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# Sustainable Tipping Points

The 'net zero club' – when sustainability meets margins & supply chains

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## Executive Summary

As focus on climate change and emissions continues to grow, we as individuals and as a society are taking an ever greater interest in what part the companies whose services and products we buy are playing in the battle against climate change. Mindful of this, as well as avoiding risks of taxation, litigation, stranded assets, and retaining access to capital, companies are transitioning their business models towards lower or net zero emissions models, leading to the rise of the 'net zero' target as the ultimate expression of a desire not to contribute in any way to climate change.

However, not all net zero targets are created equal, and the toughest and most comprehensive of these, the 'scope 3' net zero target, requires a company to effectively achieve net zero across all elements of its supply or distribution chains, including those which it does not directly control. What this means in practice, is that a company with a net zero target will require its suppliers to be net zero, or it may have to purchase offsets to bridge that gap – at a cost. Consequently, that supply chain contract might therefore be renegotiated to a different price to reflect that cost, or indeed the company may move to a different supplier which *is* net zero, thereby avoiding that incremental cost.

In this report we analyse which industries are demonstrating broad ambitions for net zero and which are not, and within each, which companies are demonstrating leadership, and where a lack of leadership highlights an enormous opportunity for the largest players to step up, with all of the brand potential that implies. In all of these, we analyse which companies have issued genuine net zero commitments, and which have set targets, highlighting the opportunity for greater granularity to be developed. Alongside all of this exists an enormous opportunity for the finance sector both to advise on these transitions, and to provide the innovative financial instruments which will finance and facilitate these transitions, such as green, social and sustainability bonds, as well as KPI-linked bonds which have the ability to demonstrate that commitment to the markets.

For too long we have seen sustainability as being a cost which is 'indulged' at the expense of margins. The rise of the net zero club and its potential impact on supply chains is that it represents a tangible example of a sustainability-related issue directly impacting pricing and margins – sustainability meets finance in the most fundamental sense. While very early days, the rise of the so-called 'net zero club', where businesses with similar targets start to coalesce around these net zero ambitions, sees potential for these businesses to actually grow, take market share and expand margins as they service each other – and by the same token, for companies with limited or no ambition to be 'shut out' of strategic discussions, to suffer margin and volume contraction, and ultimately to be shut out of these supply chains – not to mention have their cost of capital gradually increase, to the point where it may ultimately be shut off completely. Understanding these dynamics will be a critical part of identifying the winners and losers of our sustainable future, both in terms of industries, and the players within.

# The net zero club

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## Introduction

The increasing societal awareness of climate change and sustainability more generally, combined with the rising importance of sustainable investing, is leading corporates, cities, and governments and supranational organisations around the world to assess the impact which they have on the world around them. The emergence of the EU taxonomy, and the concept of 'do no harm,' is also raising awareness of the importance of impact, as is the risk of brand damage, or at the extreme, adverse litigation for companies that are proven after the fact to have done harm.

But it isn't just fear of litigation and liabilities which is driving this – it's simply good business. If we take the concept of sustainability back to its very basics, it is about a recognition that a business model based on the use of a finite resource, or business model which will ultimately become unviable, banned by regulation, or which will lose its societal license to operate, is inherently 'unsustainable' in the most basic sense of the word; conversely, a business model which is sustainable is viable for the longer term, and should ultimately deliver greater total returns over that longer life span.

## Understanding net zero – what is net zero?

Chief amongst the sustainability issues in terms of public perception is almost certainly climate change. Because of this, and all of the reasons above, not least being the shift in consumer sentiment, more and more businesses around the world are issuing emissions targets, effectively promoting themselves as part of the solution to climate change – or at the very least not part of the problem. The most challenging of these targets is the so called 'net zero' target.

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## A brief history of climate change

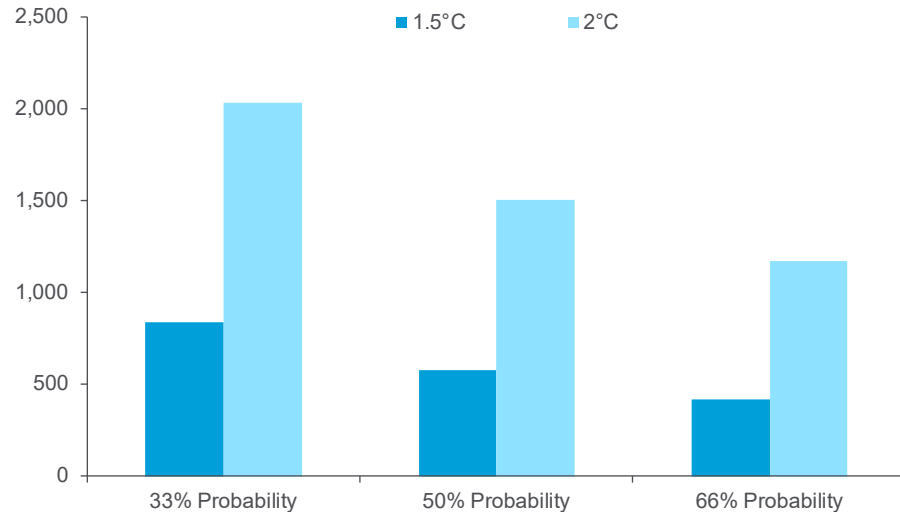
Scientists believe that to avoid dangerous climate change impacts we need to limit the increase in global temperatures to 1.5°C or at most 2°C. So how much CO<sub>2</sub> can we emit to reach these temperature goals?

CO<sub>2</sub> is so persistent in the atmosphere - it accounts for 76% of all greenhouse gas emissions. As such, we can predict that for a certain absolute volume of CO<sub>2</sub> emitted, we will experience a certain absolute increase in global heat (which we talk about as average temperature), and hence we can say that there is a 'Carbon Budget' for any given warming outcome.

The IPCC in their Fifth Assessment Report (AR5) in 2014 stated that there would be approximately 120 gigatonnes (GT) of CO<sub>2</sub> remaining from the beginning of 2018 for a 66% chance of avoiding a 1.5°C warming — increasing to 268 GTCO<sub>2</sub> for a 50/50

chance. However the new IPCC special report (SR15), which was published in October 2018, significantly revised these estimates upwards — for a 50% chance of meeting a 1.5°C warming, CO<sub>2</sub> emissions from 2018 must not increase by more than 580 GtCO<sub>2</sub>, reducing to 420 GtCO<sub>2</sub> for a 66% chance (see Figure 1 below).

Figure 1. Remaining Carbon Budget from 2018



Source: Rogelj et al. (2018)

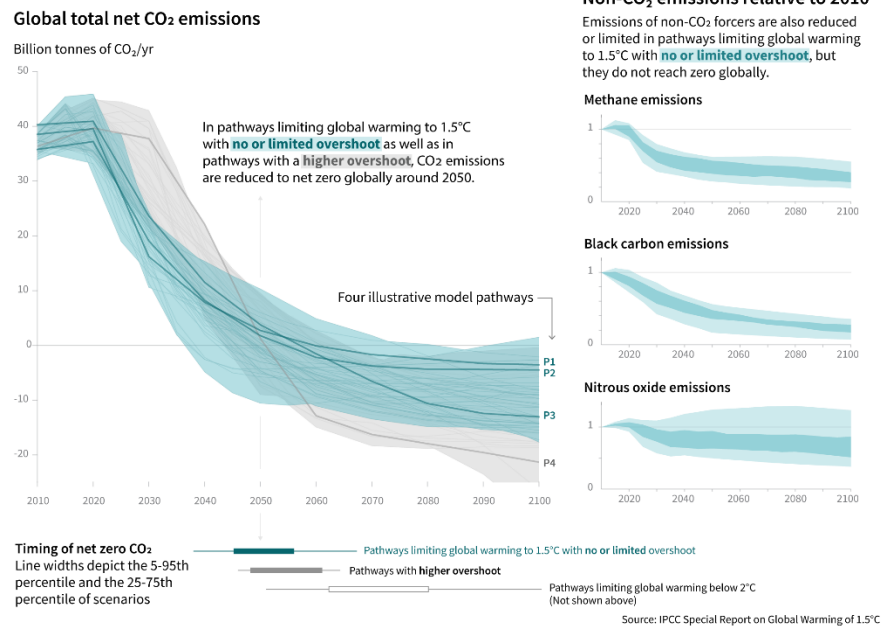
To put those figures in context, we are currently (pre COVID-19) emitting about 53.5 GtCO<sub>2</sub>e of greenhouse gases per year, of which 42Gt is CO<sub>2</sub> emissions (including land use). It is important to understand the carbon budget relates to just CO<sub>2</sub> emissions (rather than total GHG emissions) so our 50% chance for a 1.5 degree increase equates to about 14 years at current emission rates. For a 66% chance probability, this reduces to about 10 years of current emissions.

Tomorrow's problem, right? Well not really, for the following reasons. First, we have to remember that a 50% chance still equates to playing Russian roulette with three bullets in the chambers — not odds most of us would bet on with our lives. Secondly, and perhaps more importantly, 14 years at current rates only means we could keep doing this for 14 years, and would then have to go *instantly* to net zero emissions — which of course we couldn't. So the only way to even stand a chance of staying within these budgets is to start changing our energy and emissions complex now, so that annual emissions start to reduce, giving us longer to keep reducing them, ultimately to net zero, and then potentially moving net negative in the second half of this century to try to restore longer term balance as shown in the IPCC scenarios below. So the concept of trajectories within the carbon budget becomes perhaps more important than the absolute levels alone as it effectively incorporates the concept of time.

Figure 2. Global Emissions Pathways

### Global emissions pathway characteristics

General characteristics of the evolution of anthropogenic net emissions of CO<sub>2</sub>, and total emissions of methane, black carbon, and nitrous oxide in model pathways that limit global warming to 1.5°C with no or limited overshoot as well as in pathways with a higher overshoot. Net emissions are defined as anthropogenic emissions reduced by anthropogenic removals. Reductions in net emissions can be achieved through different portfolios of mitigation measures illustrated in Figure SPM.3b.



Source: IPCC (2018)<sup>1</sup>

This drive to reduce the net amount of our emissions to zero by 2050 has led to the rise of the concept of 'net zero', and an increasing number of corporate, city, sovereign and supranational targets based around net zero by a certain date, or getting a certain percentage towards net zero by a particular time.

Companies also talk about business models being 'aligned with a 1.5 or 2 degree world', which essentially means that their targets will take their emissions to the 'correct' level by a certain time, with the trajectory fitting in with the correct pace of reduction to net zero.

This is hugely significant, as it is forward-looking, and aspirational, and most importantly, is likely to require for most organisations, significant changes to business operations. For some, it represents an existential risk – and to overcome it will require nothing short of an entire re-examination/change/metamorphosis of the business model. As we shall see though, not all net zero targets are created equal, with differing levels of

<sup>1</sup> IPCC, 2018: Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press.

aspiration, different timelines, different trajectories, and very different levels of targets and granularity.

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### So what exactly does 'net zero' mean?

Net zero in itself is a fairly basic and easy to comprehend concept. But behind that are a variety of nuances which make the subject more complex.

First of all, the distinction between zero emissions (i.e. absolute zero) and 'net zero' is an obvious, but important one. For example, the 'net' element implies that an entity could still be producing significant quantities of CO<sub>2</sub>, so long as these were in some way offset, be it via other activities (e.g. reforestation) or potentially via the purchase of carbon offsets – a subject explained and discussed at length in a [previous version of Tipping Points](#). As we highlighted in that report, not all offsets are created equal, some being significantly more robust than others, with others having questionable 'additionality'. Moreover, issues exist with offsetting measures such as reforestation, as the trees cannot ultimately be cut down (or this would negate any benefit), or with offsetting per se – for example, would we rather see a fossil-fired power station built with offsets used, or would we be better off not generating the CO<sub>2</sub> in the first place, and building renewable capacity instead?

Furthermore, there is a significant difference in the ambition, and dare we say, quality of 'net zero' targets. Some mean exactly what they say – with a strategy and business plan to take an organisation to net zero (or preferably absolute zero) emissions by a certain date, with a detailed plan of how this is to be achieved, with a trajectory to do so and published milestones along the way, with progress being independently audited and reported on.

For others, 'net zero' can consist of merely an aspiration, albeit a worthy one, with no business plan to get there, no trajectory, and in some cases, with the technology allowing a certain industry to reach it yet to be invented (or at best existing, but prohibitively expensive). To be clear, we are not being disparaging about these aspirational targets – far from it – indeed it could be argued that for a business to aspire to this, without the technology yet existing in a commercially viable format, is actually braver than for the business where it exists and is just marginally more expensive, requiring only a tweaking of the business model.

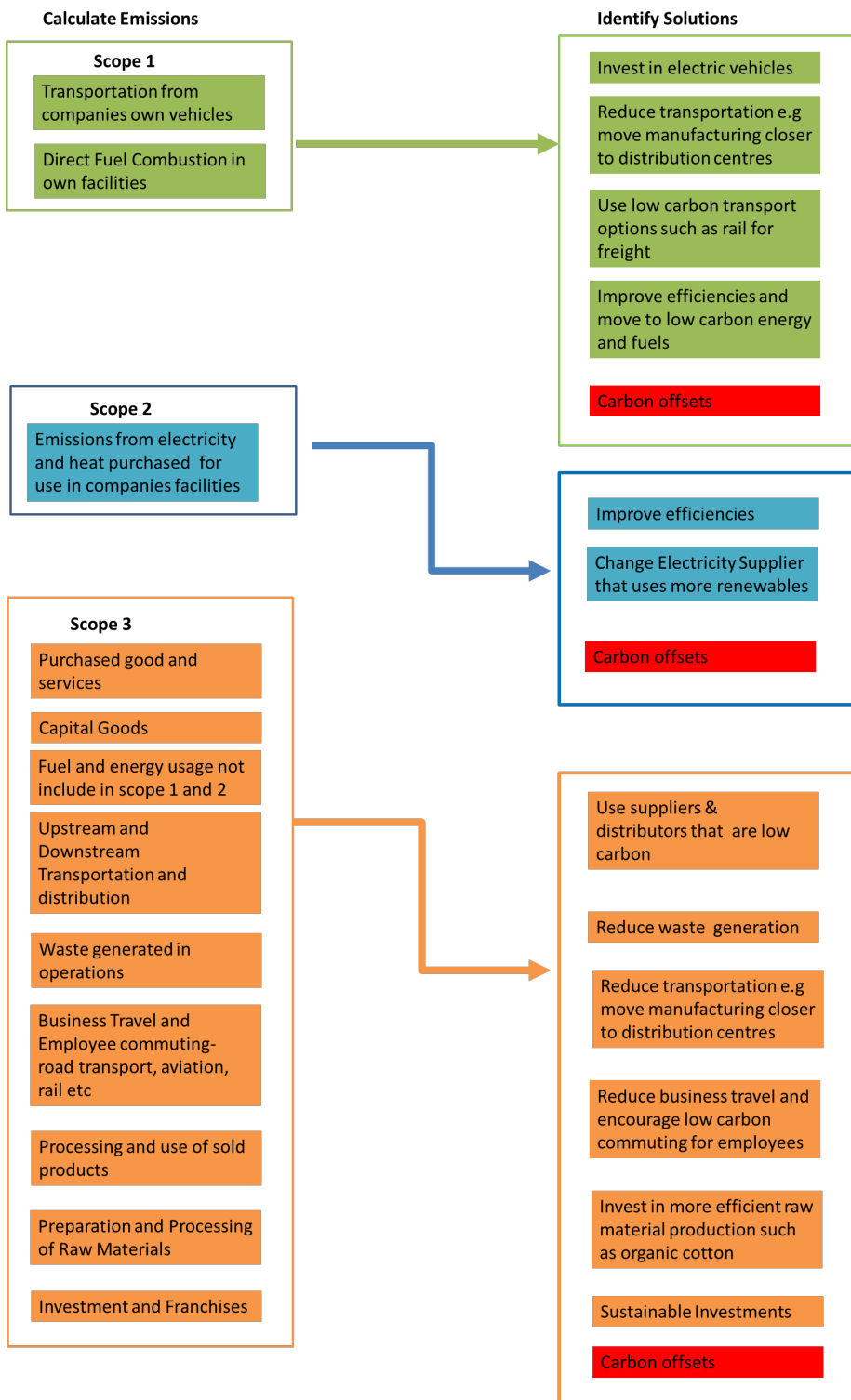
This highlights another important point – that we should not view all net zero targets as equal in their complexity. For a predominantly coal-fired utility to reach net zero will require a root and branch rethink of its business model, and a potentially complete rotation/turnover of its operating infrastructure and assets. Conversely, for a media company, it could just mean purchasing its electricity (and heat etc.) from renewable sources, as well as examining emissions related to product sourcing, distribution etc. if applicable. All are equally worthy, but some are significantly more complex, fundamental and expensive. By the same token though, to move our coal fired utility to net zero will clearly have a greater systemic benefit than for our media company, and hence we

should recognise the greater benefit which comes from that greater cost and complexity or transformation.

Which brings us on to perhaps the greatest area of contention and misunderstanding about net zero targets – the so-called ‘scopes’, as described below:

- **Scope 1 – Refers to all Direct Emissions** from the activities of an organisation or under their control. This includes fuel combustion on site such as gas boilers and fleet vehicles
- **Scope 2 – Refers to Indirect Emissions** from electricity and heat purchased and used by the organisation. Emissions are created during the production of this energy and eventually used by the organisation.
- **Scope 3 – Refers to all Other Indirect Emissions** resulting from the activities of the organisation, occurring from sources that they do not own or control. These are usually the largest share of a company’s carbon footprint, covering emissions associated with business travel, waste management, upstream and downstream transportation of their goods and services etc. For some companies, such as oil companies, it will also entail emissions resulting from the *usage* of their end product, e.g. emissions resulting from using petrol manufactured by the company to fuel a car, as well as the emissions resulting from making the concrete which they may use in drilling operations.

Figure 2. Calculating Emissions and identifying solutions



Source: Citi Global Insights

The first distinction is of course between direct emissions, which are those directly controlled by the company, and indirect, which are those under the control of another company or organisation. Once the company calculates their emissions, it then needs to identify solutions to reduce their emissions over time. The solutions to scope 1 emissions are easier to solve than scope 2 and 3 as they are under the direct control of the company. They can include measures such as investing in electric vehicles, using low carbon transport options such as rail to move their goods and services, and moving to low carbon energy and fuels. Scope 2 emissions can be reduced by choosing suppliers that produce electricity and heat from low carbon sources whilst at the same time the company can also improve the energy efficiency of its facilities.

Scope 3 emissions are usually the largest emissions that a company is 'responsible' for, but most importantly, are outside of the company's direct control. They are also the hardest to quantify, not least as there are usually multiple suppliers and distributors involved, and moreover, accuracy tends to suffer as there are an increasing number of assumptions regarding, for example, how much of a supplier's emissions actually relate to the product which a company is using or consuming.

While scope 3 emissions are harder to control, there are a number of things that a company can do to reduce scope 3 emissions, such as increase efficiencies in waste management, reduce business trips, choose low carbon suppliers, invest in low carbon raw materials such as organic cotton, move manufacturing bases closer to distribution centres etc. However, even if the company manages to implement all these solutions, there will be a number of different areas where it would not be possible to reduce emissions either, because the technology is still in its infancy or because low carbon suppliers and distributors are not available. This is where carbon offsets can really make a difference – they can allow companies to reduce these harder to abate emissions with just a click of the button.

It is also important to recognise the significance of the forward-looking nature of net zero targets, however obvious that might sound. In a world where 'additionality' is becoming a key feature of sustainable investing (i.e. what is the additional benefit which you are generating by investing my money), the change encapsulated by these net zero programmes and targets is important. In a world of ESG where the vast bulk of data is backward-looking and only updated once a year, (and is frequently 'gamed' by companies due to its box ticking nature) the forward-looking nature of net zero targets is hugely significant. Perhaps the easiest way to think of it is that much of the ESG data which the investment world uses to pick ESG leaders is essentially operational – whereas what is often much more important is the strategic intentions of companies – for example a utility or an autos manufacturer – or to use another term, the ESG momentum – and net zero targets are much more aligned with these forward-looking strategic aims which cut to the core of a company's nature, rather than how impressive its operations are.

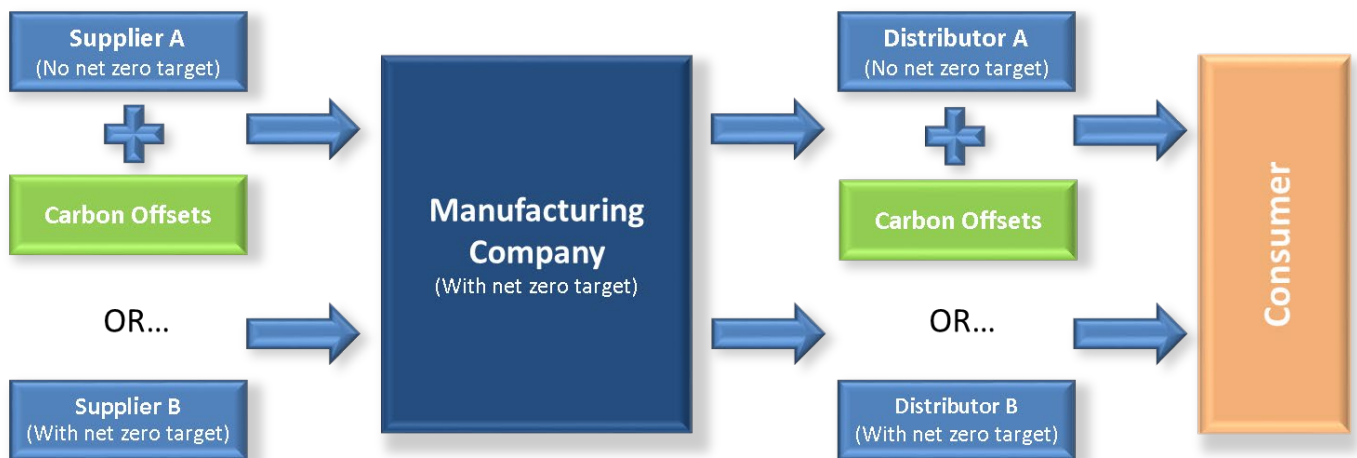
### So why does it matter?

Well, beyond the obvious impact of helping to address climate change, it is hugely important from a business perspective – and not just from the perspective of creating a fundamentally sustainable business model, and one which is insulated from the risks of stranded assets, carbon taxation or being regulated out of existence. Or indeed from an increased cost of capital, and at the extreme, the complete withdrawal of capital.

The reason it is important, is that the increasing proliferation of net zero targets is effectively creating a ‘club’ of net zero businesses, which we will refer to as the ‘net zero club’, although this widely referred to concept is not to be confused with the business of the same name.

Effectively what this means, is that any business which commits to being net zero, at least on scope 1, 2, and 3 basis, must therefore ensure that all of the elements of its supply chain and distribution network (and in some cases incorporating the usage of the end product) are net zero – otherwise the company cannot claim to be net zero on a scope 3 basis. What this means in practice, is that if a supplier to a net zero company isn’t intending to reach net zero itself, the company in question must either switch to a new supplier who is, or else purchase offsets to negate the emissions of that supplier, which of course entails a cost. The company is of course likely to be unwilling to bear that burden, and hence is either likely to switch supplier, or potentially to ask that supplier for a discount to cover the additional expense of offsets.

Figure 3. Presence/absence of complementary net-zero targets is likely to be an increasingly important factor in choice and cost of suppliers and distributors.



Source: Citi Global Insights

The reason this is **so** significant, is that it is one of the first real world business examples of emissions (and sustainability) actually impacting margins and pricing strategies within companies. Conversely, a net zero company might conceivably be able to charge its customers slightly more for its ‘net zero’ product, given if it is spread across

all customers, it is unlikely to be as expensive as one customer having to go out and offset just the emissions from the production of the element of its supply chain which it has bought.

Accordingly, what we are beginning to see (in its early stages, but with rapidly building momentum) is the creation of a net zero club, populated by companies which are essentially seen as part of the solution. Conversely, companies outside of that are likely to be seen by those in the club as 'part of the problem', or at least creating them a headache by not pulling their weight towards their customers' goals. Customers are of course more likely to gravitate to companies (be they suppliers or distributors) who are helping them meet their goals, rather than creating an additional financial burden.

Over time, and in particular if more widespread carbon pricing comes into play, this will inevitably have an impact on margins, and at the extreme, the viability, or sustainability of individual businesses.

This means that examining the robustness and completeness of a 'net zero target', and how far it goes in terms of scope 1, 2, and 3, is clearly a legitimate question for investors – and indeed why a company doesn't have one is likely to become an increasingly asked, and important question.

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## Double counting and industry coalitions

One of the key challenges here is also where we draw the line between different companies, and whose responsibility emissions actually are – clearly someone's scope 1 emissions are somebody else's scope 3, or indeed scope 2 emissions.

Let us take for example a utility which generates its power using coal – these emissions will be its scope 1 emissions, but for all of its customers they will be their own scope 2 emissions.

This highlights the significance of the so-called net zero club, as if all elements of a value chain pull their own weight, for many industries, the net zero targets might be achieved relatively easily. For some carbon intensive industries, as highlighted earlier though, the challenge is likely to be much more fundamental.

The issue of responsibility becomes even more complex when looking at scope 3 emissions – especially when looking at end use. If we take an oil company, scope 1 and 2 might actually be relatively simple to address, but if we include the emissions from the end use of their product (for example emissions from the burning of petrol in cars) then clearly this is the largest element by some margin. Are those emissions the responsibility of the oil company, the auto company who manufactures the cars which burn the petrol, or the consumer who buys it and actually burns it? In some ways it is irrelevant – if the carbon is likely to be taxed, and as economics and consumer attitudes change, some elements of the fossil fuel industry, as we have seen with coal, are likely to face an increasingly tough outlook with a greater risk of asset stranding – which is going to lead to (and indeed already is leading to) shifts in corporate strategy away from

carbon intensive fuels or industries. Accordingly, companies can either take a view that it makes business sense to get ahead of this transition, be part of the solution, and hence ensure their survival and long-term viability, or they can choose to take the view that the emissions are someone else's problem, and maximise shorter term returns.

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### Net zero at a national level

While a topic for another day, the issues of double counting and scope 1, 2 and 3 is just as pertinent at a national level. While the market now views emissions targets which only incorporate scope 1 and 2 net zero targets for emissions-heavy industries such as fossil extractives as 'somewhat lackluster', the majority of national 'net zero targets' only refer to a scope 1 basis. So if we don't accept it (and indeed cry 'greenwash!' when we see it for a corporate), why would we accept it blindly from a country, or for that matter a city? It's a start, and admirable for that, but clearly leaves a long way to go.

For example, we might look at an economy which is heavily reliant on fossil extractives, such as those in the Middle East, or indeed countries like Australia, and applaud an intention to move to net zero on a scope 1 basis, but it doesn't get round the fact that in the same way in which a company which is heavily exposed to fossil extractives must consider stranded assets, so arguably should a sovereign – which raises the spectre of stranded economies. So while moving to scope 1 for these countries, and indeed scope 2 if, for example, they imported nuclear-generated electricity via an interconnector (such as the UK) for a scope 2 net zero target, if we were to look nationally on a scope 3 basis then we would have to incorporate the emissions coming from the burning of those fossil fuels which we have sold overseas. So again, whose responsibility is that? Is it the country burning it for whom it is scope 1, or is the country exporting it, for whom it is scope 3? Again, holistically it is irrelevant – the risk is the same, but the 'user' perhaps has more choice than the exporter, whose only choice may be to rebalance the entire economy, as is the current situation with many nations in the Middle East trying to transition to a more balanced (or at least less oil-focused) economy.

This issue becomes even more thorny when we consider the issue of 'imported emissions' (or effectively the offshoring of emissions). Take for example a developed economy which has transitioned away from manufacturing to a largely services-based economy, yet which imports much of its physical goods which are manufactured in lower-cost regions. One element of why these regions are lower cost, alongside labour and other factors, may be that it is using legacy carbon-intensive power sources. Accordingly, while a developed economy might have a net zero target, this is most likely to be on a scope 1 (and potentially scope 2) basis, but once again is very unlikely to be scope 3 in terms of imported, or indeed exported, products. This might sound like an impossibly tough standard for a sovereign to reach, but if we expect it from corporates, then why should we be any more lenient on countries?

Indeed, while the concept of stranded countries or economies might sound far-fetched, it is becoming more topical as the concept of carbon border adjustments starts to rear its head. The EU puts it well as part of its green deal where it starts to discuss a 'Carbon Border Adjustment Mechanism' where it states the following:

*“Europe’s efforts to go climate-neutral by 2050 could be undermined by lack of ambition by our international partners. This would mean a risk of carbon leakage. This occurs when companies transfer production to countries that are less strict about emissions. In such case global emissions would not be reduced.*

*This new mechanism would counteract this risk by putting a carbon price on imports of certain goods from outside the EU.<sup>2</sup>”*

Conversely, countries such as India have said historically that they would raise a WTO challenge to any ‘rich countries’ which tried to impose import taxes on Indian goods.

While some might, as above, argue that this is effectively putting import taxes from richer to poorer countries to protect localised countries which are suffering higher costs by protecting the environment, it has also been argued by leading economists such as Stiglitz that if a subsidy is effectively making a company not pay the full costs of production, then *not* including the costs of damage to the environment is effectively a subsidy<sup>3</sup>. Indeed some ex-WTO officials have argued that they believe that carbon border tax adjustments may well be permissible under WTO rules.

As mentioned before, this is a complex, thorny and emotive subject for another day, and it would undoubtedly be better to get the world to act in a more unified way to tax carbon collectively by means of a fungible scheme. Collective action is always difficult though, and it may be that carbon border taxes are the only way to encourage ‘laggard’ countries to adopt their own policies to bring themselves into line with international norms. We firmly expect national ‘net zero targets’, to proliferate increasingly widely as countries update their iNDC’s ahead of COP26 in Glasgow, to come under increasing scrutiny for their scope 1, 2, and 3 credentials, and as part of that, for carbon border tax adjustments to become an increasingly common topic of debate, whatever one’s view on their moral rectitude.

As we start to see the spectre of corporate litigation and class actions against large scale polluters, is it possible that we might start to see this at an international level, conceivably even with the imposition of sanctions. Again, this might sound far-fetched, but as COVID-19 teaches us about the extraordinary costs of systemic risk, and how the international community is willing to at least entertain the concept of reparations against countries they see (rightly or wrongly) as being ‘responsible’. In the same way as pandemics, climate change is clearly another systemic risk, is it so far-fetched that we might see a similar situation related to emissions, if the impacts of climate change do reach catastrophic levels.

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<sup>2</sup> <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12228-Carbon-Border-Adjustment-Mechanism>

<sup>3</sup> [https://www.carbontax.org/wp-content/uploads/2007/09/stiglitz\\_-\\_a-new-agenda-for-global-warming\\_-\\_economists-voice\\_-\\_july-2006.pdf](https://www.carbontax.org/wp-content/uploads/2007/09/stiglitz_-_a-new-agenda-for-global-warming_-_economists-voice_-_july-2006.pdf)

## The net zero club – cost or opportunity?

Given the likely increasing significance and proliferation of net zero targets, understanding who is part of the solution, and who might be seen as ‘problematic’ in a supply chain is clearly of paramount importance for corporates, as well as investors. This is not just limited to individual companies – it is important of course for certain industries overall (particularly if they are carbon intensive and showing little willingness to adapt), and as we have seen it is also likely to become an increasingly important issue at a national and international level for policymakers.

The first thing to say is that it is early days, and hence any attempt to analyse who’s in, and who’s out of any net zero club is fraught with difficulties. Hence we start with a disclaimer – it is inevitable as we try to map companies and industries that in the following analysis we will have missed some companies. Moreover, some companies who are deemed ‘not’ to have a net zero target by this analysis, might actually be making great strides in an industry where carbon forms a fundamental part of its activities, and hence abating it might be significantly more challenging than for a company where it is, in a relative sense, easy. Indeed, those companies might arguably be doing *more* than companies with a more ‘comprehensive’ target. All we are attempting to do here is to progress the analysis, and further the debate. As always with the Tipping Points series, we welcome your views and feedback, especially where they differ from our own!

Our intention with this analysis is to try to bring some form of order and structure to the vast number of ‘net zero’ targets out there in the market, and of wildly differing ambition, such that we could see which industries were showing the greatest level of ambition in aggregate, as well as the extent of leadership being shown by the largest companies, and whether the longer tail of companies is following suit (or indeed vice versa). From this we can build a picture of the industries which might be viewed as lagging on progress or ambition – although as before, we absolutely recognise that for some industries this is a much more challenging goal. Moreover, activities such as a bank financing a corporate transition ‘from brown to green’ might not fit with a net zero target, but are arguably more progressive than blanket bans on investment, which may move brown industries into the hands of faster (more expensive) and less scrupulous money, which could lead to less systemic progress overall. We make no judgements here – the data is what it is, and must be considered in the light of these and other important considerations. As before, it is simply intended to advance the analysis and further the debate.

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### Data sources

There are several different ‘clubs’ targeting net zero for their members, the most recent being the ‘Transform to Net Zero’ Initiative which involves global household names such as Danone, Maersk, Microsoft, Mercedes-Benz, Natura, Nike, Starbucks, and Wipro, to name but a few. This group, like others, aims for its members to align their business activities which a 1.5 degree trajectory, as discussed earlier.

However, for our analysis, we build on the work complied by the more comprehensive Science Based Targets Initiative<sup>4</sup>, a collaboration between the Carbon Disclosure Project (CDP), the United Nations Global Compact (UNGC), the World Resources Institute (WRI), and the World Wide Fund for Nature (WWF), as well as being one of the We Mean Business Coalition commitments.

#### About the SBTi

The initiative is currently tracking 937 companies (as of 30 June 2020) taking science-based climate action, 420 of which are 'approved' (plans have 24 months to be approved). All companies are encouraged to commit to the highest level of ambition by signing the *Business Ambition of 1.5C commitment letter* instead of a standard commitment. Currently 260 companies (>\$3.6 trillion in market cap) have signed up for the 1.5C commitment. Importantly, as we shall see later, the initiative have a separate process for Oil & Gas and Financial services.

The SBTi currently breaks down its data by:

- Company
- Sector
- Region
- Date of pledge
- Commitment type
- Target qualification (2C, Well below 2C, or 1.5C)

We have taken this data, and combined it with market cap data as a simple proxy for 'size' (we could equally have used Enterprise Value), and supplemented the SBTi data with our own analysis from company websites and other sources.

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## Methodology

Our methodology for analysing net zero commitments is as follows:

1. Mapping the SBTi company data across the 50 Citi sectors by which we classify industries.
2. Using market cap as a proxy for "leading" companies, we have identified the top 10 companies in each sector. We recognise that this will naturally exclude privately owned companies, as well as debt-heavy companies where equity may be a smaller part of EV, but given likely similar levels of indebtedness within industries, this hopefully is not too much of an impediment.

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<sup>4</sup> <https://sciencebasedtargets.org/> The company dataset was downloaded on 30 June 2020 and used for the analysis.

3. For each industry we have looked at the total number of pledges, as well as the number of commitments by 'top 10' companies
4. We have also examined the proportion of commitments vs. targets set for the top 10 in each sector, in an attempt to contrast where there is a detailed goal with milestones, a trajectory and a strategy, against those with (an admittedly admirable) ambition, but where detail may be more lacking at this stage.
5. We sense checked this data for all top 10 companies to clarify if there were commitments to net zero which had not for some reason been captured by the SBTi data.
6. In the analysis we have also highlighted carbon-intensive industries, in an attempt to highlight those industries where net zero targets are likely to be significantly more challenging, and hence where the absence of targets may not necessarily signal a lack of ambition, indeed often the case being quite the contrary, as we have seen.
7. Finally, we have also allocated direct CO2 emissions to sector in an attempt to add granularity to stage 6.

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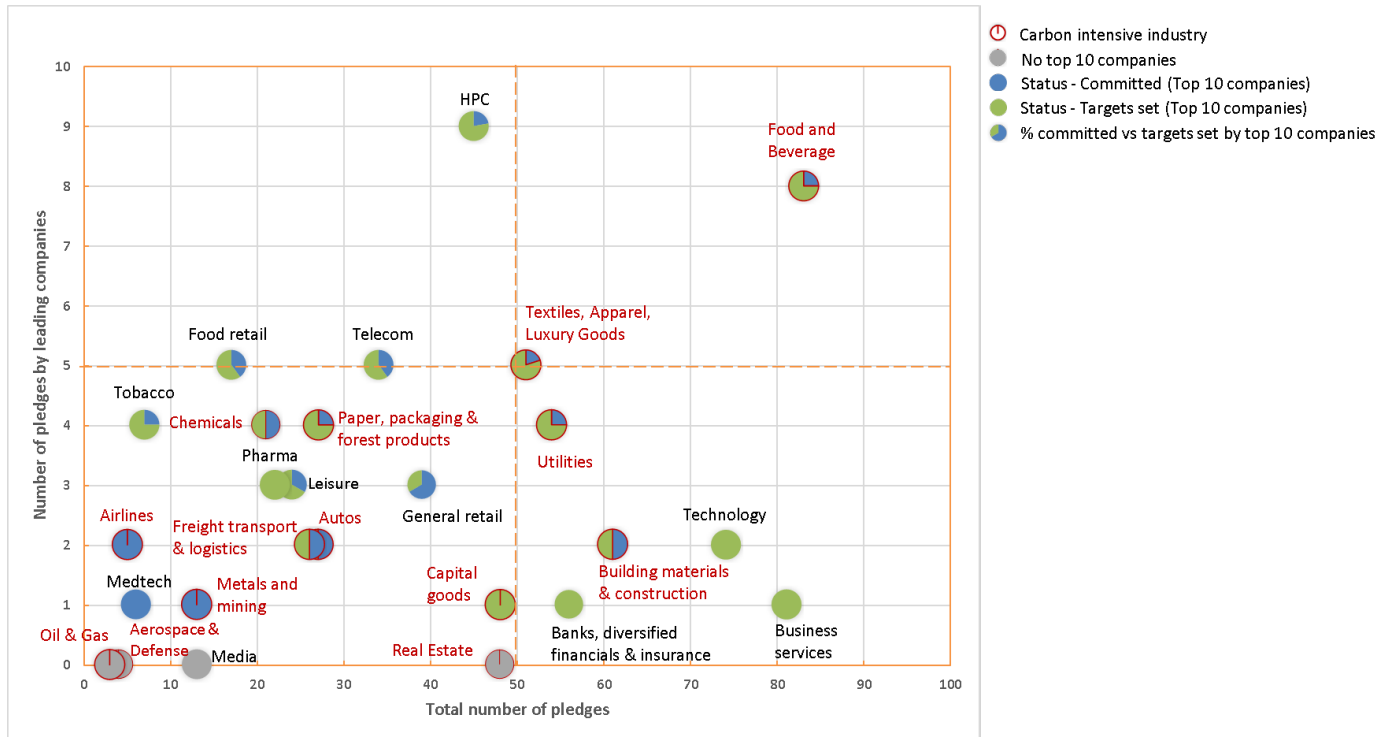
### Pledges and industry leadership

Figure 4 shows the total number of pledges along the X axis, suggesting that industries further to the right have more widespread commitments amongst companies. The Y axis shows the number of commitments by 'top 10' companies, in an attempt to demonstrate in which industries there is leadership being shown by the largest players. We have divided the chart into quadrants, the simplistic positioning messages being as follows:

- Industries in the top right quadrant are showing widespread adoption of net zero ambitions, with strong leadership also being shown by the largest companies in those industries.
- The (well-populated) lower left quadrant shows industries where perhaps there are less widespread targets overall, as well as amongst the leading companies.
- The top left quadrant shows industries where there is strong leadership being shown by the largest companies, but where the 'tail' has yet to follow, implying that there is significant scope for the rest of the industry to demonstrate ambition.
- Perhaps most interesting of all though is the lower right quadrant, which implies that there is significant ambition shown by the industry, but that this is perhaps not being reflected widely amongst the largest companies. This implies that there is a significant opportunity for the largest companies in this space to step up, seize the initiative, and demonstrate leadership in their climate ambition, with all the potentially positive brand connotations which this implies.

We would of course caveat this data again, not least regarding issues related to the ‘concentration’ of industries – clearly where an industry is dominated by a small number of very large players, this could distort the data, as it could were we to examine a highly fragmented industry. As before however, the data is what it is – and our intention is only to further knowledge and debate of this important topic.

Figure 4. Prevalence of net zero targets, leadership and commitment by industry



Source: Citi Global Insights, Science Based Targets Initiative, FT

There are many conclusions to be taken from Figure 4, but here we highlight a few standout points. The food and beverage industry is notable by the widespread range of ambition across the industry, with similarly strong levels of leadership being shown by the largest companies. Moreover, it is notable that a large proportion (75%) of these pledges by top 10 companies are genuine commitments to net zero, rather than targets which may not directly correlate to net zero, and hence might be deemed (simplistically) less ambitious or comprehensive. Furthermore, as the ‘red border’ shows this is a carbon intensive industry, and hence commitments here are not easy, and hence the widespread ambition itself, as well as the leadership, should still be applauded.

HPC (Household goods and personal care), a similar industry with a strong consumer and brand focus, demonstrates very strong leadership with 9 of the top 10 companies having commitments with again detailed targets, in an industry with a relatively broad range of commitments by companies (and this is an industry dominated by big brands, and hence not that fragmented).

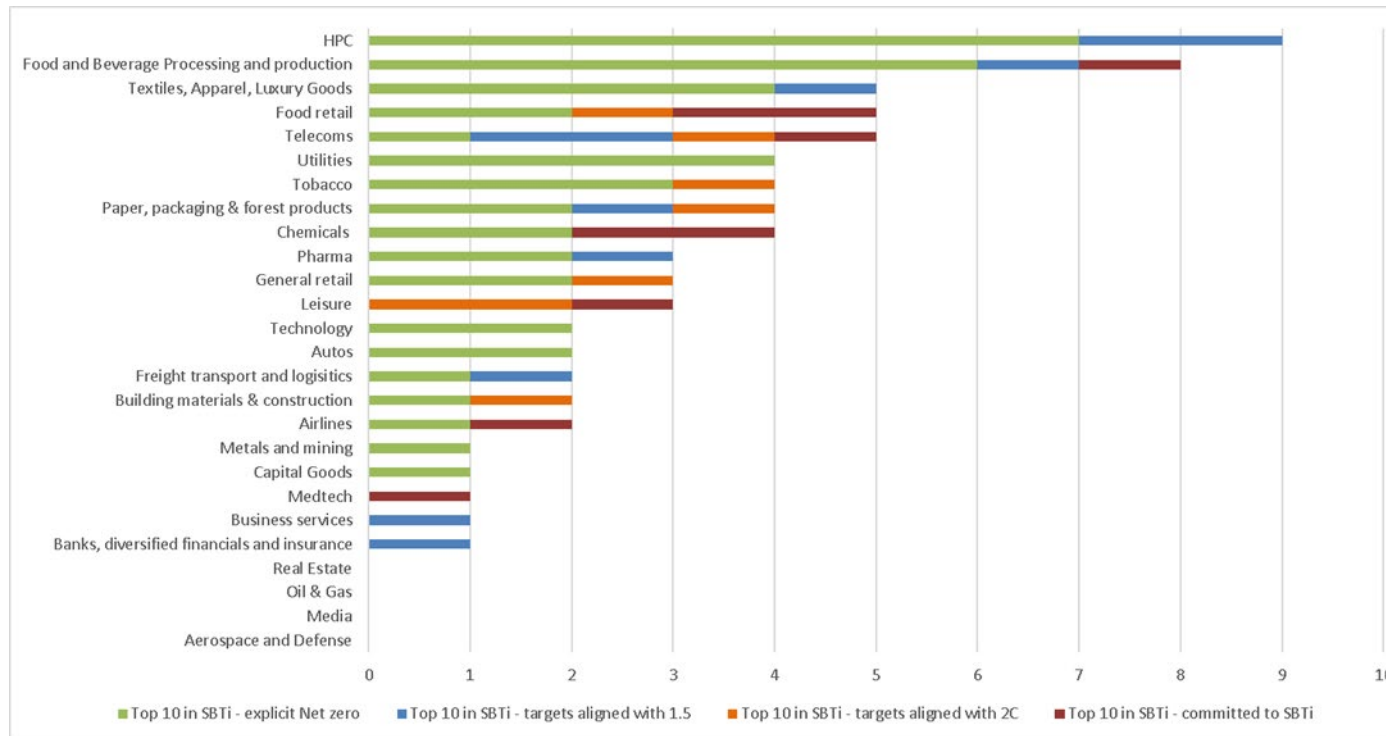
These initial conclusions highlight two important points – firstly, the level of ambition (and granularity) of the commitments, and secondly, the carbon intensity of an industry. The following two charts attempt to provide extra granularity to the analysis.

Not all companies in the SBTi database have explicitly announced a commitment to net zero. By joining the SBTi, companies agree to set science-based emission reduction targets that are in line with the level of decarbonisation needed to meet the Paris Agreement, and hence to limit warming to well-below 2C and pursue efforts of 1.5C.

Figure 5 shows the top 10 companies in each sector in the SBTi by commitment type as follows:

- Public net zero announcement
- No announcement but have set targets aligned with 1.5C
- No announcement but have targets aligned with 2C
- No announcement but have made a commitment to SBTi

Figure 5. Top 10 companies in SBTi by commitment type



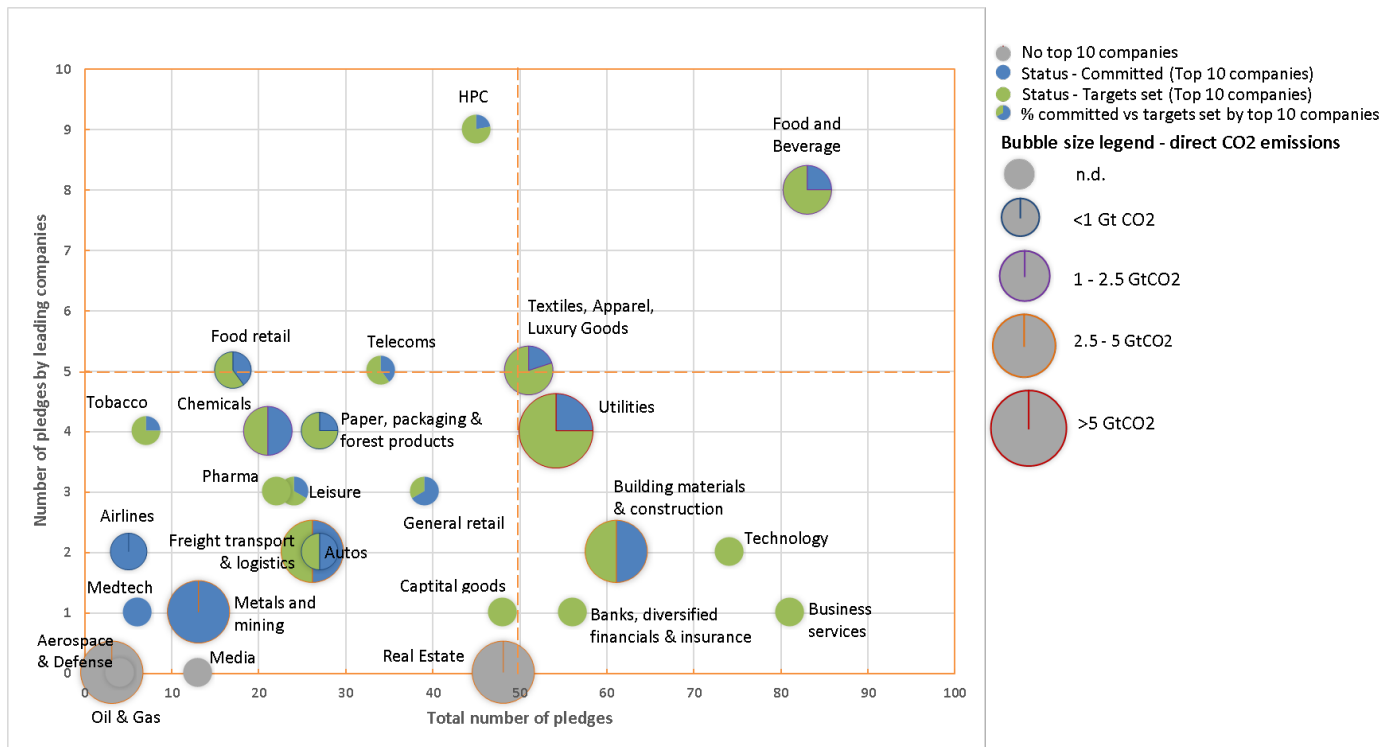
Source: Citi Global Insights, Science Based Targets Initiative, FT, Company websites

Figure 5 shows this granularity by industry. For the purposes of the pie charts in Figure 4, we have grouped explicit net zero targets and targets aligned to 1.5 degrees as 'net

zero' targets (as effectively we have to reach net zero to limit temperature rises to 1.5 degrees). So, as before, both food and beverages and HPC demonstrate not just a broad level of ambition both as an industry and by leading companies, but this ambition is backed up by genuine and comprehensive commitments to net zero.

The second caveat was to try to distinguish between sectors where emissions are a major issue, versus those where reaching net zero might require slightly less of a fundamental rethink of the business model, as it might be for say oil & gas.

Figure 6. Positioning of carbon intensive industries



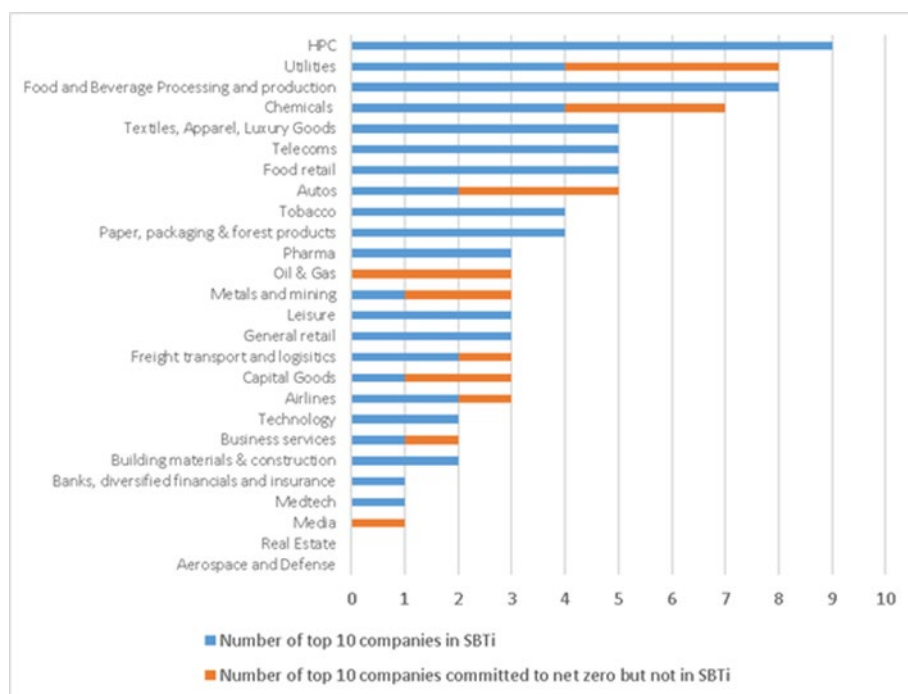
Source: Citi Global Insights, Science Based Targets Initiative, FT

Figure 6 attempts to provide greater granularity on the carbon intensity of each industry. The bubble size shows the direct emissions of each sector (i.e. scope 1) but does not capture scope 2 and perhaps most importantly scope 3, which as we have seen is often the largest. However, we would reiterate the point that it is extremely difficult both to capture, and even more so to represent, scope 3 emissions by sector without double (and treble, etc.....) counting.

It is also notable that for many of these carbon intensive industries the leadership being shown by the largest companies appears at first glance somewhat disappointing. However, this is again a limitation of the analysis. Many companies in these industries have actually issued 'net zero' targets, but are outside of the SBTi, either by choice, or because their targets do not match up to the criteria of the SBTi. As before, particularly

for carbon intensive industries, the targets in place, while not exactly mapping to a 1.5 degree world, might actually be significantly tougher, often requiring a 100% rotation of assets, or indeed a fundamental change to the business activity or product itself. The Oil & Gas industry is a perfect example; it has made enormous progress in the ambition shown by many of the leading companies, in what will be for them a fundamental transition of the industry, and we should recognise the enormity of that challenge, and applaud their ambition. Figure 7 attempts to capture those net zero announcements which are not captured by the SBTi.

Figure 7. Commitments to SBTi and Net Zero by top 10 companies



Source: Citi Global Insights, Science Based Targets Initiative, FT, Company websites

As we can see, once again it is many of the carbon intensive industries, such as Utilities, Chemicals, Autos, Oil & Gas, Metals & Mining, and Capital goods all fair better in terms of commitments from leading companies than is initially suggested by the SBTi data. Indeed as before, we should recognize that there are some companies within the SBTi which have not set targets, while some of these larger companies outside of the SBTi (captured here) have actually set more challenging targets. Hence not being part of the SBTi should not necessarily be viewed as a 'negative' thing.

So bringing all of the data and charts together, what conclusions might we draw by sector?

As before, the food and beverage and HPC sectors appear to fare particularly well, with a broad level of ambition, leadership shown by the largest companies, and with genuine commitments to net zero.

Utilities, especially if we consider the data in Figure 7, as well as being one of the most carbon heavy sectors, actually shows the enormous progress that the sector has made, and continues to make, in greening its energy mix, with a broad range of pledges, as well as significant levels of leadership from the largest companies, with genuine net zero commitments. Given where the sector started, and recognising that there is still far to go, where the issue of carbon is nothing short of an existential one, this sector is perhaps one of the greatest success stories in terms of the massive transformation over recent years.

While some way behind, autos is nevertheless making rapid progress in its transformation as a sector, though the data suggests there is scope for more full commitments to net zero, and for more leadership from some of the largest companies. In a sector which, as we discussed in [Energy Darwinism 3](#), is likely to be a key area of focus going forwards in the climate debate, the opportunity to demonstrate leadership here is a large one.

Building and construction, as a carbon heavy industry (not least due to cement) shows relatively broad commitment, but again, a potentially huge opportunity for some of the larger companies to step up and show leadership.

Other standouts for us include business services and tech, where despite broad industry sign up, there is relatively limited leadership by large companies, although we note the announcement by Apple in the last few days, which is not reflected in the above. Business services also shows a similar profile, as does capital goods.

Which brings us on to the industries placed in the lower left. The key point here is to recognise that for many of these industries, carbon is such a fundamental element of 'what they do', that as discussed, making progress here is significantly more difficult. Once again, we would stress the point that for some companies, notably several oil and gas majors such as Shell, BP, Repsol and Total amongst others, they have made enormous progress in targets looking to reduce scope 3 emissions by colossal amounts and to transition with their customers – but given the binary nature of the 'net zero' criteria used in the analysis here, they do not feature as a net zero target or commitment, or indeed fall outside the top 10 globally by market cap. Nevertheless, it highlights the challenges facing the industry. Airlines is in a similar predicament, as while electric planes are being developed, their commercial deployment is still some way off. Hence the ambition being shown by some is admirable, though detailed targets are understandably lacking, especially for an industry facing other challenges currently. Metals and mining, in particular steel with its metallurgical coal issue, also faces fundamental challenges, but is beginning to step up, not least via [the opportunities presented by hydrogen](#). Real estate also faces fundamental challenges. While new buildings can be built to the most challenging LEED certifications and can be circular and zero emissions, the issue is with existing stock, much of which can't simply be pulled down and rebuilt.

Perhaps more disappointing here is the inclusion of both medtech, and in particular media, neither of which sectors one would deem to be particularly challenging from a carbon perspective (certainly not in comparison to coal, autos, utilities, metals and

mining, etc.), where not only are there limited industry commitments, but also a lack of leadership being shown by many large companies. This surely represents another huge opportunity for large consumer facing brands to step up and show leadership.

Which finally brings us home, to banks, diversified financials, and insurance, which will be the subject closest to the hearts of many readers of the report, not least ourselves.

Examining the finance industry presents its own complex issues. Clearly the impact which a bank or asset manager can have by addressing its scope 1 and scope 2 emissions is (while still important), very small in comparison to the impact of its 'scope 3' emissions in terms of the businesses which it finances or lends to.

Calculating scope 3 emissions relating to lending to a pure play renewables company, or for project finance, might be easy for a bank; but what about lending facilities for 'general corporate purposes' to companies which have both renewables and fossil assets? Or what about industries which are currently viewed as 'brown' but are using that capital to transition to green? The argument becomes significantly more complex about what counts as 'aligned lending' (ie with a 1.5 degree scenario), and indeed how one calculates and allocates emissions related to lending.

Similar complexities exist for the ultimate providers of equity and debt financing. The argument has been raging for years, as to whether it is better for asset managers to simply divest carbon heavy assets and 'vote with their feet', vs. remaining invested (in equity or credit), and engaging with corporates to bring about transition and change. Our own view within Global Insights is that the latter is absolutely the right approach, and while recognising the positivity and intent of the former, our team believes that the second is actually the only pragmatic approach, for the following reasons:

- 1) Withdrawing capital will not immediately bring an industry to a halt – experience shows that it often simply seeks financing from 'faster money' which may actually result in worse outcomes systemically. Admittedly this capital is likely to be more expensive, and is likely to ultimately lead to a business ceasing to exist (as reinvestment in new assets is unlikely to be economic), but it is often actually likely to *increase* emissions in the shorter term, as this higher cost of capital may require assets be run harder (and less scrupulously) than when listed on public markets and owned by large institutional shareholders with all of the oversight which that entails.
- 2) Secondly, divesting arguably means that one desires that industry to 'stop' immediately. There is a strong argument in the case of coal, given that other, often more financially attractive alternatives already exist, but what about oil? Even if we could somehow 'turn the tap off' tomorrow, what would that mean? It would bring the global economy to a halt very quickly, and it's not too far to say that it would lead to a complete breakdown of order in society very quickly, due to a complete lack of mobility, emergency services, food availability, etc. Clearly that isn't what those divesting desire, but it therefore requires others to engage and provide transition financing to prevent the systemically less optimal

outcomes highlighted in the previous bullet point. Accordingly, the question of whether a viable alternative exists currently is an important one.

- 3) This brings us neatly on to the issue of transition – a subject very close to our own hearts. In the same way as ESG has transitioned from the binary approach of ‘good company, bad company’ to engagement and recognising transition and, importantly, additionality as a broader concept, finance is moving in a similar direction. If we all divert all of our capital to ESG leaders, what systemic value does this add, beyond providing cheaper financing, and penalising others? However, if we can invest in a broader spectrum of companies which we need to exist currently as there is either no alternative, or it will take time to come through, we can help to transition those industries (by withdrawing capital if the intent is not genuinely evident) achieve greater systemic change (rather than pushing those emissions ‘underground’), all at the same time as protecting returns and investors’ capital. It seems to us that transition, so long as it is not used as an excuse to delay change and maximise shorter term financial returns, is the practical key by which genuine change and transition to a zero carbon future can be achieved. Divestment is worthy in its ambition, sends important messages, and will work well for some investors and some industries, but in the opinion of the authors, simply could not be adopted on a system-wide basis at the moment for the reasons given above. We would also note that while transition is a worthy objective, it can also be a nebulous concept. Hence banks may increasingly be asked to ‘prove’ that they are helping their clients to transition, via for example portfolio carbon footprinting/intensity, case studies, or the number of clients setting science based targets, etc. This has parallels with the increasing desire for impact reporting from asset managers.

So are financial institutions doing enough? Many major global investment banks have set targets in the hundreds of billions of dollars for environmental finance, and have restricted and reduced lending to certain industries such as coal, with the most progressive announcing an intention to cease funding entirely (be it lending, M&A advisory or capital markets transactions) beyond a certain date. We believe that this sends a strong signal, and that the *signal* that finance will be withdrawn (and hence systemically will become more expensive) sends an important message, allowing time for these companies to transition away from (e.g.) coal, while retaining access to financial markets to allow them to finance that transition, rather than, as before, simply pushing these emissions ‘underground’ and withdrawing the finance which would allow them to transition.

Nevertheless, by the criteria used in the analysis above, these targets for many financing institutions do not count as ‘net zero’ targets, as most financial institutions will still be financing other relatively carbon heavy industries, which while they may have no alternatives currently, are working hard to develop them. Indeed, such is the complexity of this issue that the SBTi intends to announce a new framework for the financial sector later in 2020 (as it does with oil). Nevertheless, if these are the standards that we are holding other industries to, then we must be equally tough when looking in the mirror, and recognise that there is scope for us to broaden our ambition and targets as an

industry – indeed the first financial institutions have started talking about net zero on a scope 3 basis, and it seems likely to us that over time more will follow, with increasingly granular plans. As before, this is not just good for the planet and society, but it is also good business – if the economy is going to transition in this way, which in our view it should, and will, then sustainable businesses with net zero targets are the ones which are going to survive, and conversely carbon heavy industries raises the risk of stranded assets, alongside significant reputational risk, with all that that entails for business models. By providing the advice and financing to enable those customers to transition their business models and activities to more sustainable ones, the financial industry can be an important and valuable ally along that transition pathway, as well as providing systemic benefits, and transitioning to a net zero industry on a scope 3 basis in its own right.

Financial innovation will be enormously important here in helping those customers to finance their transition. Green, social and sustainable bonds represent an important element here, and will continue to grow in size and significance. The topic of a [previous 'Tipping Points' report](#), namely KPI linked bonds can also, we believe, play an important part in this transition, signalling as they do, the genuine intent of a company (or indeed a sovereign) to transition, or to pay a financial penalty in the form of a higher coupon – quite literally, 'putting their money where their mouth is'. Similarly sustainability-linked loans or sustainable supply chain finance, or indeed any transaction where the cost of capital is tied to the achievement (or otherwise) of a company's KPI targets, will also help to drive this transition.

## Conclusions

As focus on climate change and emissions continues to grow, we as individuals and as a society are taking an ever greater interest in what part the companies whose services and products we buy are playing in the battle against climate change, be it a positive role, or indeed a negative one.

Mindful of this, and of the need to build a sustainable business model for the longer term with reduced risk of taxation, litigation or stranded assets, companies are transitioning their business models towards lower or net zero emissions models, to be a part of the solution, rather than the problem. This has led to the rise of the 'net zero' target as the ultimate expression of a desire not to contribute in any way to climate change.

However, as we have seen, not all net zero targets are created equal, and the toughest and most comprehensive of these, the 'scope 3' net zero target, requires a company to instigate change across elements of its supply or distribution chains, including those which it does not directly control.

What this means in practice, is that a company with a scope 3 net zero target is (all things being equal) more likely to use suppliers or counterparts with similar targets, who will effectively help them reach their targets, rather than creating a 'gap' which might have to be filled by carbon offsets. These offsets cost money, and hence the quid pro quo for retaining that supplier may be a demand for a reduction in the price of that supply contract. While very early days, the rise of the so-called 'net zero club', where businesses with similar targets start to coalesce around these net zero ambitions, sees potential for these businesses to actually grow, take market share and expand margins as they service each other – and by the same token, for companies with limited or no ambition to be 'shut out' of strategic discussions, to suffer margin and volume contraction, and ultimately to be shut out of these supply chains – not to mention have their cost of capital gradually increase, to the point where it may ultimately be shut off completely.

Our analysis has highlighted industries such as HPC and food and beverages, where not only has there been widespread adoption of net zero targets, but where great leadership is being shown by the largest companies within the sector, perhaps due to the importance of consumer brand perception. We have seen carbon intensive industries, where a net zero target may require a complete rotation of assets, or indeed a complete change of business activities, display extraordinary levels of ambition. We have highlighted industries where there is broad movement, but an enormous opportunity exists for the larger companies to step up and display leadership, such as in business services or building and construction. Conversely, we have identified industries such as food retail, where there is leadership being shown by the largest companies, but where enormous opportunities remain for the broader industry to step up and demonstrate its ambition. Last, but by no means least, we have identified perhaps the greatest opportunity, in industries where few targets have been set, either generally, or by leading companies. Within all of this, we have identified which of these

are genuine commitments to net zero with timelines and glide paths, and which are targets which may yet be translated into full net zero commitments.

In all of these scenarios, an enormous opportunity exists for the financial community to provide the innovative financial instruments to finance that transition, such as green, sustainability or social bonds, sustainable supply chain finance, sustainability linked loans, or indeed KPI-linked bonds, which could showcase that transition via the inclusion of metrics and milestones. Opportunities which demonstrate societal purpose and provide systemic benefits, all while generating growth and producing a financial return, should be seized with both hands.

Sustainability and the worlds of business and finance have often existed in parallel, but have struggled to translate, and in particular to quantify, sustainability issues into financial ones. For too long we have seen sustainability and finance as separate entities with a tension between them, with sustainability seen as being a cost which is 'indulged' at the expense of margins. Indeed, well-intentioned sustainability-related schemes which promote the reporting of so-called 'non-financial' metrics, do little to help dispel this myth by their choice of language. What is so exciting about the net zero club and its potential impact on supply chains is that it represents a tangible example of a sustainability-related issue directly impacting pricing and margins – sustainability meets finance in the most fundamental sense. As consumer sentiment and societal attitudes continue to shift, we should expect this to become the norm rather than the exception, with finance and sustainability walking hand in hand in the same direction, and gradually becoming indistinguishable from one another. We've come a long way from the days of two separate entities pulling in different directions, while speaking different languages.

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