business can be accelerated, making it easier to start, grow and lead a business doing good.

Entrepreneurs and established businesses have a tremendous power to help tackle the great social and environmental issues of our age, from modern slavery and in-work poverty to climate change.

When their unique ability to innovate and scale is combined with a drive for positive impact it can transform society and the planet. We believe that the world would be a better place if there were more businesses operating like this.

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Further information

UNFCCC Race to Zero	https://unfccc.int/climate-action/race-to-zero-campaign
B Corporation Climate Collective	https://www.bcorpclimatecollective.org
SBTi Business Ambition 1.5	https://sciencebasedtargets.org
CDP	https://www.cdp.net

ANNEX A: Desired outcome statements

A successful campaign would mean that by November 2021 and for the years that follow, the following actors will all be able to stand up and say the following:

The public	"I can recognise brands that are making commitments which will attract my spend, loyalty and preference of workplace."
Investment community	"I can access the information I need on emissions. Information is far more complete and harmonised allowing for greater visibility and comparability."
Government	"We are excited to see real energy towards Net Zero coming from all parts of the economy, and feel that the business community is leading the charge to Net Zero alongside us."
Business	"It is easy and obvious for us to get engaged in the Race to Zero, and it has been done in a way such that it has benefited our brand and the view of business in the eyes of society."
COP26 host	"I can say in my COP26 speech "SO many UK businesses, from listed companies to SME's, have signed up to Race to Zero and are committed to achieving their goals that we have inspired businesses around the world to get on board.""

ANNEX B: UK businesses already signed up to Race to Zero

Topline figures:

- 38 out of the FTSE 350 have signed up to Race to Zero, 35 (11%) of which are from the UK.
- 105 (11%) out of the 955 that have signed up to Race to Zero are from the UK. 163 are US (17%), 360 are European (38%).
- 29 out of 161 of the Climate Action+[41] companies have signed up to Race to Zero, of which 4 are from the UK, who are also all FTSE companies.

The following are a few highlights of UK businesses that have already signed up to the Race to Zero:

- **Rolls Royce** has declared to become net zero carbon in its operations by 2030 and, more has set an ambition to play a leading role in enabling the sectors in which they operate (including aviation, shipping, rail, and power generation) to reach net zero carbon by 2050 through the development of new products and technologies.
- **Burberry Plc** has set the 95 percent reduction in its scope 1 and 2 emissions against a 2016 baseline, alongside a targeted 30 percent absolute reduction in scope 3 emissions by 2030 against the same baseline. The new commitments expand on an existing goal to become a carbon-neutral operation by 2022. Burberry has already achieved carbon neutral status across the Americas region, EMEIA retail stores and its UK operations. The company is also a member of the Climate Group's RE100 initiative to encourage corporates to transition to 100 percent renewables; Burberry currently obtains 58 percent of its energy and 68 percent of its electricity from clean energy sources.

The goal is to have so many heritage and inspirational entrepreneurial brands sign up to Race to Zero that other businesses are compelled to follow suit and that to not sign up would put a brand firmly in the late adopter, laggard category.

List of current companies participating in Race to Zero:

Aardvark Certification Ltd
ADEC INNOVATIONS
Arm Holdings
AstraZeneca
Atlassian Corporation Plc
Avieco
BARRATT DEVELOPMENTS PLC
BDP
Bennetts Associates
British American Tobacco
BRITVIC PLC
Brunswick Group
BT plc
Burberry Limited
C6(n) TECHNOLOGY LIMITED
Cambridge Healthcare Research Limited
Canary Wharf Group Plc
Capgemini UK
Capitas Finance Limited
Carbon Intelligence
CHANEL
CMS Cameron McKenna
Nabarro Olswang LLP
Coca Cola European Partners
Compass Group PLC
Cranswick plc
Croda International Pl
Cundall Johnston and Partners LLP
Delphi Technologies
Dentsu Aegis Network
Derwent London Plc
Diageo Plc
Drax Group plc
ERM
Forest Carbon Ltd.
GlaxoSmithKline
Gleeds Corporate Services Limited
Grant Thornton UK LLP
Green Element Limited
Greenstone+
Heathrow Airport
HFG Sverige AB

HH Global
HSBC Holdings plc
Ideal Modular Homes
Imperial Brands
Informa plc
Infusion GB
innocent drinks
InterContinental Hotels Group PLC
International Consolidated Airlines Group (IAG)
ISG plc
J Sainsbury plc
Kennedys Law LLP
Kier Highways Limited
Kingfisher
KPMG UK LLP
Landsec
Liberty Global
Linde plc
London Stock Exchange
MacArthur Green
Marks & Spencer
Marshalls plc
McLaughlin & Harvey
Millennium & Copthorne Hotels plc.
Mondi Group
Morgan Sindall Group plc
Mott MacDonald Group Limited
Multiplex Construction Europe
Muntons
Nando's Chicken Land Limited
National Grid PLC
Navana Property Group
Nomad Foods Ltd.d
Northern Design (Electronics) Ltd T/A ND Metering Solutions
Orluna LED Technologies Limited
OVO Energy
Pearson PLC
Pinsent Masons LLP
Pukka Herbs
Qinetiq
Quiqup
Reckitt Benckiser Group plc
Refinitiv
Rolls-Royce plc
Ross-shire Engineering Limited
Scottish Hydro Electric Transmission Plc
Senior Plc
Severn Trent
Shaftesbury PLC
Sky Group
Slaughter and May
SSE
Standard Chartered Bank
Tate & Lyle PLC
Ted Baker
Tesco
The British Land Company PLC
The Co-operative Group Ltd.
The Crown Estate
Tribe Impact Capital LLP
Unilever plc
Virgin West Coast Trains Ltd
Vodafone Group Plc
Workspace Group PLC

ANNEX C: Criteria used to assess our recommendations

In preparing the recommendations listed in this paper, we used the following criteria to filter. We believe all of the proposals are legal under current and forthcoming (post-Brexit) rules. We recognise also the reality that businesses are currently dealing with Covid-19. It may, therefore, prove counterproductive to place significant burdens on them, at a time when it is more likely to lead to business failure and job losses.

We have also found in our background research that a number of businesses and business groups have been calling for greater structure and leadership from the government, as a means to spur greater innovation. We have tried to orientate our recommendations around this research finding.

We were also keen to build on the great work that already exists. To this end we deliberately targeted an existing, well respected, global campaign that is being supported around the globe, as a fast and cost-effective route to market. We recognise that Scope 3 emissions reporting can be an onerous, complicated and expensive task and support any initiative that helps to mainstream reporting of all emissions categories.

There may be reticence for businesses to get involved in initiatives if they believe the extra costs created will make their products uncompetitive on the local and international markets. Costs could be increased as a result of increased reporting overheads or if low-emissions technologies are more expensive. Rather than taking specific protectionist measures to level the playing field, our goal is that there is enough increased consumer and investor demand for Net Zero declarations, that businesses that declare are at an advantage compared to organisations in other countries. There is some research evidence from CDP to support this: 75 percent of responding companies to CDP say that reporting improves their reputation and that over half say reporting helps them to become more competitive.

Endnotes and references

1. In the late 19th century, scientists were first arguing that human emissions of greenhouse gasses could affect the climate. In the 1960's the evidence base was becoming more apparent (see Emiliani, Suess, Revelle, Keeling). There was a great public awakening to the impacts that humans were having on the planet, and despite it being predominantly environmental focused, this led to the first Earth Day event in America in 19070. Although controversial in its conclusion, there was a lot of relevant climate science in James Lovelock's 1970' papers and the book Gaia. Evidence from dating techniques, land-sea correlations, glacier ice cores, wind dust records, lake sediments and computer modelling has grown since then.
2. For example: 1992 Earth summit in Rio (see: https://sustainabledevelopment.un.org/milestones/unced), 1997 Kyoto Protocol (see: https://unfccc.int/kyoto_protocol).
3. The Paris Agreement, UNFCCC, 2015 (accessed via https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement).
4. Special Report - Global warming of 1.5°C, IPCCC, 2018 (accessed via https://www.ipcc.ch/sr15/).
5. Example of the difference half a degree makes:

   "This half degree means 10 million fewer people are displaced by the ocean's rising, a 50% reduction of people experiencing water shortages around the globe, 50% reduction in species losing half their habitat, and a 80–90% destruction of coral reefs instead of 100%."

   Source: The three-degree world: the cities that will be drowned by global warming, Holder, Kommenda and Watts, 2017 (accessed via https://www.theguardian.com/cities/ng-interactive/2017/nov/03/three-degree-world-cities-drowned-global-warming).
6. Special Report - Global warming of 1.5°C, IPCCC, 2018 (accessed via https://www.ipcc.ch/sr15/).
7. Ibid.
8. UN emissions report: World on course for more than 3 degree spike, even if climate commitments are met, United Nations, 2019 (accessed via https://news.un.org/en/story/2019/11/1052171).
9. Less than 2 °C warming by 2100 unlikely, Raftery, Zimmer, Frierson, Startz & Liu, 2017 (accessed via https://www.nature.com/articles/nclimate3352).
10. Predicted impacts from further global warming above pre-industrial times include:

    1° - Increased intensity and frequency of extreme weather events.
    1.5° - Likely tropical crop yield decline and food supply instabilities.
    2° - More extreme heatwaves, more floods, more droughts.
    3° - Some summers so hot that stepping outside can be lethal. High risk of food shortages.
    4° - High risk of reversing of carbon-cycle, triggering runaway warming spiral. Droughts and famine for billions of people leading to chaos and wars.
    5° - Deadly heatwaves every summer, hundreds of drowned cities, devastation of the majority of ecosystems, more tipping points are crossed, leading to intensified warming.

    Source: What different degrees of global warming look like, Aisch, 2019 (accessed via https://blog.datawrapper.de/climate-crisis-global-warming/) and The three-degree world: the cities that will be drowned by global warming, Holder, Kommenda and Watts, 2017 (accessed via https://www.theguardian.com/cities/ng-interactive/2017/nov/03/three-degree-world-cities-drowned-global-warming).
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14. Reducing UK emissions: 2020 Progress Report to Parliament, Committee on Climate Change, 2020 (accessed via https://www.theccc.org.uk/publication/reducing-uk-emissions-2020-progress-report-to-parliament/).
15. Industrial Revolution means UK has moral responsibility to lead on climate change, Michael Gove says, Gatten, 2020 (accessed via https://www.telegraph.co.uk/news/2020/02/11/industrial-revolution-means-uk-has-moral-responsibility-lead/).
16. Policy paper Clean Growth Strategy: executive summary, HM Government, 2018 (accessed via https://www.gov.uk/government/publications/clean-growth-strategy/clean-growth-strategy-executive-summary).
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    The definition proposed for Net Zero by Science Based Targets is in line with limiting to 1.5°C warming and includes the full value chain. "At a minimum, scope 1 and scope 2 targets must be consistent with the level of decarbonization required to keep global temperature increase to well-below 2°C compared to preindustrial temperatures, though companies are encouraged to pursue greater efforts towards a 1.5°C trajectory. Both the target timeframe ambition (base year to target year) and the forward-looking ambition (most recent year to target year) must meet this ambition criteria. [...] If a company's relevant and mandatory scope 3 emissions are 40% or more of total scope 1, 2, and 3 emissions, a scope 3 target is required. All companies involved in the sale or distribution of natural gas and/or other fossil fuel products shall set scope 3 targets for the use of sold products, irrespective of the share of these emissions compared to the total scope 1, 2, and 3 emissions of the company."

    (Source: Towards a science-based approach to climate neutrality in the corporate sector Discussion Paper, Science Based Targets, 2019 (accessed via https://sciencebasedtargets.org/wp-content/uploads/2019/10/Towards-a-science-based-approach-to-climate-neutrality-in-the-corporate-sector-Draft-for-comments.pdf) and SBTi Criteria and Recommendations, TWG-INF-002 | Version 4.1, Science Based Targets, 2020 (accessed via https://sciencebasedtargets.org/wp-content/uploads/2019/03/SBTi-criteria.pdf)).
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    "To date, more than 450 investors with more than USD $40 trillion in assets under management have signed on to the initiative. In September 2019, Climate Action 100+ released a Progress Report, that showed more investors are mobilising across dozens of countries to drive corporate action on climate change, and companies on the initiative's focus list, have started to make progress towards its goals, including a trebling in support for the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures.

    "Since its launch in December 2017, Climate Action 100+ has grown into one of the world's largest investor-led engagement initiatives, with more than 450 investor signatories with more than $39 trillion in assets under management. The five-year initiative's first progress report provides a sector-by-sector analysis of progress to date. For each sector, it includes performance indicators, a list of key company milestones, and case studies."

    Source: Global Investors Driving Business Transition, Climate Action 100+ (accessed August 2020 via http://www.climateaction100.org/).