



## Perspective

## Corporate climate futures in the making: Why we need research on the politics of Science-Based Targets

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## ABSTRACT

In this Perspective article, we call for more scholarly attention to the politics of the Science-Based Targets initiative (SBTi). Specifically, we argue for a need to examine the emission pathways and decarbonised futures that are expressed and promoted through Science-Based Targets and what futures they render more likely in the pursuit of low-carbon transitions. We highlight how the SBTi's guidance material is characterized by a narrow and linear view of science (as input) as well as a similarly narrow portrayal of decarbonised futures (as outcome), despite the negotiated character of target-setting and the open-endedness of transitions. The SBTi thus currently tends towards obscuring the politics embedded within it and promoting an incumbent-driven transition, thereby legitimizing a transition shaped by some of the world's largest corporations and, in this sense, shielding them from democratic control. This argument illustrates the need for more scholarly engagement with the politics of knowledge that informs the SBTi and its governance framework. On a broader note, it highlights the need for continued critical engagement with corporate climate governance as it develops and takes on more ambitious forms.

## 1. Introduction

A new and seemingly different multistakeholder initiative has emerged in the world of corporate climate governance. The Science Based Target initiative (hereafter, SBTi) offers companies guidance to ensure that their climate targets are in line with the Paris temperature goals. By invoking the authority of science, the initiative appears to break with the green-washing tendencies of past voluntary schemes [1] and the discrepancy between rhetoric and action that characterises climate governance [2]. Accordingly, the SBTi has come to be widely associated with genuine climate action across different spheres [3]. In this journal, for example, the initiative has been flagged as a potential catalyst for accelerating industrial decarbonisation on a sub-national and sectoral scale [4].

The SBTi has grown to cover a substantial share of the world's biggest companies. As mapped out in the initiative's latest progress

report, the SBTi covered one third of global market capitalization at the end of 2021, with 2253 companies either having set or having committed to setting targets.<sup>1</sup> The 1082 companies with approved targets at the time had combined (scope 1 and 2) emissions of 1.5 Gton carbon dioxide equivalent (CO<sub>2</sub>e) [6], representing around 2.5 % of global emissions in 2019 [7]. The initiative has also gained traction among policymakers and investors. For example, the Biden administration has suggested that major federal contractors should be required to have SBTs [8], the Norwegian Government now expects state-owned companies to set science-based targets [9], the United Nations' high-level expert group on net zero emissions commitments has highlighted the SBTi as a best practice [10], and the SBTi's target methodology is finding applications beyond the context of the initiative itself as a benchmark for Paris-aligned investments [3,11,12].

Despite its rise to prominence, there has so far been limited debate

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<sup>1</sup> The number companies signing up to the SBTi is growing rapidly, and as of July 19, 2023, 5594 had set or has committed to setting targets, while more than 3100 have approved targets [5].

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about the science and low-carbon futures embedded within and promoted by the SBTi. Recently, there have been critical assessments of the specific methodological choices underpinning the targets set by the SBTi and calls for more transparency around these [3,13,14]. However, the SBTi is more than the sum of its targets. As a multistakeholder governance initiative, the SBTi creates and shapes expectations that chart a path towards a particular decarbonized societal future [15]. These expectations can be performative by creating legitimacy, building networks, reducing uncertainty, and attracting resources [16–18]. The performativity of expectations and anticipation in climate governance has been studied in relation to how the IPCC has narrowed down the space for desirable and potential decarbonised futures through their focus on techno-economic assessments [19]. Similarly, the expectations expressed by the SBTi also structure decision-making and have the potential to influence how a decarbonised future is shaped in the present.

Inspired by interdisciplinary approaches to sustainability transitions, this Perspective article calls for more engagement with the politics of the SBTi. We illustrate the need for critical scrutiny of the knowledges that the initiative mobilizes and ignores, as well as of the futures that it renders more likely and, conversely, effaces. Through an exploratory literature survey and review of material from the initiative, we tentatively i) explore the science (the purported input) of the initiative with a view to rendering the politics embedded within it explicit, and ii) examine what decarbonised futures (the avowed outcome) that are foregrounded and legitimized by the initiative.

Our main argument is that the SBTi as a governance framework builds on a limited set of possible scientific knowledges and lends itself to a narrowing of possible decarbonized futures and downplays contestation, favouring existing corporate incumbents. This argument is illustrated in Fig. 1, which depicts that Science-Based Targets are based on a narrow subset of possible scientific inputs and that the decarbonised futures they promote, borne out in corporate climate plans, are similarly narrow. On that basis, we argue that the initiative promotes a particular transformative process centered around technological solutions and incumbent industries. This, in turn, indicates a need for more critical scrutiny of the way the initiative mobilizes the authority of science to legitimize itself.

In what follows, we start by introducing the Science-Based Target concept and the climate governance framework orchestrated by the SBTi. We then engage with the ideas underpinning science and the decarbonised futures promoted within this arrangement. Building on that analysis, we discuss what kind of low-carbon futures this lends itself to.

## 2. The Science-Based Target initiative

Science-Based Targets offer to align company-level climate action with global temperature goals. The concept was mainstreamed by the SBTi, which launched in 2015 at the same time as the role of non-state actors was highlighted by the polycentric approach put forward in the Paris Agreement [3]. The initiative was founded by a partnership between key organisations in corporate environmental governance, namely CDP (formerly the Carbon Disclosure Project), the United Nations Global Compact, the World Resources Institute, and the World Wildlife Fund. The initiative is funded through grants from prominent foundations and corporations (present and past funders include, for instance, Amazon, the IKEA Foundation, and major steel manufacturer ArcelorMittal), as well as through charging fees for validating targets. The latter amounts to 35 % of the total income [20].

The initiative has developed two cross-sectoral target-setting methods for scopes 1 and 2<sup>2</sup> [21]. The absolute contraction approach (ACA) requires that all companies reduce absolute emissions by the same

minimum rate and is the method most frequently used, according to the initiative [22]. The sectoral decarbonization approach (SDA) assumes that some sectors will reduce emissions faster than others due to differences in mitigation costs while also taking growth projections and initial emission intensities into account. The SDA method is only available to companies producing homogenous outputs, such as electricity generators or steel manufacturers. Also, the initiative recommends or requires some sectors to use sector-specific target-setting methods, which are often variants of ACA and SDA [23]. Importantly, dedicated methods and guidance have still not (at the time of writing) been developed for the emission-intensive oil and gas sector, meaning that oil and gas companies cannot currently submit targets for validation. All SBT methods are based on global mitigation scenarios with varying regional and sectoral resolutions and one or more allocation principles that translate global (or regional or sectoral) emissions in the mitigation scenario to allowable emissions for the company in question [24–26]. Thus, depending on the method chosen for setting targets, the scenarios differ.

The initiative creates the infrastructure that facilitates the target-setting process in the form of standards, tools, and certification programmes. The main outcome of these processes is specific science-based targets, usually formulated as percentage reductions in emissions between a base year and a target year. These targets refer to one or more specific emissions scopes and absolute emissions or emission intensities; they are the goals that target-setting actors must live up to in order to “follow the science.” The specific method, company data, and specific choices and assumptions behind individual SBTs approved by SBTi are not all publicly available, effectively hiding the specifics of how corporations set SBTs [27].

The SBTi rests on a logic that makes clear the importance of target uptake.<sup>3</sup> Achieving a sufficient pace of decarbonisation is predicated on actors across the globe following emission pathways that together are consistent with global temperature goals, either by all achieving SBTs or by some reducing emissions sufficiently to compensate for those that do not follow SBT-aligned pathways. In that sense, setting and reaching a Science-Based Target represent a minimum viable action, given specific scenarios and methods.

## 3. Exploring the science of Science-Based Targets

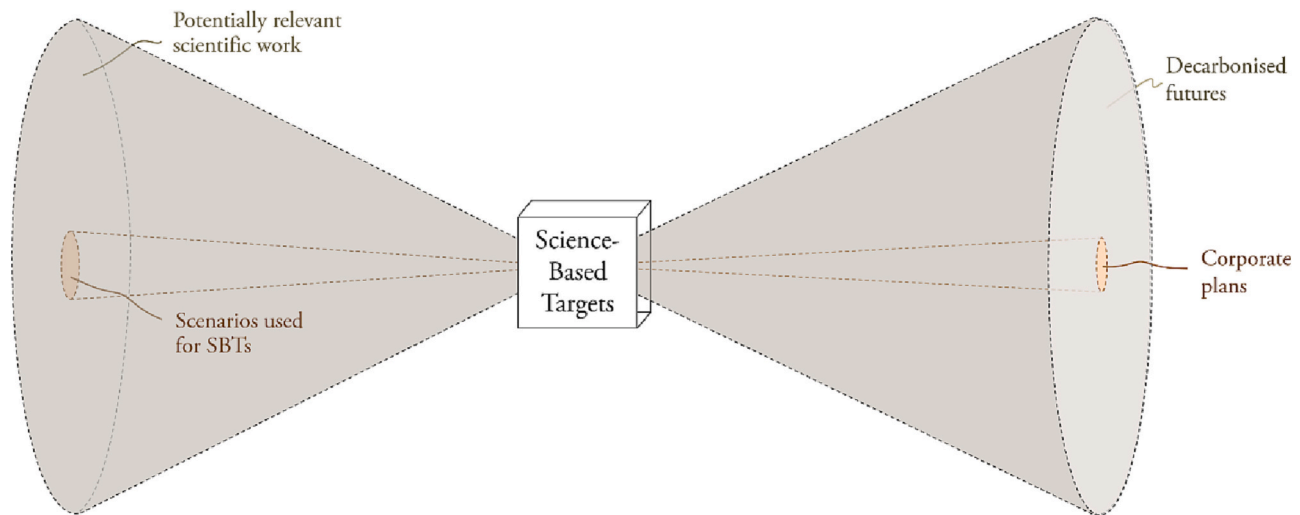
Much of the appeal of the SBTi arguably rests on its seemingly non-negotiable and apolitical starting point: a linear and idealised form of science that “tells it as it is” [29]. The SBTi itself communicates this perspective of science. For instance, in a quote on its homepage by world-renowned earth system scientist Johan Rockström, the initiative’s Net-zero Standard “gives companies a clear blueprint on how to bring their net-zero plans in line with the science, which is non-negotiable in this decisive decade for climate action” [30]. In contrast to this linear perspective, long-standing positions in the field of science and technology studies illustrate how science and politics are deeply intertwined and co-produced and that the boundaries around what is regarded as scientific are constantly drawn and redrawn [31–34]. There is therefore a need to unpack the function of science in the SBTi and explore its limits.

A key point where values inform the setting of targets is the initiative’s choice of global emissions scenarios that meet certain temperature goals (which are themselves outcomes of contingent, co-evolving historical processes<sup>4</sup> [35,36]). These scenarios embed value judgments and

<sup>2</sup> For scope 3 targets, companies can choose between a wider range of methods including supplier engagement, which implies committing to recommend suppliers to set SBTs.

<sup>3</sup> The initiative flags diffusion of innovations theory [6,28], stating that if a critical mass of a certain population adopts to a new practice, innovation or standard, the rest will swiftly follow.

<sup>4</sup> In that regard, the SBTi has recently decided that what was previously negotiable, choosing between targets that align with 1.5-degree or “well-below” 2°, has become non-negotiable starting June 2022. However, targets for scope 3 emissions are still permitted to align with the less ambitious “well-below” 2° goal.



**Fig. 1.** This schematic illustration depicts our argument that a narrow use of scientific input within the SBTi framework promotes a narrow set of expectations for a decarbonized future.

political trade-offs, for instance, with regard to acceptable risks of not meeting the temperature goal, the year of peak emissions, and, relatedly, the allowance of temporary temperature overshoot. Further examples are the reliance on specific technologies such as carbon removal, what countries and sectors carry the brunt of reductions, and ideas about future growth in energy demand and associated policy measures to drive or dampen such growth [37–39]. Therefore, the SBTi's choice of scenarios may help illustrate its implicit politics. The SDA method builds on periodically updated mitigation scenarios developed by the International Energy Agency (IEA) that invariably assume a substantial increase in production, such as a doubling of power production between now and the year 2060 in the “Energy Technology Perspective 2017 Beyond 2 Degrees Scenario” [40,41]. Despite the production growth, the IEA scenario achieves steep global emission reductions largely through the introduction of carbon pricing. Similarly, the scenario assumes that the cost of carbon sequestration and storage will drop sufficiently for it to play a major role in abatement. Specifically, the scenario involves the capture and technical storage of 11.2 Gt carbon dioxide<sup>5</sup> in the year 2060 [40,41], which corresponds to a quarter of current global annual carbon dioxide emissions [42]. By contrast, the IEA scenarios tend to include only a few direct demand-side interventions. The recent IEA net zero emissions scenario [43], used by the SDA method for setting 1.5-degree aligned targets in the power sector [44], involves only minor lifestyle changes such as reduced driving speeds on motorways and less heating and cooling of buildings. None of the IEA scenarios question the underlying premise of continued global growth in energy and material throughput, despite the relevance of alternative scenarios that are able to meet the 1.5-degree threshold with more modest expectations of technological change and a lower reliance on risky and controversial large-scale carbon removal [38,39,45].

The subset of scenarios on which the SBTi bases its target-setting methods encapsulates a mechanical and reductionist view of transitions, which tends to hide value judgments and trade-offs between different objectives [46]. Techno-economic emission scenarios close down the myriad of alternative pathways by presenting ready-made trajectories and downplaying the inevitable politics that specific pathways and the transformations they represent entail [47]. The models that are used to create global emissions scenarios tend to work by

minimising the costs of reaching a given target through the use of carbon pricing, which is typically assumed to converge globally [48]. Approaches that centralise carbon pricing conceptualise greenhouse gas emissions as a market failure, i.e., an externality to be internalised, rather than a question of societal transformation [49,50]. An important consequence of such cost optimization is that mitigation efforts are not distributed in light of principles of fairness and climate justice but rather according to a hypothetical scenario in which the global cost of reducing emissions sufficiently is at the lowest possible level [51]. In other aspects important to human flourishing, existing global emission scenarios largely project the continuation of colonial inequalities into the future, maintaining large discrepancies in per capita energy use across countries and regions [52]. Attributing mitigation efforts to actors with limited responsibility and low emissions per capita, irrespective of human needs, breaks with central principles of distributive climate justice [53]. Distributing mitigation efforts on the basis of fairness principles, which emphasise historical responsibility and the importance of existing inequalities, dictates much faster reductions for high-income countries and much less need for reductions for low-income countries than what is typically observed in techno-economic emission scenarios, including the IEA scenarios applied by SBTi [40,51,54,55].

Questions relating to distributive climate justice are also critical in relation to principles for allocating future emissions across industries and individual companies. All the initiative's target-setting methods rely, fully or partially, on grandfathering, or “legacy entitlement,” as the SBTi calls it [25], a principle that bases the right to emit in the future on present or past emissions [24,56]. Grandfathering arguably results in an unjust distribution of burdens and maintains or even deepens global inequalities by maintaining companies' existing share of global emissions going forward, irrespective of their historical emissions, capacity to transition, and the resources that they have available. Yet, there are many alternative allocation principles that better align with notions of fairness and distributive justice and could be implemented instead [53,57]. Faced with such criticisms, the SBTi recently acknowledged the normative character of this aspect of target-setting [25], breaking with the initiative's core narrative and taking a step towards openness and debate.

The process of developing and selecting scenarios and target methodologies is revealing of their negotiated character. The practice of stakeholder consultations is a core part of the initiative, inviting the public and corporate actors to co-develop sector-specific target-setting methodologies to best fit their industry. However, scenario selection, method development, and stakeholder engagement entail engaging with

<sup>5</sup> Prevented emissions from fossil fuel combustion and cement production and negative emissions from mainly biomass combustion with carbon capture and storage.



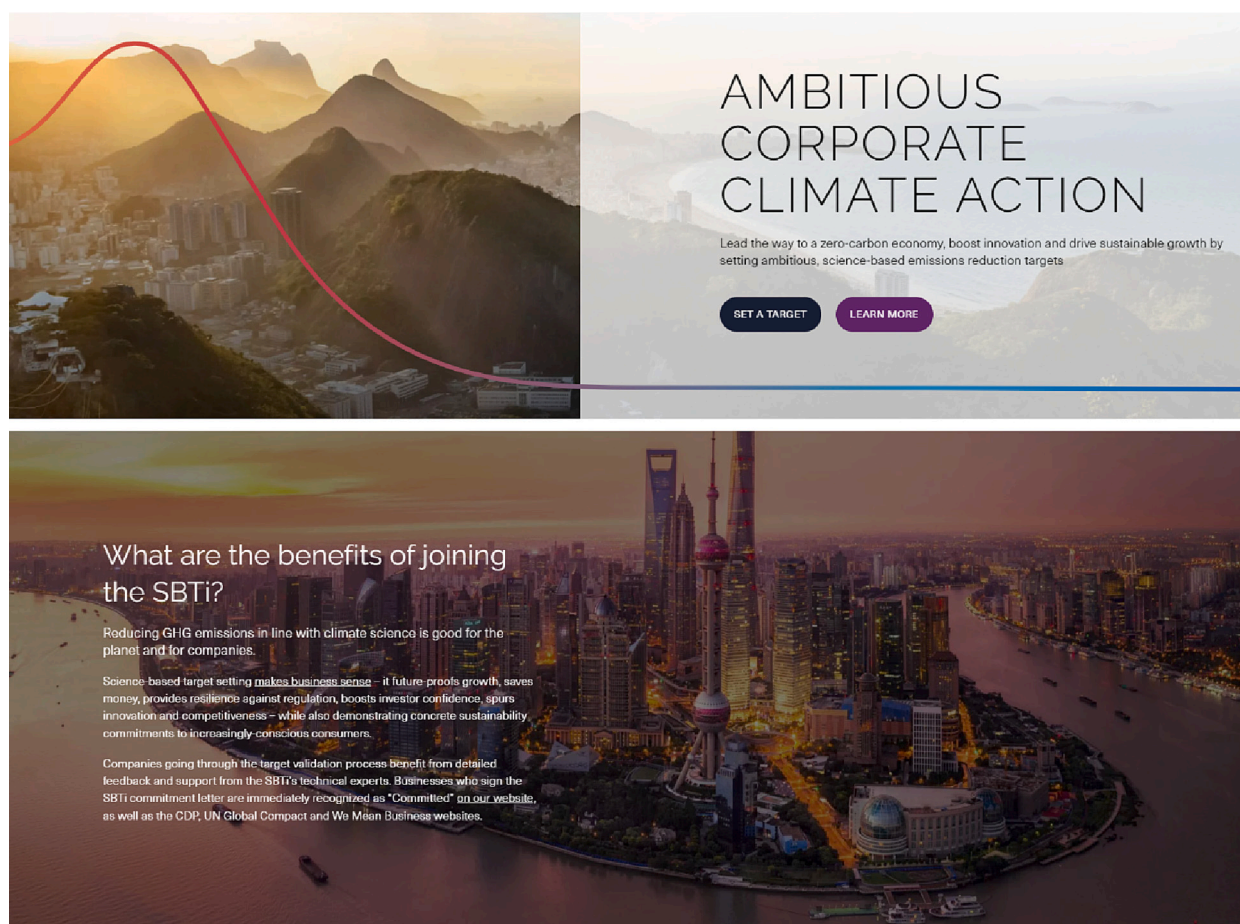


Fig. 2. Screenshots from SBTi webpage [70,71].

conditions for growth and profitability. We see this, for example, in a report mapping “barriers, challenges and opportunities” for Science-Based Targets in the chemical sector. Relying on stakeholder engagement, the report lists arguments raised by industry actors that oppose absolute reduction targets in line with the ACA [58]. These include arguments around cost pressures, too low technological readiness levels, the need for a longer timeframe, a lack of acknowledgement of research and development spending, and expectations of high demand growth. Developing Science-Based Targets in this way involves balancing scenarios and industry preferences, indicating that the description of scenarios and allocation principles as non-negotiable input is inaccurate. Instead, methods for target-setting are clearly of a more negotiated character, subject to pressures and interests.

The negotiated and value-imbued aspects of science-policy interaction are also at play in decisions around guidelines for reporting progress against the science-based targets. Here, the practice of emission offsetting stands out as particularly contentious [59,60]. SBTi announced early on that it would not allow companies to use emission offsetting to meet their science-based targets.<sup>6</sup> Yet, the initiative allows companies to use another market-based instrument to report reduced emissions from purchased electricity, namely renewable energy certificates (RECs). RECs are sold by renewable energy facilities to companies, which can use them to claim that they are powered by renewable electricity and

report zero emissions from their electricity use [62]. However, it is impossible to track the exact origin of the electricity consumed by a given company, and the purchase of RECs by that company does not increase the share of renewable energy it consumes. Moreover, corporate REC purchases are unlikely to lead to additional production of renewable energy [14,63–66]. In offsetting terminology, most RECs thus fall short on the criterion of additionality, an often-voiced criticism of offsets [63]. Despite this, the reputation of RECs is not (yet) as tarnished as that of emission offsetting in the public conversation around corporate sustainability. This may, in turn, explain why the initiative decided to allow RECs and ban emission offsetting. Thus, the reputation of specific emission accounting practices also comes into play for an initiative that relies on being legitimate in the eyes of influential stakeholders.

Taken together, these examples illustrate the value-informed and negotiated character of setting and meeting Science-Based Targets. In practice, science-based targets are scenario-based targets. They build on a subset of all pathways and knowledges relevant to transformations to sustainability [46,47]. At the same time, calling attention to the label “science” works to depoliticize the critical assumptions and value-imbued choices that are needed to construct the targets in the first place.

#### 4. The allure of win-win zero-carbon futures

The SBTi faces a fundamental dilemma between upholding criteria that are consistent with global emission scenarios and remaining attractive to its corporate clientele. In their most basic formulation, targets must align with the Paris Agreement’s temperature goals. This seemingly breaks with the widespread tendency for corporate sustainability management to be premised on specific operationalisations of

<sup>6</sup> “The SBTi requires that companies set targets based on emission reductions through direct action within their own boundaries or their value chains. Offsets are only considered to be an option for companies wanting to finance additional emission reductions beyond their science-based target (SBT) or net-zero target” [61].

decarbonisation that suit the companies in question [67]. However, to have relevance, the SBTi must remain attractive to companies and their orientation towards profit. Reflecting this dilemma, an early analysis of the initiative suggested that because it was voluntary, nobody would join [68]. As we now know, the surge in corporate interest has proven these suspicions wrong [3].

In order to resolve this fundamental dilemma, the SBTi appears to have limited its own jurisdiction. The SBTi is careful to point out that it merely helps companies set targets but has little to say about how companies meet their targets. Once targets are set, companies are free to meet them as they see fit within the stipulated accounting principles. This flexibility allotted to companies allows them to develop climate plans and strategies that meet SBTi's requirements in ways that are compatible with their existing business models but may entail a substantial risk of failure or entrench existing injustices. In other words, companies are free to rely on questionable (and socially problematic) means for meeting their SBTs, while those that fail to meet their targets ten or so years down the line will still enjoy recognition for having set them up until that point. We illustrate the potential problematics of this through a reading of the sustainability reports of a handful of food majors, showing that these tend to emphasize unproven nature-based and optimistic technological solutions as opposed to more structural changes to their business models. This exemplifies that the flexibility that companies enjoy under the SBTi regime may result in climate strategies that protect corporate actors' present market power and profits while running the risk that climate and sustainability targets are missed. In what follows, we detail and exemplify these arguments.

#### 4.1. Framing a zero-carbon future

The SBTi carefully communicates that contributing to achieving the goals of the Paris Agreement can go hand in hand with boosting competitiveness and ensuring continued corporate growth. Premised on a win-win relationship between emission reductions and "sustainable growth" [69], setting Science-Based Targets is purported to be "good for the planet and for companies" and "future-proof business growth" [70] (see Fig. 2). Further, the SBTi presents itself as a way to ensure "resilience against regulation" [70], supposedly granting companies a competitive advantage if and when stricter climate legislation comes into force. This wording is supported by imagery that reinforces the propitious storyline, depicting, for example, iconic cities in the promising light of dawn (see Fig. 2).

The SBTi's framing follows established corporate engagement strategies in sustainability governance. Attempts to "future-proof" business growth from potentially existential threats, such as climate change, are a well-known corporate engagement strategy in sustainability governance [72] and in this aspect, the initiative is not markedly different. The SBTi's promise that current incumbents have a place in a decarbonised future is embedded in the target framework in a very concrete sense, namely through the aforementioned allocation principle of grandfathering. Presupposing that the incumbent actors of today are the incumbents of tomorrow, grandfathering allocates current emitters a share of future global greenhouse gas emissions that corresponds to their share today. This assumes the consolidation of existing power relationships, or market configurations, between and within industries.

The win-win framing of the SBTi is no coincidence. Business actors were key in framing science-based targets from the get-go through a series of stakeholder engagement workshops in 2014 [13]. These workshops reached the overall conclusion that "companies need a strong business case to promote internally a science-based approach to target-setting and get buy-in" [73]. Thus, these initial workshops established the necessity of overcoming perceived conflicts between profitability and decarbonisation to be attractive to potential target-setters. Otherwise, participants feared that what would end up happening would be exactly what Trexler and Schendler [68] anticipated—that no companies would set targets.

The framing of the SBTi contributes to creating shared expectations across corporations about particular future technological and societal developments and their associated mitigation strategies. The win-win narrative this framing rests on, however, disregards conflicts between business growth and the rapid emissions reductions needed to keep the 1.5-degree target alive (or minimize the degree of overshoot), downplays the need for types of demand-side mitigation that shift or outright avoid consumption [74,75], and frames out potential conflicts between various sustainability-related goals. This is particularly problematic given the connections between the affluent lifestyles catered to by many of these corporations and ecological degradation [76–78].

#### 4.2. Making a zero-carbon future

While framing decarbonized futures narrowly in terms of opportunities for corporate growth, the SBTi grants companies maneuverability in how to set and meet Science-Based Targets. This flexibility for meeting targets pertains not only to the voluntary nature of the scheme and the lack of formal sanctions in the absence of compliance; companies also retain flexibility under the SBTi standards.

Flexibility for companies is evident, for instance, in terms of what decarbonization trajectories they can pursue under the auspices of the SBTi. Companies themselves choose between the available methods, which can lead to targets of substantially varying levels of ambition.<sup>7</sup> Having set a target for a specific year—typically 2030—companies are free to decide the path towards it. There are no interim targets or specified pathways. Companies can therefore choose to follow a path where most reductions fall close to the target year [3,79], resulting in larger cumulative emissions [80]. As such, the initiative allows for promises of potential breakthrough technologies to deliver significant reductions close to the target year, notwithstanding the risk associated with such approaches [81]. Despite such concerns, a lack of transparency remains around the specifics of how companies set SBTs [27]. Therefore, although the SBTi guidelines have raised the bar for voluntary corporate climate commitments, considerable flexibility remains.

The limited jurisdiction of the SBTi also allows for low transparency regarding climate action. A common tendency is for companies to not provide detailed information about how they intend to meet science-based targets [14]. This makes it hard to understand both if companies are acting on their targets and, if they are, what decarbonised futures their emission reduction measures help form. When companies do outline plans for meeting their targets, they tend to involve increased sourcing of renewable energy, but many companies still rely on dubious RECs (see previous section) [64,66]. In addition to the accounting problems with RECs, a focus on renewable energy supply may distract companies from measures that increase energy efficiency and other ways to reduce energy and resource demand [14].

To the extent that target-setting companies provide concrete roadmaps for decarbonisation, they tend to use their allotted freedoms to pursue mitigation strategies that maintain their incumbent status while pushing the decarbonisation challenge onto expected future technological and nature-based innovations. We see this, for instance, in food companies such as JBS, Tyson, Nestlé, and Cargill, which all have committed to or approved SBTi targets.<sup>8</sup> These companies place a lot of hope in new rangeland management techniques and animal feed to drastically reduce the greenhouse gas emissions associated with the production of dairy and beef. Similarly, they double down on existing, hitherto largely unsuccessful, initiatives to ensure mitigation in their

<sup>7</sup> If all companies choose the method resulting in the least ambitious target, there will be a significant overshoot of global allowable emissions, even if everyone meets their targets [24]. Note, however, that SBTi encourages companies to choose the method that leads to the most ambitious target.

<sup>8</sup> This paragraph is informed by our reading of the available sustainability reports and associated climate strategies of said companies as per April 2022.

value chains for beef, palm oil, soy, and cocoa that are set to put pressure on smallholders across the Global South [67]. The future projected in their sustainability plans is one of ever more intensive and industrialized animal husbandry and agricultural production to meet a growing demand. This reliance on rapid upscaling of anticipated technological and nature-based innovations and increased pressure on smallholders across the Global South is in part enabled by the SBTi's guidance for forestry, land use, and agriculture, which may allow for so-called "insetting," i.e., that reductions or removals within a company's value chain (scope 3) can be counted against other emissions<sup>9</sup> (scopes 1–2) [82]. More research is therefore needed to examine how the flexibility allotted to companies with significant land use emissions affects the credibility of their reduction targets, including how the reduction burden is shifted geographically and across sectors.

Reflecting on the above, the SBTi governance scheme works to support incumbents in maintaining legitimacy and, by extension, power in the face of pressures for radical change. To fit business interests and attract corporations, the scheme is premised upon a narrative in which a decarbonised future emerges alongside continued growth in demand and profit, without substantial contestation and trade-offs. At the same time, the SBTi approves targets while restricting its jurisdiction to that alone, prioritizing target uptake over guarantees of emission reductions, thereby playing into corporate interests. This governance structure allows companies to rely on promises of rapid upscaling of hitherto unproven strategies and innovations to meet their targets while protecting their existing production and market power, as exemplified by our reading of a handful of target-setting food companies' sustainability plans and climate strategies. Other recent analyses of companies across industries find similar patterns [14]. Thus, the risk of failure is borne by those vulnerable to the impacts of climate change. Similarly, while the strategies of target-setting companies foresee a continuation of existing unsustainable patterns of (food) consumption, they project a rapid transformation in their supply chains, which risks further squeezing suppliers across the Global South and potentially fortifying existing global inequalities [67,83].

## 5. A science-based, green corporate incumbency?

What can we see when we put together the two pieces of the SBTi puzzle that we have examined above, i.e., the stated scientific input and the foregrounded low-carbon outcome? Our tentative excursion into the science that underpins the targets and the process of setting them revealed the importance of values, choices, and negotiated interests in contrast to the legitimacy and authority communicated by the label "science-based". Regarding the envisioned outcome of decarbonised futures, we saw that the framing of the SBTi, the grandfathering allocation principle, and the room for manoeuvre in setting and meeting targets combine to foreground an ecomodernist and incumbent-driven transition. Taken together, we argue that the SBTi promotes a limited and narrowing set of expectations around decarbonisation, as illustrated by the cone diagram in Fig. 3. This narrowing happens by selecting specific scenarios and promoting allocation principles that consolidate existing emissions patterns (left-hand side of the diagram) while portraying the future as cornucopian and granting legitimacy to companies with the option to meet their (voluntary) targets as they see fit, allowing for plans entirely dependent on uncertain technological and nature-based innovations.

The narrowing of expected futures to those that appear to square decarbonisation with the interests of present-day corporate incumbents can drastically limit the potential outcome of the SBTi. It represents a

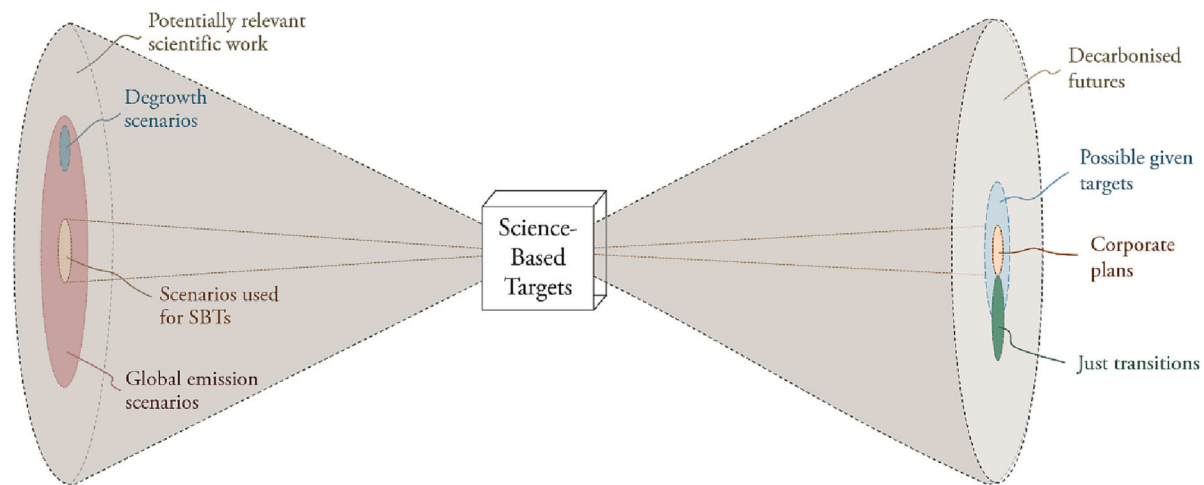
move with tremendous, albeit highly differentiated, consequences for present and future generations. Here, the SBTi serves as a shielding device to deflect public debate and regulatory pressure on corporate incumbents. Framing targets as founded in a non-negotiable climate science draws attention away from the implications of the value-laden choices and negotiated interests embedded within the SBTi framework. On a more fundamental level, this framing neglects disagreements and ontological divides regarding low-carbon transitions and industrial decarbonisation [86]. By signing up to the initiative, the promise goes, corporations lead the way towards meeting global climate goals, rendering debate, civic contestation, and public command redundant.

This notion of the SBTi as a governance initiative that shields global corporations from debate, critique, and, ultimately, public control puts it squarely in the realm of the post-political environmental consensus [87,88]. The SBTi reflects a broader tendency towards putting science in the driver's seat. Within multiple societal spheres, there are calls to make "science-based" decisions [89–91]. For instance, the COVID-19 pandemic gave rise to repeated calls to "follow the science" [92,93]. However, in responding to such calls, scientists cannot escape politics. For scientific work to become useful, it must be organised and summarised [29]. Such processes necessarily involve value-informed choices and are likely to favour input that enhances dominant development directions [34]. In turn, identified problems and proposed solutions gain salience, among other reasons, because they are legitimized by the appeal to science. The post-political environmental consensus thus invites questions about how scientists are to engage in ways that avoid fueling post-truth sentiments. A first step is to admit the politics of knowledge and the impossibility of escaping it [94]. Similarly, it invites questions about whose interests the work of scientists and associated appeals to science serve, and thus what futures scientists contribute towards creating.

In conclusion, we highlight the need for critical scholarly engagement with the politics of SBTi. While recent studies have offered practical solutions to some of the technical issues around SBTs (e.g., accurate scope 2 accounting [66], ensuring sufficient cumulative emission reductions [80,95], taking different GHGs into account [96] and enhancing overall transparency [27]), the politics of the SBTi remain largely underexplored. In particular, we want to suggest a number of research foci. First, important questions arise about the input side of the SBTi. These relate to the selection of emission scenarios and the methodology development processes, as well as the implications of different choices. For example, how would SBTs vary under alternative scenarios and considerations of distributive justice so that low-income actors and regions were given a higher share of total emissions? How would SBTs change if targets were to be set on the basis of an ambition to reorient the global economy towards serving human needs and ensuring decent lives [97]? A second set of questions pertains to the outcomes of target-setting. How does the process of setting and following up on SBTs influence the internal dynamics of target-setters, and how do companies square their targets with plans and actions? What further steps could the SBTi take to ensure that the flexibility allotted to corporations does not end up resulting in sole reliance on risk-prone pathways? Third, important questions pertain to how the SBTi influences the legitimacy of voluntary corporate governance and the possibility of crowding out regulation. How is SBTi perceived among various societal groups of actors, such as politicians, financial institutions, and consumers? How do these actor groups perceive of "science" in the SBTi and the need for oversight and regulation of corporations with SBTs, and how do these perceptions relate to the success of the initiative? We believe that scholarly attention to these aspects of the politics of the SBTi is urgently needed to critically appraise the role of SBTs in mitigating global emissions and to avoid the risk that the initiative ends up reproducing prevailing and unjust social relations, legitimizing powerful corporations, and shielding them from democratic control and pressures for transformative change. The relevance of such research increases as more companies set SBTs and as the use of SBTs expands from climate change

<sup>9</sup> At the time of writing, the SBTi evaluates the validity of insetting projects on a case-by-case basis due to the lack of a "a clear accounting methodology" and reserves the right to not approve of them during the validation process [61].





**Fig. 3.** Representation of the “narrowing” of scenarios and futures associated with SBTs, inspired by [84,85]. *Note:* The left-hand side of the diagram illustrates how targets are based on a limited set of possible global emission scenarios, which, in turn, constitute a limited subset of relevant (and potentially more qualitative) scientific work. The box in the middle represents the target-setting process and the associated target methodology (the work of the SBTi). The right-hand side represents how the futures envisioned in the corporate plans of companies setting SBTs are limited relative to what could be pursued given existing SBTs. What could be pursued is then limited relative to the array of potential decarbonised futures (and that could align with alternative targets based on, for instance, equity-oriented allocation principles).

to also include “science-based targets for nature” [98]. We thus call for more scholarly attention to the politics embedded in and espoused by this rapidly growing climate governance scheme.

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### Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

Anders Bjørn is a remunerated member of the Technical Council of the Science Based Targets initiative, appointed in the spring of 2023. In the words of the SBTi, the Technical Council “is an independent deliberation and technical decision-making body that reviews, approves, and recommends adoption of SBTi standards, guidance and methods.” The remaining authors declare no competing interests.

### Data availability

No data was used for the research described in the article.

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