eight versa

How SBTi is Not for the Little Guy

This whitepaper uncovers a significantly overlooked issue with the Science Based Target initiative methodology, and why we need a more realistic approach to decarbonisation.

Contents

Introduction

Climate change is one of the most pressing long-term issues we face, and reducing Greenhouse Gas (GHG) emissions is crucial to mitigating its effects. The Science Based Targets initiative (SBTi) is an organisation that has been established to provide a framework for companies to set ambitious targets to reduce their carbon footprint and limit global warming to a maximum of 1.5°C. This initiative has been jointly developed by CDP, UN Global Compact, WRI, and WWF and has gained widespread adoption from thousands of large organisations around the world.

The SBTi definition has now become the primary reference point for achieving "Net Zero" emissions globally. The SBTi reduction pathway requires organisations to reduce their total carbon footprint by 90% by no later than 2050, against a given carbon footprint baseline. SBTi differentiates the pathway for corporates (500+ people) and SMEs (less than 500 people) with corporates being permitted to reduce their Scope 3 emissions on an intensity-basis. This Scope 3 approach for corporates allows some well needed flexibility but will likely equate to the same level of absolute reductions over time because of the requirement of making a 97% intensity reduction for Scope 3. While this goal is commendable, it is rigid and will act as a barrier to many organisations who aspire to more sustainable practices.

Bizarrely, in their latest manual (April 2023) this same level of flexibility is not applied to the businesses that need it the most; SMEs. Intensity metrics are a fundamental way to measure and manage an organisation's decarbonisation pathway, yet SBTi have chosen not to accommodate this for 99% of all businesses, i.e. SMEs. These are the small businesses that will naturally grow and become larger in the future. This position is a typical "big business" mindset and is fused with a common and dogmatic perspective of environmentalism: "The Limits to Growth" ideology.

SBTi have chosen not to accommodate **99%** of all businesses

In this white paper we demonstrate in detail why SBTi's approach to Net Zero is flawed. We explore the inflexible and unrealistic design of the SBTi methodology which makes it inaccessible for many organisations. As the SBTi framework fails to address the diverse needs of growing businesses and the demands of developing countries, where achieving Net Zero emissions is in contention with their own basic development, **then we can expect targets in the future to be missed**. We propose an alternative decarbonisation strategy that prioritises adaptability and works hand in hand with the innovation and technology needed to transition to a low-carbon economy.

eight versa

PART 1

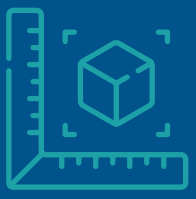
Absolute Contraction vs. Intensity Metrics

Absolute Contraction vs. Intensity Metrics

There are two approaches to setting carbon reduction targets, Absolute Contraction and Intensity Metrics. Each have key differences that impact how effective they are at achieving sustainable decarbonisation.

Absolute Contraction

Absolute Contraction sets a target based on a company's unique carbon budget, which is the maximum amount of GHG emissions that the company can emit while still staying within the temperature increase limits set by the Paris Agreement. This approach focuses on reducing a company's absolute emissions over time, with the goal of eventually reaching a 90% absolute reduction and becoming a Net Zero organisation.



Intensity Metrics

Intensity Metrics, on the other hand, take into account a company's specific circumstances and challenges, and focus on reducing emissions per unit of output. These metrics allow for more flexibility in setting targets and can be tailored to a company's needs and goals. By focusing on emissions intensity, rather than absolute emissions, companies can justifiably increase their total GHG emissions if their emissions intensity per unit of output decreases enough to compensate.

SBTi Definitions

SBTi has defined the requirements for an organisation to be Net Zero (SBTi Corporate Manual), these requirements are provided below:

	Near-term targets	Long-term targets	Eligibility
Absolute reduction	Cross-sector pathway: • Scopes 1 and 2: Minimum 4.2% p.a. dependent on choice of base year • Scope 3: minimum 2.5% p.a. dependent on choice of base year	Cross-sector pathway: 90% reduction Sector-specific pathways: • Agriculture: 72% reduction • Cement, iron and steel, residential buildings, and service buildings: >90% • Other sector-specific pathways to be added	• Scopes 1-3 • Default option
Sector- specific intensity convergence	Requirements vary dependent on sector-specific and commodity-specific pathways	Requirements vary dependent on sector-specific and commodity-specific pathways	• Scopes 1-3 • Most commonly used by heavy- emitting and FLAG sectors
Renewable electricity	Use of renewable energy certificates (RECs) or virtual power purchase agreements (vPPAs): • 80% minimum by 2025 • 100% minimum by 2030	Use of RECs or vPPAs: 100% by 2030	• Scope 2
Engagement	Suppliers or customers to set SBTs at a minimum ambition of well-below 2°C	N/A	• Scope 3 near-term
Scope 3 economic intensity reduction	At least 7% year-on-year reduction of emissions per unit value added	97%	• Scope 3
Scope 3 physical intensity reduction	At least 7% year-on-year reduction for a company-defined physical emissions intensity metric	97%	• Scope 3

Pros and Cons

The SBTi Absolute Contraction Method

Pros

- Focuses on total GHG emissions reduction, rather than emissions per unit of output
- Encourages companies to transition to zero emissions
- Aligns a single entity with the Paris Agreement to limit global temperature increase to 1.5 degrees Celsius

Cons

- Can be challenging for many companies as it requires them to hit a fixed percentage reduction target
- May not be as relevant for companies that are not major emitters or are already in low emission states
- Very restrictive for companies whose market share or business model is changing i.e. experiencing significant growth or an acquisition
- Not relevant for many companies
- May require a company to reduce in size

The Intensity Metrics Method

Pros

- Easy to understand and track over time
- Can be used to compare a company's performance to other companies in the same sector
- Tangible metric for consumers and stakeholders

Cons

- Do not take into account a company's total GHG emissions, only emissions per unit of output
- May not result in significant GHG emissions reduction if the company's output is significantly increasing
- On a per company basis does not align with the goal of the Paris Agreement

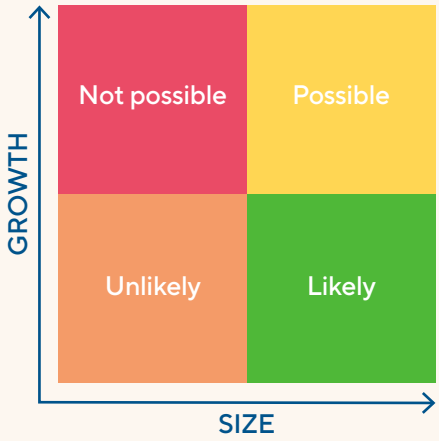
Argument for Intensity Metrics

SBTi lists the various methods that can be used to achieve Net Zero but has an explicit preference for 'Absolute Contraction'. They have confirmed that intensity-based reductions are an option for Scope 3 for any corporate. This is a welcome advance on the position taken in 2021 which made clear intensity-based reductions were only for specific sectors. However, bizarrely SBTi has confirmed that SMEs must opt for the least flexible option of all: Absolute Contraction in all Scopes, but with the concession of not needing to measure Scope 3 until 2030.

The logic of SBTi is clear: it wants to unequivocally lock-in emissions reductions from today until 2050. However, this lock-in comes at the cost of extreme rigidity and is outright unachievable for many organisations. One of the key advantages of using intensity metrics is that they allow for a more level playing field among companies of different sizes and sectors. Absolute Contraction is impractical and unobtainable for smaller organisations that have the potential to grow operationally; their carbon targets are made twice as hard by simultaneously having to grow their output while contracting emissions. In some scenarios where a company is expanding, placing a cap on an organisation's emissions will result in a ceiling being placed on company growth, as they will ultimately have to decide between making more sales and meeting the allocated carbon budget.

By using intensity targets, companies can set achievable and realistic goals that factor in their specific circumstances. This allows for fairer competition between companies, regardless of their size or sector. Crucially, intensity metrics provide better incentives for companies to innovate and adopt new technologies to reduce their emissions intensity over the long term. They are more forgiving in allowing short term increases in total emissions because of these innovations and do not disincentivise future growth and sales because of an imposed absolute emissions cap. Innovation and R&D is an often overlooked aspect of decarbonisation, however it is the essential ingredient in reaching a low carbon future without having to enter a mode of degrowth or a regression in development.

Achieving Net Zero based on Company Size and Growth using the SBTi methodology:



eight versa

PART 2

Facing Reality

Facing Reality

As we strive to reach our decarbonisation goals, we need to adopt a method that is realistic and can effectively incentivise carbon emission reductions. However, the approach of Absolute Contraction, as proposed by the SBTi, is not suitable for today's dynamic business climate.

Companies Don't Last

The truth is companies don't last forever. The average life expectancy of a successful business is only 20 years, and half of all new businesses will fail within 5 years. Only 1 in 5 will make it to their 20th birthday which is exampled by the number of household names that were established in the 2000s who are no longer in full operation today.

As such, the approach of Absolute Contraction, which takes a static, and perversely protectionist big-business view of the world is not suited to the increasingly dynamic and unpredictable business climate of today. While it may be feasible for established FTSE 250 companies with entrenched market positions to achieve SBTi requirements, growing companies face a significant challenge in simultaneously growing their sales while contracting their emissions against a lower sales baseline.

For example, consider Tesla, which has the advantage of already being one of the biggest players in the automotive industry, and aspires to be the car company of the future. Tesla's $1 trillion market capitalisation reflects the presumption that it will become a market leader and sell 10s of millions of cars a year, and in theory, save millions or 10s of millions of tonnes of carbon per year (for reference, 50% of the world's countries have a carbon footprint of 10 million tonnes of CO2 or less). However, Tesla cannot be an SBTi aligned company; it cannot increase its vehicle production by a factor of 10 while simultaneously contracting its GHG emissions.

Tesla's meteoric growth story is unique, and its potential impact on the environment is significant. However, under the SBTi method Tesla's journey would not be considered sufficient, and the company would not meet SBTi's requirements. This does not mean that Tesla is not committed to fighting climate change or that its efforts to reduce emissions are not genuine. This high-profile example demonstrates the limitations of the SBTi's approach, which fails to consider the specific challenges and opportunities that arise when dealing with fast-growing and innovative companies like Tesla.

Disappeared in the last 20 years:

Similarly, desperately needed innovative sustainability companies would also suffer the same SBTi fate. A company like Oxford PV who have achieved a breakthrough technology that makes solarvoltaic panels 30% more efficient than average panels and would unlock enormous carbon savings and allow countries to reach Net Zero more easily could not be SBTi aligned. As they expand, grow and take market share from the other less efficient producers they would fall outside the lines of their methodology. This highlights that something is clearly wrong with the SBTi definition of sustainability.

While it is worth noting that GHG emissions from large businesses are significant, **we cannot rely on this one-size-fits-all approach to tackle the problem**. We now live in a time of increasing disruption and unpredictability. The SMEs and start-ups of recent years will have experienced substantial growth over the last decade and will continue to experience growth over the coming decade.

To ensure that we are actually achieving emissions reductions and coherently working towards achieving Net Zero, we need to acknowledge the reality of the current economic and business climate. Our approach must consider the full economic picture, not just focus on incumbent big businesses. The SBTi method is a 'steady-state' approach which would have been better suited in the past when businesses were more constant and predictable, but it is no longer suitable for today's dynamic and disruptive times. We need to recognise that companies don't last forever, and that SMEs and start-ups are the big businesses of the future.

Bad Accounting

Why is using a 'steady-state' model a problem when it comes to carbon emissions? A steady-state model represents a state or condition of a system or process that does not change in time and is generally in a state of equilibrium. These models are used because they radically simplify reality and are easy to use. For example, they are already used to calculate energy consumption and carbon emissions in buildings and are used to produce Energy Performance Certificates (EPCs) which compare the relative performance characteristics of buildings. However, **we know the world is not a steady state**. It is dynamic and complex. In fact, it is so complex that we can't agree on an appropriate model of the economy. Faced with this complexity, we build models or frameworks that are useful but are oversimplified. SBTi has understandably adopted a similar approach. It seems logical but it is deeply flawed.

The issues resulting from oversimplification are currently present in multiple areas of sustainability. The idea of locking in 'carbon budgets' is also used for states and other territorial GHG accounting activities, which also doesn't work very well and creates irrational behaviours. For example, countries like the UK can claim that they have decarbonised their economy over the last 30 years, and while efficiency and technology have achieved some reductions, most of the emission 'reductions' are essentially from deindustrialising. The UK's emissions have become Asia's emissions. The consumption of material goods is higher than ever, but now goods are made in other parts of the world with dirtier electrical grids and lower environmental regulations. For example, European steel until recently had almost half the environmental impact as Chinese steel.

Appeared in the last 20 years:

octopus energy

GYMSHARK

BREWDOG

NETFLIX

wework

Uber

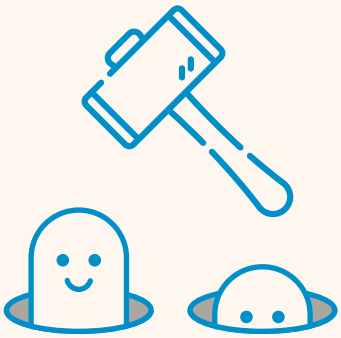
airbnb

TESLA

Another example of an environmental furore suffering from operating at an incorrect level of analysis is the UK expansion of Heathrow Airport. The expansion was objected to on account of it breaking the UK's carbon budget. However, rejecting Heathrow's expansion will have no meaningful effect on reducing global emissions. If the UK doesn't expand to accommodate flight volumes, the flights will go to Schiphol airport instead – a saving on the UK carbon budget but an increase on the Netherlands' carbon budget, and no change to global GHG emissions. This is because the flight is a by-product of wanting to travel somewhere and a new West London runway will not reduce this. This is the classic 'Tragedy of the Commons' dilemma: the problem is shared and global, but the prescriptions are insular and local, and on their own make a negligible impact on the problem.

A global perspective for a global problem is essential. This is why thinkers like William Nordhaus, a Nobel Prize economist, argue that **we need to adopt macro level rules and strategies to encourage specific behaviour**, and crucially at the optimum pace. An example of this is carbon pricing, where we have various state and country level rules, prices and systems. However, this will only be effective if it is harmonised across nations to avoid free riding by those who choose not to take part. To effectively stimulate the commercialisation of new low-carbon products and technologies crucial for the green transition, Bill Nordhaus estimates that a carbon price range of $40 to $200 is recommended. This price range, if adopted in the optimum increments, should send long term, and credible price signals to the market, which will in turn incentivise innovation and carbon reducing behaviours.

The examples above have served to illustrate why carbon budgets allocated to 'territories' - typically, by a state or within the small 'territory' of a market i.e. the SBTi route - is flawed. Territorial budgets fail to account for the systemic and global nature of the problem and create a distorted picture of emission distributions, successes, and failures as well as incentives and penalties.



WATCH: Nobel laureate William Nordhaus: The economics of climate change

Territorial Trap

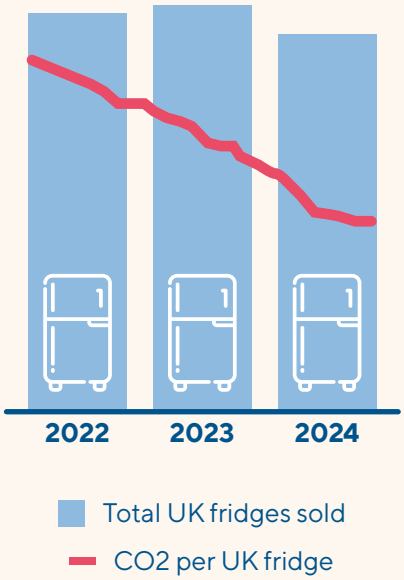
This inevitably begs the question – how should territories be treated? Taking a segment of the consumer goods market as an example: around 3.2 million fridges were sold in the UK last year, and 98% of the population has a fridge. It is likely that 3.2 million fridges will be sold this year too, and the year after. In 2019, 5 companies comprised 85% of the UK fridge market, of which some can be theoretically SBTi aligned, and some cannot. From an emissions perspective, it actually doesn't matter which company sells what; **what matters is that the average life cycle emissions of every fridge are less in 2023 than 2022** and every subsequent year going forward. The sector, *as a whole*, needs to move in sync. We will not achieve much if the half of a market that has the fortune of being able to achieve SBTi emissions contractions does so, and the other half that can't align does not.

If the environmental impact per fridge decreases adequately per annum, there will be an absolute reduction in the GHGs of the fridge market. SBTi partly adopts this logic in its alternative Physical Intensity approach, but it only applies to Scope 3. This means SBTi aligned companies can use intensity metric reductions. However, it should be noted that SBTi requires such a substantial reduction (at least 7% per annum) that the effect is as aggressive as an Absolute Contraction. Without exploiting untapped economies of scale and making some form of Absolute Contraction in various Scope 3 categories, a compounding 7% to 11% reduction target is a tall order, especially as a corporate's Scope 3 often comprise hundreds or even thousands of SMEs.

Sir Dieter Helm, a British economist and professor at Oxford University, also points out the contradictions and limitations of many current Net Zero approaches and their prescribed solutions. He highlights the dysfunction of many territorial carbon approaches and the inability to adequately account for externalities, which applies to the electricity grid energy policies right up to the whole UK's Net Zero Strategy. This leads to the question of what are the right targets and how should they be set for various products and organisations?

Clearly it is more rational to put the socio-economic interests of citizens before incurring the substantial costs of decarbonisation, especially for countries still in their development phase. Businesses in China, India, Mexico, and almost all African countries cannot commit to the current definition of Net Zero by 2050, and the chances of any organisation in these countries achieving growth and western levels of prosperity while achieving a 90% Absolute Contraction is ludicrous. However, by 2050, the global emissions from these countries will probably be roughly two-thirds of global emissions, and so without their full economic participation, global Net Zero is impossible.

The current approach to carbon accounting, which is based on territories and budgets, has inevitably embedded errors, and what is needed is a more holistic approach that recognises the interconnectedness and dynamics of the global economy. Ultimately, **we need to move away from simplistic and limiting approaches like carbon budgets and territorial accounting** and embrace more comprehensive strategies that can achieve meaningful and lasting reductions in carbon emissions. This requires acknowledging the complexities of our modern world and developing more nuanced models that are capable of accurately accounting for carbon emissions across multiple sectors and geographies.



> The chance of any organisation in developing countries **achieving Net Zero** whilst aspiring for western levels of prosperity is ludicrous

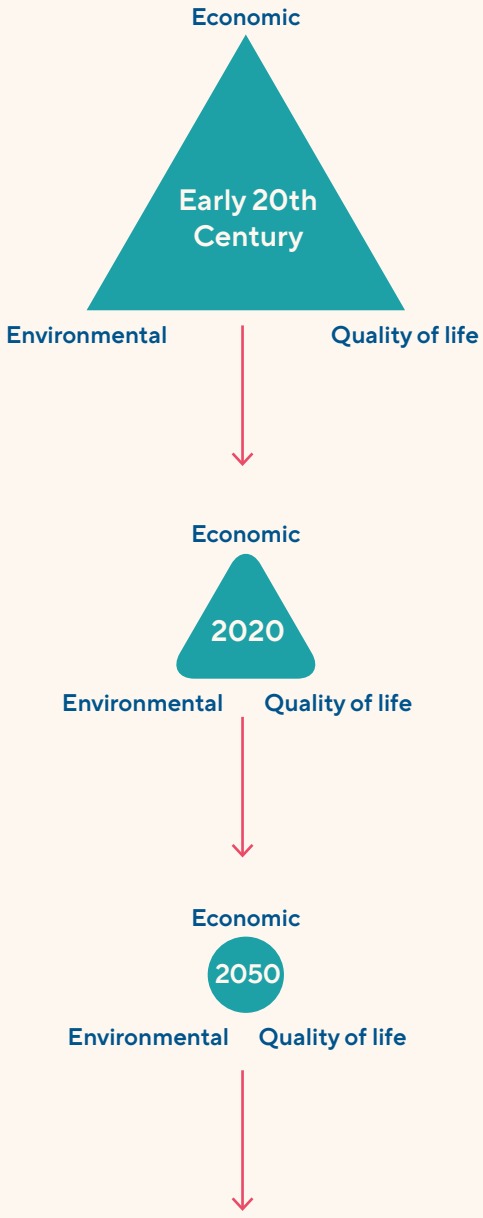
Technology Dependencies

Companies who are ready and willing to be more sustainable but cannot achieve Absolute Contraction will likely become despondent with the current definition of Net Zero and decline to participate in SBTi. Or if already participating, they will likely drop their commitment once the detail and implications of their reduction plans are laid bare, leaving them out in the cold without an 'acceptable' definition of a low carbon future. There is a reasonable concern that the alternative to immediate Absolute Contraction, such as pursuing longer term reductions based on intensity metrics, might not be an ambitious enough demand on a companies' carbon reduction efforts. However, if the objective is to reduce total GHG emissions globally and equitably, then the focus should be on how a good company who can contribute to the decarbonisation goal can grow operationally while comparatively reducing its environmental footprint.

SBTi appears to follow an environmental doctrine that disregards the importance of innovation and technology and prioritises an immediate compounding Absolute Contraction in emissions. This implies that we currently have the technological solutions available to us and need only to implement them on a large scale, or perhaps implies a belief that the commitment alone will lead to the solutions being found. However, this is not the reality and there are significant trade-offs inherent in every course of action. As of 2023, the current suite of technological solutions are not advanced enough or adequately commercialised to achieve Net Zero without a substantial cut in the standard of living and desired economic prosperity. These **Economic, Environmental and Quality of Life trade-offs** have always been a harsh reality and a persisting challenge in our development. Since we started our industrialisation some 200 years ago, the primary element that has minimised these trade-offs and provided huge leaps in prosperity while lessening the external impacts is technology.

The role of technology is to reduce the severity of these trade-offs by providing better, and more intelligent solutions. SBTi's rationale may be that the role of new technologies and R&D in the solutions to achieve Net Zero is outside their remit of consideration and their role is purely to establish a universal target setting framework. Nevertheless, we must accept that 'Net Zero', as SBTi has defined it cannot happen without multiple radical leaps in technology. To de-couple environmental impacts with our prosperity we must achieve radical transformation in energy storage, materials science, carbon capture, alternative fuels and agriculture, to name but a few. These types of advanced technologies are the only real solution to Net Zero, and if we are sincere about achieving Net Zero without a dramatic and deeply unpalatable socio-economic regression **we should dedicate the same resource priority and urgency as we did to the Covid-19 vaccine**, rather than simplistic and rigid near-term carbon targets that many organisations cannot tangibly define how to achieve.

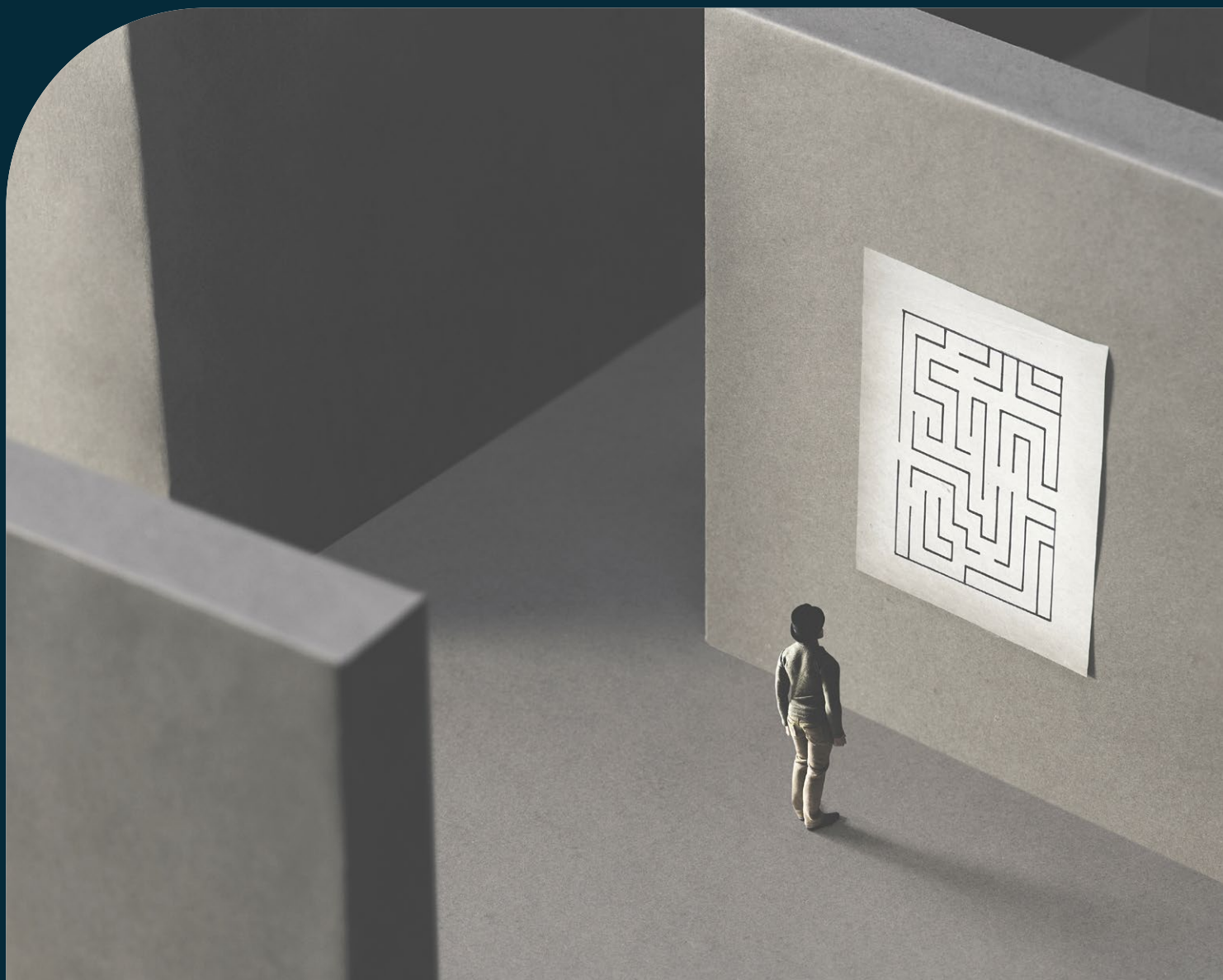
The role technology has played in reducing the trade-offs in the pursuit of human prosperity over time:



eight versa

PART 3

Realistic Approach



Realistic Approach

In the effort to mitigate climate change, SBTi has been a useful tool for companies to define their emissions trajectory and align with the aspiration to limit global warming to 1.5°C. However, the SBTi approach is highly prescriptive in nature, like following a GPS map to a destination.

Verify and Certify

While it is helpful, faithfully following the map can be counterproductive when we don't actually know the terrain or how to surmount the evolving obstacles ahead. Under these circumstances what we gain in perceived certainty, we will lose in disruption and dislocation from a dogmatic insistence on pursuing an untrodden path. What we need is a reliable compass. A more adaptable and accommodating approach that sets a clear direction of travel without dictating a rigid path and is agnostic on how one navigates the unknowable challenges that lie ahead. That means we need a more frequent, accurate and adaptive approach to decarbonisation for us to achieve widespread reductions; this is where verification and certification comes in.

It's worth clarifying that SBTi is not a verification scheme. Although it has been mistakenly perceived as one, SBTi does not claim to verify an organisation's decarbonisation pathway. Instead, it serves as a framework that can be used to validate whether companies align with its target setting over a 5-year period. This validation process differs significantly from verifying actual reductions and certifying the results on an annual basis. **To effectively advance and manage a decarbonisation pathway, organisations should obtain verification of their footprints and reductions at annual milestones from a third-party certification**. For example, a scheme like Natural Carbon Solutions which aligns with industry standards has the built-in flexibility of using intensity reduction targets which makes it perfect for SMEs and growing companies.

More frequent accreditation for an organisation's efforts ensures that they are on the right trajectory, fully aligned with industry standards and are making real and credible reductions. It also vastly increases the probability of organisations reaching their reduction targets, as they are engaging and proactively making informed decisions on a monthly basis. By achieving a robust certification, an organisation not only gets to showcase their achievements, but is also able to demonstrate a credible long term decarbonisation pathway.

> We need a more frequent, accurate and adaptive approach to decarbonisation

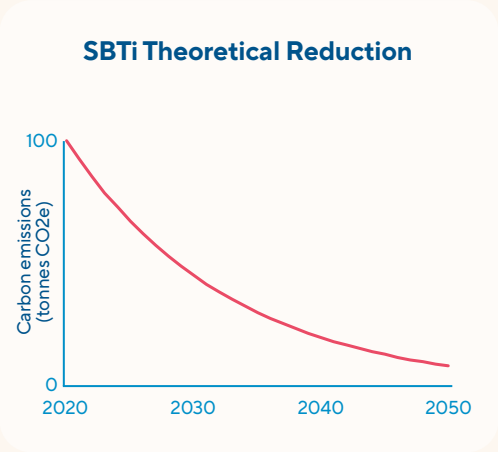
Progress Over Perfection

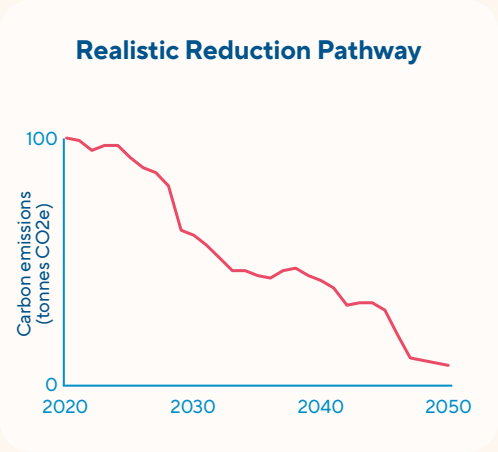
An annual verification scheme will often reveal many insights and practical opportunities that would otherwise remain hidden with a high-level company strategy. This in turn ensures organisations are better placed to set realistic and achievable long-term goals. It's important for companies to start as soon as possible to gain these insights into their footprint and learn where the carbon hotspots are before making any lofty commitments.

When making commitments we must realise that rigid annual targets ignore the reality that technological advancements, economic cycles, and political changes can, and will inevitably alter the path we need to take. As there is currently no linear path to follow, we must be willing to adjust our course as needed and recognise that the destination of Net Zero emissions is our ultimate goal.

That is not to advocate laissez-faire decarbonisation strategies. We advocate a long-term carbon reduction aspiration of 90% based solely on the carbon intensity of the organisation, with differing annual reduction targets that considers changes to the organisation over the next couple of years. What we need to be able to do is distinguish between good and bad, effective and ineffective measures. Our message to our clients and partners is always 'do everything you can'. Do everything you can within your financial resources and without compromising the basis of your product or service. Do everything you can with the parts that are in your control and invest the time to influence and inspire your supply chain to act for the long term. Some years this may result in a 2% emissions reduction, in other years when the opportunities present themselves these emissions reductions could accrue to be much higher. The point is **don't let perfect be the enemy of good**. Do everything within your control and leave no stone unturned when looking for opportunities to decarbonise.

If you are fortunate enough to be part of an organisation whose decarbonisation efforts can align with SBTi then that good fortune should be celebrated and maximised. If, like most organisations you are not able to align with SBTi, then you are not failing. Remember that this is a marathon not a sprint, and most of us will be running in this marathon for the rest of our careers. No one can see more than a mile or two ahead. SBTi may have recently defined Corporate 'Net Zero' but it does not define true progress and sustainability.





Natural Carbon Solutions

Natural Carbon Solutions (NCS), is the third-party verification and certification partner of Eight Versa and has been specifically designed to address the need for more frequent, credible and realistic decarbonisation strategies. As a certification provider for organisations' carbon footprint and reduction plans, NCS verifies that organisations have made credible and comprehensive progress in reducing their environmental impacts.

By first achieving a **Carbon Measured** certification, NCS verifies that the company's calculated carbon footprint is complete, aligned with several international standards and based on robust data. Once the baseline year has been established, organisations can pursue the **Lower Carbon** label which verifies the implementation of a successful carbon reduction plan each year. Achieving the **Lower Carbon** label means that an organisation has demonstrably lowered their emissions and aligned with the UN's Paris Agreement 1.5°C target. Gaining this certification provides a solid foundation from which organisations can set realistic reduction goals and build a long-term, low-carbon strategy.

Client Success Stories

For more information on how organisations have been achieving accreditation for their carbon footprinting efforts, see our client success stories:

Higgidy
Recipe for Reaching Net Zero

Aardman
Committed to Delivering Impact

Postal Museum
Setting Ambitious but Realistic Targets

England Golf
Prioritising Sustainable Events

Get in Touch

If you'd like to know more about how your organisation can decarbonise in a real and credible way, get in touch at **020 7043 0418** or email us at **info@eightversa.com** and our friendly experts can support you no matter what stage you are at.

About Eight Versa

Eight Versa is a multi-disciplinary sustainability consultancy with the expertise to deliver strategy, planning, implementation, and compliance. Eight Versa's multidisciplinary team of consultants, architects, engineers, and ecologists rely upon cross-industry experience and in-depth knowledge to find bespoke solutions for both the corporate and built environment.

eight versa