

# Independent science key to breaking stalemates in global plastics treaty negotiations

Trisia Farrelly<sup>1,2</sup> , Susanne Brander<sup>3</sup>, Richard Thompson<sup>4</sup> and Bethanie Carney Almroth<sup>5</sup> 

## Editorial

**Cite this article:** Farrelly T, Brander S, Thompson R and Carney Almroth B (2025). Independent science key to breaking stalemates in global plastics treaty negotiations. *Cambridge Prisms: Plastics*, 3, e6, 1–2  
<https://doi.org/10.1017/plc.2025.2>

### Corresponding author:

Trisia Farrelly;  
 Email: [trisia.farrelly@cawthron.org.nz](mailto:trisia.farrelly@cawthron.org.nz)

<sup>1</sup>School of People Environment and Planning, Massey University, Palmerston North, New Zealand; <sup>2</sup>Transdisciplinary Science Group, Cawthron Institute, Nelson, New Zealand; <sup>3</sup>Department of Fisheries, Wildlife, and Conservation Sciences, Oregon State University, Oregon, USA; <sup>4</sup>School of Biological and Marine Sciences, University of Plymouth, Plymouth, UK and Northern Ireland and <sup>5</sup>Department of Biological and Environmental Sciences, University of Gothenburg, Göteborg, Sweden

More than 70 independent plastics experts from the Scientists' Coalition for an Effective Plastics Treaty ('The Scientists' Coalition') attended what was expected to be the final negotiating session (INC5) of the global plastics treaty in Busan, Republic of Korea, from 25 November to 1 December 2024. While a treaty was not agreed upon, the meeting in Busan catalysed a surge of momentum among nations seeking an ambitious outcome. This was most palpable at a press conference held by the newly established 'Coalition of the Willing' on the second to last day comprising more than 100 countries led by Rwanda, Panama, Mexico, France, Fiji, and the European Union. At the press conference, the 'Coalition of the Willing' mobilised and laid down their red lines, refusing to agree to anything less than a binding treaty that would address the full life cycle of plastics, including production reduction targets. Regardless of the efforts of high-ambition countries, a consensus was not realised due to push-back from major fossil fuel and petrochemical-producing countries.

From an evidence-based perspective, we maintain that an effective treaty that is successful in fulfilling the mandate outlined in United Nations Environment Assembly Resolution 5/14 will require binding obligations to reduce production, as indicated by numerous scientific publications and reports (e.g. Baztan et al., 2024; Bergmann et al., 2022; Brander et al., 2024; OECD, 2024; Simon et al., 2021; Villarrubia-Gómez et al., 2024; Walker and Fequet 2023). The urgency for action is underscored by evidence that links increasing plastics production with climate change, biodiversity loss, and human rights violations (Schmidt et al., 2024; Lavers et al., 2022; MacLeod et al. 2021; Stoett et al., 2024; Varvastian, 2024). The Scientists' Coalition, along with observers from over 440 organisations attending INC5, had little opportunity to enter negotiating spaces in contact groups, where specific topic areas, such as those related to plastics products, chemicals of concern, and financial support for systemic change, were negotiated. In addition, much of the negotiations occurred in 'informals' where observer access was denied and there were scant opportunities for observer statements in plenaries where all delegates were present. We note that these decisions indicate efforts to move negotiations forward in a timely manner. However, they also bring into question the democratic legitimacy of the process as they could be seen as a departure from the norms and practices established in United Nations multilateral agreements designed to include all relevant representatives and experts including scientists, Indigenous peoples, and non-government organisations (UNEP and UNNGLS, 2020).

The 'compilation text' (draft treaty text) produced at INC4, Ottawa, April 2024 was a 70-page bloated version of the previous zero draft treaty text and full of square brackets (indicating lacking agreement). To focus on and facilitate future negotiations, the Chair released the first two of five synthesised versions of the compilation text in the period between INC4 and INC5 (the intersessional period). The final version, released on the final day of negotiations in Busan, is known as 'the Chair's text'.

During the week in Busan, our scientists focused their time and expertise analysing conference room papers from groups of aligned countries and the Chair's updated non-papers/text and rapidly sending evidence-based responses to member states including Spanish and French translations to increase accessibility.

Three Articles of the Chair's text particularly lack agreement among member states: Article 3 'Plastic Products'; Article 6 '[Supply] [Sustainable Production]'; and Article 11 [Financial [Resources and] Mechanism. Controls will be needed for all three articles to effectively end pollution across the full life plastics cycle, significantly reduce the use of plastic chemicals demonstrated to harm health and the environment and provide the proper financial support to ensure a just transition.

For Article 3, the Scientists' Coalition recommends binding obligations based on globally harmonised criteria as well as initial and broadly inclusive lists of hazardous plastic chemicals and products of concern in an annex of the treaty as suggested in the Mexico

© The Author(s), 2025. Published by Cambridge University Press. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted re-use, distribution and reproduction, provided the original article is properly cited.

 Cambridge Prisms

 CAMBRIDGE UNIVERSITY PRESS



Photo Credit: Richard Thompson.

/ Switzerland conference room paper. The establishment of a dedicated science body free of conflicts of interest will be essential to the success of the treaty. A key role of the science body will be to add new products and chemicals of concern to those lists over time.

There is an option for no text (that is, to delete the article) in Article 6 along with a second option detailing obligations to reduce production. Based on robust evidence, it is the position of the Scientists' Coalition that, if there is no article to control the supply of plastics there will be insufficient plastic production regulations, and the treaty will be largely ineffective.

Plastic pollution represents one of the world's most intractable socio-environmental challenges which disproportionately impacts vulnerable communities, particularly those in small island developing states (SIDS) and other low-income countries. These countries must have equitable access to the financial support needed to protect themselves from further plastic pollution and to mitigate the harms of existing plastic pollution. Therefore, it is the view of the authors that text regarding a new dedicated independent multi-lateral financial mechanism be included in Article 11. The new financial mechanism would need to give the Conference of Parties the mandate to ensure just and fair distribution of funds to countries most in need to support the implementation of the treaty across the full life cycle of plastics. Contributions to the fund should include relevant public and private sectors across the full life cycle of plastics including those operating at extraction and production phases.

Successful agreement to a global plastics treaty represents a once-in-a-lifetime opportunity to address the global plastics crisis. The venue and date for INC 5.2 are yet to be confirmed, but the Scientists' Coalition will continue to provide independent evidence to enable fully informed negotiations to negotiators in the run-up to, and during, the next phase of negotiations. Depending on our ability to secure funding from sources free of conflicts of interest, the Scientists' Coalition will also provide ongoing support in the treaty implementation phase.

**Supplementary material.** The supplementary material for this article can be found at <http://doi.org/10.1017/plc.2025.2>.

## References

- Baztan J, Jorgensen B, Almroth BC, Bergmann M, Farrelly T, Muncke, J., ... Wagner M (2024). Primary plastic polymers: Urgently needed upstream reduction. *Cambridge Prisms: Plastics*, 2, e7. <https://doi.org/10.1017/plc.2024.8>.
- Bergmann M, Almroth BC, Brander SM, Dey T, Green DS, Gundogdu S, ... Walker TR (2022) A global plastic treaty must cap production. *Science* 376(6592), 469–470. <https://doi-org.ezproxy.massey.ac.nz/10.1126/science.abq0082>.
- Brander SM, Senathirajah K, Fernandez MO, Weis JS, Kumar E, Jahnke A, ... Wagner M (2024) The time for ambitious action is now: Science-based recommendations for plastic chemicals to inform an effective global plastic treaty. *Science of the Total Environment* 949, 174881. <https://doi.org/10.1016/j.scitotenv.2024.174881>.
- Lavers JL, Bond AL and Rolsky C (2022) Far from a distraction: Plastic pollution and the planetary emergency. *Biological Conservation* 272, 109655. <https://doi.org/10.1016/j.biocon.2022.109655>.
- MacLeod M, Arp HPH, Tekman MB and Jahnke A (2021) The global threat from plastic pollution. *Science* 373(6550), 61–65. <https://doi-org.ezproxy.massey.ac.nz/10.1126/science.abg5433>.
- OECD (2024) *Policy Scenarios for Eliminating Plastic Pollution by 2040*. Paris: OECD Publishing. <https://doi.org/10.1787/76400890-en>.
- Schmidt C, Kühnel D, Materić D, Stubenrauch J, Schubert K, Luo A, ... Jahnke A (2024). A multidisciplinary perspective on the role of plastic pollution in the triple planetary crisis. *Environment International* 193, 109059. <https://doi.org/10.1016/j.envint.2024.109059>.
- Simon N, Raubenheimer K, Urho N, Unger S, Azoulay D, Farrelly T, ... Weiland L (2021) A binding global agreement to address the life cycle of plastics. *Science* 373(6550), 43–47. <https://doi-org.ezproxy.massey.ac.nz/10.1126/science.abi9010>.
- Stoett P, Scrich VM, Elliff CI, Andrade MM, Grilli NDM and Turra A (2024) Global plastic pollution, sustainable development, and plastic justice. *World Development* 184, 106756. <https://doi.org/10.1016/j.worlddev.2024.106756>.
- United Nations Environment Programme & United Nations Non-Governmental Liaison Service (2020) *Stakeholder Engagement Handbook*. UNEP/UNNGLS. <https://www.unep.org/resources/publication/stakeholder-engagement-handbook>
- Varvastian S (2024) *Human Rights Approaches to Planetary Crises: From Climate Change to Plastic Pollution*. Taylor & Francis. <https://doi.org/10.4324/9781003436133>.
- Villarrubia-Gómez P, Almroth BC, Eriksen M, Ryberg M and Cornell SE (2024) Plastics pollution exacerbates the impacts of all planetary boundaries. *One Earth*. <https://doi.org/10.1016/j.oneear.2024.10.017>.
- Walker TR and Fequet L (2023) Current trends of unsustainable plastic production and micro (nano) plastic pollution. *TrAC Trends in Analytical Chemistry* 160, 116984. <https://doi.org/10.1016/j.trac.2023.116984>.