
White Paper



Science Based Targets

How Organizations Can Use Target Setting To Best Address The Climate Crisis

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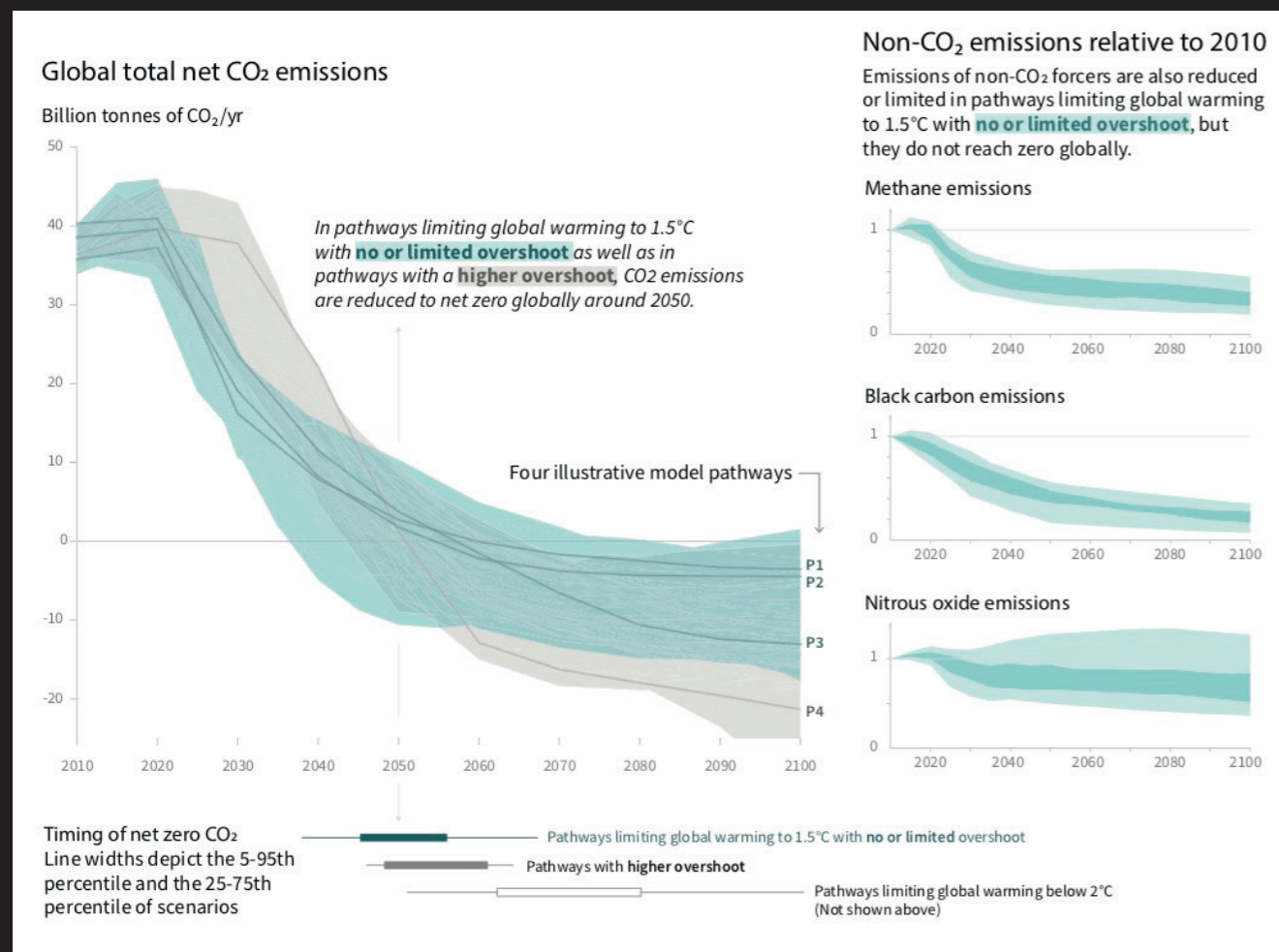


Figure 1: Global emissions pathway characteristics from IPCC (2018b). Displays four potential pathways for limiting warming to 1.5°C (P1 – P3) and 2°C (P4) with no or limited temperature overshoot.



How organizations can use target-setting to best address the climate crisis

1. Introduction

With increasing pressures from investors and the public, organizations are beginning to go one step beyond greenhouse gas (GHG) accounting by developing organizational-level emissions targets in line with climate science. By taking this step, organizations are showing their understanding of the need to contribute to global mitigation efforts in order to avoid dangerous levels of global warming.

The Science-Based Targets Initiative (SBTi) has provided organizations with a framework and criteria for setting GHG targets, while giving organizations the option of using different methodologies to do so. Choosing the right methodology may present its challenges, if seeking to set targets that are both 1) effective from a climate perspective, and 2) viable from a business perspective. The aim of this paper is thus to provide an overview of the SBTi criteria for emissions target-setting in the context of current climate science, and to provide suggestions for using their framework to most effectively address the climate crisis.

2. Current climate science

With the recent IPCC Special Report (SR15) publishing dire warnings on the impacts of global warming of 1.5°C and beyond, it has become clear that there is a desperate need to reduce emissions rapidly and substantially in order to avoid “...long-lasting or irreversible changes, such as the loss of some ecosystems.” (IPCC, 2018a). In order to reach the global goal of remaining below 1.5°C, all aspects of society will need to engage in mitigation efforts.

Figure 2 is taken from the SR15 and shows that net global CO₂ emissions must peak in 2020, and rapidly decline to reach net-zero around 2050. The central graph displays four different potential pathways (and their probability ranges), three of which fall within the constraints of the 1.5°C target (with no or limited temperature overshoot beyond 1.5°C), while the fourth only limits global warming to 2°C with at least a 66% probability. The box and whiskers plot at the bottom indicate the potential timing of reaching net zero CO₂ emissions levels. A more detailed description of the figure

is available from the IPCC's Summary for Policymakers (IPCC, 2018b).

These trajectories present a significant challenge for organizations, as they require immediate climate action and transitioning to a net-zero carbon economy. They highlight that mitigation efforts in the immediate future will facilitate more difficult mitigation efforts required in the long-term. However, every challenge comes with an opportunity: organizations could lead the way towards avoiding a climate crisis – by setting targets consistent with the global 1.5°C temperature target and taking steps to reach these targets.¹

3. Science Based Targets

While the IPCC and its scientific contributors establish global temperature targets, the SBTi is at the forefront of establishing target-setting methodologies for organizations that want to set their own targets aligned with climate science. It provides the necessary resources for setting these targets and further acts to verify targets submitted by organizations. The SBTi then publishes verified emissions targets and the associated temperature ambitions (1.5°C, or well-below 2°C) of participating organizations, encouraging organizational transparency and climate action. In light of the IPCC's SR15 report, the SBTi has updated their guidelines on target-setting. Some of its key criteria outline that:

- Targets must cover company-wide Scope 1 and Scope 2 emissions and may be combined as a single target.
- Targets must be set within 5-15 years from the date the target is submitted (considered a “mid-term target”).
- After October 2019, new targets submitted will only be accepted if they are consistent with limiting global warming to 1.5°C or well-below 2°C.
- While both absolute and intensity targets for Scope 1 and Scope 2 are recognized, intensity targets will only be accepted if “...they result in absolute emission reduction targets in line with climate scenarios for keeping global warming to well below 2°C or when they are modelled using an approved sector pathway.” (Science Based Targets, 2019b)

The full list of the criteria can be found here <https://sciencebasedtargets.org/wp-content/uploads/2019/03/SBTi-criteria.pdf>

3.1 Using SBTi's framework to address the climate crisis

As the framework given by the SBTi provides options for organizations in various stages of business development and industries, it cannot provide a prescriptive approach for every organization. It is important to keep in mind the ultimate goal of setting organizational GHG targets is to set the stage for actual and significant reductions of GHG emissions, limited to the 1.5°C emissions budget as prescribed by the latest climate science. Accordingly, choosing how to use the criteria given by the SBTi will impact how effective organizational-level targets are from a climate mitigation perspective.

So, what is the best way to use these criteria in order to set GHG targets that most successfully address our climate crisis? On the next spread is a list of tailored approaches that Ecometrica has concluded would help do this:

1) In addition to setting a mid-term (5-15 year) target, consider also setting a long-term target (beyond 15 years) for your organization.

Research has shown that organizations with longer-term targets are more likely to innovate and show interest in multidimensional climate mitigation solutions – including developing broader investment interests and working with other sectors to achieve goals (Slawinski and Bansal 2012, 2015). Taking a longer-term perspective on addressing climate-related issues facilitates more consistent organizational strategizing and preparation. Some company leaders are already setting pathways out to net-zero by 2050.

2) Favor setting an absolute target, over an intensity target.

While the SBTi does require that all intensity targets result in absolute emission reductions in line with the ‘well below 2°C’ ambition, research has shown that organizations with absolute targets are associated significantly with actual improvements in environmental performance, while those with intensity

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¹More information about what the IPCC Special Report means for businesses is available from: <https://ecometrica.com/article/ipcc-special-report-global-warming-sr15-business>

targets were not (Dahlmann et al. 2019). It is important to consider that setting targets is one thing, but achieving them is another. Intensity targets, while they may align with absolute targets in terms of actual emissions mitigated, they are less symbolic of societal demands for climate change mitigation, and more symbolic of economic and performance interests. A key concern with setting an intensity targets is that it most popularly relies on the Sectoral Decarbonization Approach (SDA) as presented by the SBTi. The SDA itself is based on sectoral activity projections drawn primarily from the International Energy Agency's (IEA) emissions scenarios. Notably, however, the IEA's scenarios are not aligned with the 1.5°C target (Science Based Targets, 2019a). Consequently, intensity targets relying on the SDA approach at this time will be limited to aligning with the well-below 2°C target – although even this target relies on an IEA scenario which assumes an unlikely mass commercialization and deployment of carbon capture and storage technologies in the near-term.

3) Set a target aligned with the 1.5° goal, instead of 'well below 2°C'.

By setting a more stringent emissions target, such as one associated with the 1.5°C ambition, organizations are more likely to actually reduce emissions (Dahlmann et al. 2019). From a business perspective, innovation, environmental performance improvements and organizational change are more likely to be stimulated with stronger mitigation commitments.

4) Set separate (instead of combined) Scope 1 and 2 targets.

By choosing to set separate Scope 1 and 2 targets, your organization may be better equipped to address reduction or improvement opportunities at the source level. By calculating and reporting on separate targets, a clear path for both scopes is visible. With Scope 1 emission sources being wholly within the control of the target setting organization, they are the easiest to

predict and estimate into the future with different technologies, business models, and initiatives. Separate targets help to avoid confusion or muddling of different emissions sources across scopes.

5) Use location-based, instead of market-based Scope 2 emissions to determine your Scope 2 targets.

Research has highlighted issues with the market-based accounting approach for Scope 2 emissions, notably that the use of purchased contractual emissions factors fails to always ensure the additionality of renewable electricity generation (Brander et al., 2018)². With such issues in mind, it is important to set Scope 2 targets that are founded upon a transparent and accurate reflection of an organization's Scope 2 emissions. Using market-based Scope 2 emissions as the basis may muddle or distract from the focus on actual physical emissions reductions.

4. Conclusion

Reaching emissions targets along a given pathway carries different effort requirements, often becoming more difficult with each year into the future. To ease the transition to a net-zero carbon economy and address the climate crisis at the same time, organizations should set targets that are ambitious and that are based upon the most accurate and reliable GHG inventories. Setting ambitious targets is encouraged by using methodologies that support the 1.5°C goal, and that are associated with developing absolute targets, setting separate scope targets, and using location-based accounting inventories as a foundation of the targets. These steps can reduce the impact of stringent and rapid emissions reductions on organizations in the long term.

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²Ecometrica provides a detailed review of issues with using electricity purchasing instruments in “Green Electricity Purchasing Instruments – Are we heading for carbon-gate?”: <https://ecometrica.com/assets/green-electricity-purchasing-instruments>

References

- Brander, M., Gillenwater, M., & Ascui, F. (2018). Creative accounting: A critical perspective on the market-based method for reporting purchased electricity (scope 2) emissions. *Energy Policy*, 112, 29-33.
- Dahlmann, F., Branicki, L., & Brammer, S. (2019). Managing carbon aspirations: The influence of corporate climate change targets on environmental performance. *Journal of Business Ethics*, 158(1), 1-24.
- IPCC. (2018a). 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. IPCC Special Report 15. Geneva, Switzerland, World Meteorological Organization.
- IPCC. (2018b). 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.)]. World Meteorological Organization, Geneva, Switzerland, 32 pp.
- Science Based Targets. (2019a). Foundations of Science-based Target-setting. Retrieved from <https://sciencebasedtargets.org/wp-content/uploads/2019/04/foundations-of-SBT-setting.pdf>
- Science Based Targets. (2019b). SBTi Criteria and Recommendations. Retrieved from <https://sciencebasedtargets.org/wp-content/uploads/2019/03/SBTi-criteria.pdf>
- Slawinski, N., & Bansal, P. (2012). A matter of time: The temporal perspectives of organizational responses to climate change. *Organization Studies*, 33(11), 1537-1563
- Slawinski, N., & Bansal, P. (2015). Short on time: Intertemporal tensions in business sustainability. *Organization Science*, 26(2), 531-549.

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