Science Based Targets initiative: Chemicals Sector Project
October 2018

Purpose

This project covers scoping for development of chemicals sector science-based target setting methods and guidance. During this scoping phase, WRI will engage companies, experts, and stakeholders to identify challenges to setting SBTs using existing methods. The project will also recommend options for revising these methods and developing guidance in light of current barriers and existing resources.

Context

In December 2015, nearly 200 countries adopted the Paris Agreement, the first-ever universal climate agreement that seeks to "strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2°Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5° Celsius." On a global level, the Paris Agreement temperature target requires greenhouse gas (GHG) emissions to peak around 2020, followed by a rapid decline in emissions until net zero emissions is reached in the second half of this century.

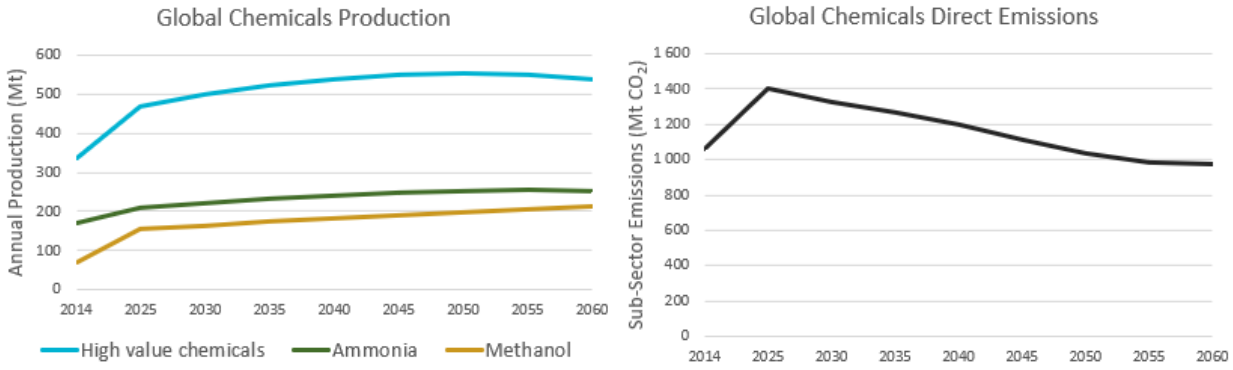
To support companies doing their part to reach a 2-degree world, the Science Based Targets initiative (SBTi) was launched in June 2015 to champion SBTs and boost companies' competitive advantage in the transition to the low-carbon economy. The initiative is a collaboration between CDP, the World Resources Institute (WRI), the World Wide Fund for Nature (WWF), and the United Nations Global Compact (UNGC), and is one of the commitments that companies can make as part of the We Mean Business coalition's Take Action campaign. The SBTi defines and promotes best practice in science-based target setting, offers resources and guidance to reduce barriers to adoption, and independently assesses and approves companies' targets. The SBTi's overall aim is that by 2020, SBT setting will be standard business practice and corporations will play a major role in driving down global GHG emissions.

Challenges and Opportunities

The chemicals sector plays a central but complex role in the transition to a low-carbon economy, not least because of the current ubiquity and increased demand for chemicals in low-carbon and energy-saving technologies. While chemical products are expected to contribute to the well-below 2-degree outcome described in Paris, emissions related to chemicals production will need to be reduced to maintain global emissions budgets. IEA Energy Technology Perspectives data indicate that current CO_2 emissions from the chemical and petrochemical sectors are the third largest industrial sector source of emissions behind cement and steel. As illustrated below (Figure 1), production is expected to grow through 2050 while total CO_2

emissions would need to drop after 2025 to maintain a 50% chance of limiting the average global temperature increase to 2°C by 2100.

Figure 1: Global chemicals sector production and direct emissions under a 2-degree scenario (2014-2060)



Source: IEA (2017); note that production data cover 3 subcategories while emissions are from a broader scope of chemicals sector activities.

The IEA's *Energy Technology Perspective* 2-degree scenarios have recently been updated with the October 2018 publication of a new *Future of Petrochemicals* report that includes a more granular Clean Technology Scenario for the sector to 2050. The new Clean Technology Scenario is more aggressive than previous ETP 2-degree pathways, for example including a 45% decline of sector carbon emissions between 2017 and 2050. Given the heterogeneity of chemicals production, and use of fossil-based feedstocks, limited data, metrics, and methods are central challenges for companies to align their targets with global well-below 2-degree pathways.

Chemical companies are increasingly orienting toward climate solutions. In a 2015 survey, 85% of chemical companies reported having a sustainability strategy—more than any other industry covered, and a 70% increase from 2009. In the same 2015 survey, 95% of chemical company executives reported that investors were paying closer attention to sustainability performance—yet only 36% said their company had developed a clear value proposition for sustainability. As of April 2019, ten chemicals companies have committed to setting SBTs via the SBTi, and five of these companies have publicly-approved SBTs.[1]

To catalyze initial companies' targets into broader sector action, there is a need for additional scoping, data, metrics, and target-setting methods. This project will identify current trends and barriers, leading to greater understanding of options for setting and achieving SBTs in the

[1] Note that this list does not include pharmaceutical manufacturers or oil and gas companies. Publicly committed chemicals companies include: Aditya Birla Chemicals India Ltd, AkzoNobel, Borregaard AS, International Flavors and Fragrances Inc. (with approved SBT), Lotte Chemical Corporation, PTT Global Chemical, Sekisui Chemical Co Ltd (with approved SBT), Sumitomo Chemical Co., Ltd, Tata Chemicals, and Zeon Corporation. For additional information, see https://sciencebasedtargets.org/companies-taking-action/.

chemicals sector. To build support for the project's findings and momentum for the development of future tools, WRI will engage numerous industry experts drawn from companies, industry associations, NGOs, research organizations, and inter-governmental organizations.

Key Expected Outcomes

Outcomes will include:

- Greater awareness of the practical challenges faced by the global chemicals industry in reducing its scope 1, 2, and 3 emissions.
- Greater understanding of the feasibility of sectoral SBT pathways that include (or don't include) the emissions reduction potential from the value chain.
- Recommended options for factoring these challenges into revised tools and guidance for setting SBTs in the industry.

Activities and Timeline

	Activity	Deliverable
1	Conduct kick-off webinar to raise awareness of the project among companies, investors and other stakeholders.	Kick-off webinar
2	Scoping phase to characterize the barriers to companies' adoption and implementation of SBTs. This scoping phase will include interviews with individual experts and an online survey.	Summary of findings from the scoping phase
3	Conduct two in-person workshops (one in the US/Europe and one in China/Middle East) to identify the barriers to companies' adoption and attainment of SBTs.	Two in-person workshops
4	Develop report summarizing barriers to SBT adoption and recommending options for engaging the chemicals sector and developing sector-specific guidance to addresses these barriers.	Summary report

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