SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Draft: The SBTi Interim 1.5°C Target-Setting Pathway for Automakers

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1. THE NEED FOR AN INTERIM 1.5°C TARGET-SETTING PATHWAY FOR AUTOMAKERS

The Science Based Target initiative (SBTi) completed and delivered a "target-setting" guidance and tool for passenger transport, freight transport, and automakers Original Equipment Manufacturers (OEMs) in May 2018. These resources, developed with support from the International Council for Clean Transportation (ICCT) Partnership on Sustainable, Low Carbon Transport (SLoCaT), and Smart Freight Centre (SFC) were based on a well-below 2°C (WB2C) pathway derived from the Sustainable Development Scenario (SDS) included in the Energy Technology Perspectives 2020 publication by the International Energy Agency.

In response to the urgency and scale of the climate emergency and the success of science-based targets to date, the SBTi ratcheted its expectations for businesses by ensuring all targets align with a 1.5°C future. Since July 2022, the SBTi only validates targets aligned with a minimum level of ambition of 1.5°C for scope 1 and 2 and WB2C for scope 3. In April 2023, the SBTi updated its cross-sector near-term target-setting criteria (v5.1), requiring companies to set scope 1 and 2 targets aligned with a 1.5°C ambition. The ambition upgrade extended to Scope 3, setting the minimum ambition from 2°C to WB2C.

As the SBTi had previously required WB2C targets for Scope 3 Category 11 of automakers, we temporarily paused near- and long-term target validations and target updates for automakers until 1.5°C scope 3 methods for use-phase emissions from new road vehicles were developed and approved. This applied to all newly manufactured road vehicles classified as: new light duty passenger vehicles, new light commercial vehicles, new medium freight trucks and new heavy freight trucks. Therefore, currently automakers cannot submit scope 3 category 11 targets until 1.5°C-aligned pathways for new road vehicles are developed.

Addressing specific emission categories directly related to a company's main activity has significant potential to improve the credibility and consistency of decarbonization claims for both near- and long-term targets. As the vast majority of automakers' overall emissions originate from end-users driving the vehicles, company-wide decarbonization claims aligned with 1.5°C should accordingly be consistent across vehicle use-phase emissions, accounted for under scope 3 category 11 'use of sold products'.

As per our legacy guidance, OEMs must submit emission reduction targets covering scope 3 category 11 targets inclusive of entire portfolio sales across all vehicle categories and encompassing all regions. The minimum level of ambition for category 11 is 1.5°C, while the minimum level of ambition for near-term targets over the rest of scope 3 categories is WB2C (currently).

The SBTi aims to continue to develop methodologies that will support decarbonization at the pace and scale required by science. There is currently no sectoral decarbonization approach (SDA) for transport that allows companies to align their use-phase emissions targets of new road vehicles with 1.5°C pathways. In pursuit of the goal of attaining technical completeness, and to support companies in the transport sector that are ready to set 1.5°C aligned targets now, we are releasing an interim 1.5°C target-setting approach for automakers. This interim 1.5°C aligned target-setting pathway for automakers meets the SBTi's criteria for scenarios approved for science-based target setting: it is plausible, consistent, and responsible (SBTi 2019).

To ensure automakers can align the majority of emissions with a 1.5°C trajectory, this interim 1.5°C target-setting pathway for automakers allows the lifting of the temporary pause put in place by the SBTi while it updates the SDA Transport tool pathways and makes these respective changes to the SBTi criteria.

The SBTi is prioritizing the development of a 1.5°C aligned target-setting pathway for automakers along with a review and update of the passenger, freight, and OEM sector target-setting guidance through a formal sector standard setting process. This will involve the advice of an Expert Advisory Group (EAG), and the Technical Council, utilizing an inclusive industry and stakeholder engagement approach, with extensive opportunities for feedback from the general public

Adopting this 1.5°C target-setting also provides a short-term, accessible option for OEM companies that are ready to submit net-zero targets now. The Interim 1.5°C target-setting approach for automakers will be reviewed and may be superseded upon the completion of the sector standards update process. For more information about future plans for development of the updated 1.5°C passenger, freight, and OEM guidance, see section 4

The ICCT has modeled[1] the projected pace of the Zero Emission Vehicles transition considering government announcements and proposals, and compared these pathways with goals to limit warming to 2°C and 1.5°C. This modeling identified a pathway to staying below 2°C if governments adopt policies to phase out sales of internal combustion engine (ICE) light-duty vehicles by 2035 and heavy-duty vehicles by 2040 and hit interim EV sales milestones in 2025 and 2030.

In 2021, at the United Nations' Climate Change Conference in Glasgow there was a declaration to accelerate the transition to 100% zero-emission cars and vans (the "Glasgow Declaration")[2].The Glasgow declaration includes pledges from national governments, subnational governments, automakers, fleets, investors, and other signatories. Among them, 28 national governments pledged to work toward 100% zero-emission car and van sales (e.g., one that produces zero greenhouse gas emissions at the tailpipe) by 2040 globally and 2035 for leading markets. The minimum requirement of this interim 1.5°C target-setting pathway for automakers is that they commit to the

[1] https://theicct.org/sites/default/files/publications/ZEVTC_Accelerating-transition_dec2021.pdf

[2] https://www.gov.uk/government/publications/cop26-declaration-zero-emission-cars-and-vans/cop26-declaration-on-accelerating-the-transition-to-100-zero-emission-cars-and-vans

phase out of new internal combustion engine (ICE) cars and vans in leading markets by 2035 and by 2040 globally (the Glasgow Declaration) or earlier as per local applicable regulation, and have interim target consistent with this long-term goal, see section 3.

2. SCENARIO DESCRIPTION

The underlying data in the SDA Transport tool are sourced from the detailed transport pathways in the International Energy Agency's (IEA) Mobility Model (MoMo). The emissions scenarios embedded in the SDA tool are the 2°C scenario (2DS) and the Beyond 2°C scenario (B2DS). The SBTi interim 1.5°C target-setting approach for automakers is derived from the updated IEA MoMo.[3]

The sector pathways of the IEA Net Zero Emissions (NZE) scenario (IEA 2021) define the upper bound of sector carbon emissions for all sectors for which SBTi has developed guidance (Chang et al. 2021).[4] To ensure that the overall emissions budget for a 1.5°C temperature goal, including all sectors, is not exceeded, it is important to confirm that sector pathways derived from alternative sources fall below the corresponding NZE budget assigned to that sector.

The IEA transport team has confirmed that it is now technically feasible to produce a sector pathway for new road vehicles that is 1.5°C aligned. Currently, the B2DS scenario for new light duty vehicles results in average annual absolute reductions of 2.5% (target timeframe 2020-2050); it is therefore reasonable following the updated IEA MoMo, to use the 1.5°C cross-sector pathway as we would expect reductions equal or steeper than 4.2% for the sector.

According to the IEA's World Energy Outlook[5], the NZE scenario data shows (refer to table 1) that, on average, road transport must reduce total emissions by at least 2.7% annually between 2020 and 2030. Specifically, on-road passenger cars need to reduce emissions by at least 4.0% annually between 2020 and 2030 and achieve 98.4% reductions by 2050. The sectoral CO_2 reductions can be considered similar to the SBTi cross-sector 1.5°C ambition equivalent to 4.2% from 2020 by 2030 for increasingly more fuel-efficient new vehicles. This supports the option of allowing OEMs to use general absolute contraction as an interim method while the transport sector SDA pathway is updated.

Table 1: World Energy Outlook (WEO) NZE data shows that sectoral CO_2 reductions are similar to those of the SBTi's cross-sector 1.5°C ambition (4.2% per year from 2020 by 2030).

Net Zero Emissions by 2050 Scenario (Mt CO2)					Total % Reduction	Linear Annual Reduction	Linear Annual Reduction
	2020	2030	2040	2050	2020-2050	2020-2050	2020-2030

[3] IEA Mobility Model (MoMo)'s February 2021 version.
[4] IEA NZE sector emissions taken from World Energy Outlook update 2022 (IEA 2022).
[5] World Energy Outlook (IEA) 2022.

Road	**5485**	**3988**	**1370**	**195**	**96.4%**	**3.2%**	**2.7%**
Passenger cars	**2803**	**1691**	**422**	**45**	**98.4%**	**3.3%**	**4.0%**

2.1 Absolution Contraction Target v SDA Average Portfolio Intensity

The Absolute Contraction[6] Approach emphasizes reducing greenhouse gas emissions to a specific level regardless of the intensity growth for OEMs. By setting a specific target for emission reduction, regardless of growth, it ensures that the overall emissions decrease over time. This approach aligns with the goal of limiting global warming to 1.5°C.

The Absolute Contraction Approach is an interim method to align with near-term targets and transition towards a more ambitious net-zero target. While the SBTi is focused on achieving the 1.5°C target, the absolute contraction method provides a stepping stone towards that goal by ensuring consistent reduction in emissions.

This method considers the absolute reduction of emissions, which means companies are expected to reduce their emissions regardless of their growth or expansion plans. By using this approach, it enables the transport sector to make substantial progress while working towards more ambitious targets specific to their industry.

Currently the SBTi's target-setting approach for automakers requires the following input:

- Base year average Well to Wheel (WtW) intensity over the entire portfolio of sold vehicles in category i.[7]
- Total annual driving distance in base year (in vehicle-kilometer) for sold vehicles in category i.
- Total annual driving distance in target year (in vehicle-kilometer) for sold vehicles in category i.

Automakers using the SDA approach would demonstrate target achievement by assessing their target year weighted average WtW intensity over the entire sales of sold vehicles against their target year intensity modeled through the SDA.

Under the interim absolute contraction approach automakers need to provide the following input:

- Total use phase WtW emissions (i.e., sum of lifetime WtW emissions per sold vehicle in category i).

[6] The Absolute Contraction Approach is a one-size-fits-all method that ensures that companies setting targets deliver absolute emissions reductions in line with global decarbonization pathways.
[7] "Category i" refers to a specific category or type of vehicle. The categorization can be based on various factors, such as vehicle size, fuel type, technology, or market segment. For example, the automotive industry often categorizes vehicles into different segments like sedans, SUVs, sports cars, electric vehicles, hybrid vehicles, etc.

Automakers with an absolute reduction target for scope 3 category 11 would demonstrate target achievement by assessing target year total use phase WtW emissions, against their base year emissions levels, and determine the reduction level against their validated science-based targets. Absolute targets could still be expressed in intensity terms (per unit sold) if companies provide, in their target submission, transparent target year growth assumptions and use that to calculate intensity reductions accordingly. For example, automakers can calculate their absolute target and their target year absolute emissions, then express base and target years in intensity (using base and target year sales volumes), then they can express that absolute target in intensity terms. Automakers cannot use physical or economic intensity methods to model targets over use of sold products (category 11).

Near-term targets can be calculated using the scope 3 tab in the SBTi tool, where WtW absolute emissions for the lifetime of vehicles sold in base year (entire portfolio) shall be entered. Long-term targets must also be set and can only be validated in accordance with the SBTi's Net-Zero Standard Criteria using the Net Zero tool.

Near-term targets must cover a minimum of 5 and a maximum of 10 years from the date the target is submitted to the SBTi for validation. Long-term targets are emission reduction targets that cover more than 10 years from the date of submission.

3. INTERIM SECTOR-SPECIFIC CRITERIA FOR OEMs

3.1 As per our legacy guidance, OEMs must submit Category 11 targets inclusive of entire portfolio sales across all vehicle categories and encompassing all regions. The minimum level of ambition for Category 11 for new sold road vehicles is 1.5°C.

3.2 Automakers setting science-based targets shall commit to the phase out of new ICE cars and vans by 2035 in leading markets and by 2040 globally (the Glasgow Declaration) or earlier as per local applicable regulation, and publish this alongside their science-based targets.[8] Automakers must also set an interim target consistent with this long-term goal.

Companies must communicate the phase out of ICE vehicles as per the Glasgow Declaration commitment using the following text "Company X commits to no new sales of internal combustion engine vehicles by 2035 in leading markets and by 2040 globally (or add earlier dates)".

[8] https://www.gov.uk/government/publications/cop26-declaration-zero-emission-cars-and-vans/cop26-declaration-on-accelerating-the-transition-to-100-zero-emission-cars-and-vans

4. LOOKING FORWARD: OFFICIAL SBTi 1.5°C SECTOR STANDARDs.

The SBTi will develop a 1.5°C scenario offering a robust and credible path for the road and rail sector to set science-based targets that are aligned with 1.5°C of warming, as well as with industry expectations for technology deployment.

This interim 1.5°C target-setting pathway is intended for OEMs and automakers. Autopart manufacturers are not impacted by the OEM pathway and therefore they can use any of the scope 3 methods and are subject to the minimum Scope 3 ambition (WB2C).

The SBTi is currently working with Smart Freight Centre and will convene and engage with an EAG to update the Transport guidelines and tools to a 1.5°C transport standard. The interim 1.5°C target-setting pathway offers a robust and credible path for automakers to phase out of the ICE. However, this interim 1.5°C target-setting pathway for automakers may be superseded as part of the sector guidance update developed through the SBTi's customary sector standard development process. Updated sector guidance to a standard will be developed in consultation with an EAG, Technical Council and will include opportunity for public feedback during an open public consultation period. If the interim 1.5°C target-setting pathway for automakers is superseded by an updated pathway released alongside the updated sector standard, targets set using the interim 1.5°C scenario before the release of the updated 1.5°C pathway will remain valid. After a 6-month grace period following the release of the updated pathway, new target submissions will be required to use the updated standard.

Following the release of the updated sector standard, companies looking to undertake new submissions are advised to consult the SBTi website and most current resources for the latest information on recalculation.

REFERENCES

Chang, A.; Anderson, C.; Aden, N. (2021). Pathways to Net-Zero: SBTi Technical Summary. https://sciencebasedtargets.org/resources/files/Pathway-to-Net-Zero.pdf

International Energy Agency [IEA]. (2021). Net Zero by 2050. https://iea.blob.core.windows.net/assets/beceb956-0dcf-4d73-89fe-1310e3046d68/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf

International Energy Agency [IEA]. [2022]. World Energy Outlook 2022. https://www.iea.org/reports/world-energy-outlook-2022

Science Based Targets initiative [SBTi]. (2019). Foundations of Science-based Target Setting. https://sciencebasedtargets.org/resources/files/foundations-of-SBT-setting.pdf