

Science is being ‘downcycled’ at a crucial phase of the UN plastics treaty

Tackling plastic pollution requires a strong scientific basis – but researchers’ voices are being drowned out by those of lobbyists.

The fourth round of negotiations on a global treaty to end plastic pollution starts next week. The good news is that nations meeting in Ottawa have given themselves until the end of this year to produce a legally binding agreement. The bad news is that countries are further apart than they were last year. A 31-page draft of the text has ballooned to nearly 100 pages, which contain a wide spectrum of positions. Countries have not even decided on how to reach a final agreement on the draft text. At this stage, the talks could completely fall apart, or the end result might be too weak or too narrow to be meaningful.

The negotiations are being organized by the United Nations Environment Programme (UNEP). As is customary, scientists are meant to be able to observe the talks and also advise those attending the discussions. But researchers have told *Nature* that they are often not in the negotiation room (see page 475). Worryingly, fossil-fuel-producing countries and industries are lobbying to narrow the treaty’s focus on rules and targets for recycling plastics. Such targets are important, but a lot more is needed to end plastics pollution. All parties need to get a handle on the colossal scale of the problem, and they must honour their promise to place science at the heart of the talks.

Plastics are used extensively because of their highly useful properties – they can be moulded into many shapes and are lightweight, hygienic, cheap to make and good insulators. For these reasons, plastics production is increasing sharply. In the past two decades it has doubled to more than 450 million tonnes annually. But we now know that, because of their huge downsides, their use needs to be limited.

Around 25% of all plastics manufactured end up polluting the environment. Of this, 6 million tonnes end up in rivers and along coastlines annually. These materials degrade into micro- and nanosized particles that have been found almost everywhere, from Arctic ice to Antarctic snow – and even in the stomachs of unborn babies. The greenhouse-gas emissions associated with plastics amount to almost 1.8 billion tonnes of carbon dioxide – 3% of the global total in 2019. Many of the chemicals, such as per- and polyfluoroalkyl substances (PFAS), that are used to make and treat plastics are persisting in the environment and are proving toxic to it.

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Alternatives must be found and serious steps need to be taken to tackle waste. If there are no suitable alternatives, nations must invest in the infrastructure necessary to recycle the materials and ensure that manufacturers take responsibility for the full life cycle of their products. And they must ensure an equitable and just transition that protects people whose jobs depend on the industry.

But we’re not seeing countries take such steps in the lead-up to the negotiations in Ottawa. Instead, discussions have been dominated by persistent lobbying by chemical-industry associations and by some fossil-fuel-producing nations, notably Iran, Russia and Saudi Arabia. They want to focus, for instance, on recycling and on pollution-limiting rules, rather than on eliminating plastics altogether, partly to allow production to continue on current scales.

Moreover, researchers are being sidelined when there is so much they could help to resolve. They include, for example, members of an international network, the Scientists’ Coalition for an Effective Plastics Treaty, who provide scientific advice to low-income countries that might not have their own research expertise.

Much is known about the toxicity, biology and chemistry of plastics pollution, and the economics of the industry. But there are gaps, especially around how various aspects of the plastic production and disposal streams affect people and their livelihoods. For example, how would a ban on plastics affect waste collectors, who rely on discarded products to earn a living? Research is needed to resolve these issues and to make the treaty work.

The world’s environment ministers proposed strengthening research-based policy advice on plastic pollution. An anticipated mechanism called a Science–Policy Interface for Plastic Pollution has not been established yet, although negotiations for setting it up are continuing. Furthermore, scientists have been unable to observe the talks, which they should be allowed to do under UN rules. But researchers need to be able to participate meaningfully in the debate.

Many scientists were unable to get accreditation for the first three negotiation rounds. This is because publicly funded universities had been included in the ‘government’ category, which meant that their researchers would have had to be accredited as representing their governments, which they don’t. In January, UNEP clarified that those at public universities that are autonomous from their governments can apply. But it is not yet clear whether this change has made it easier for academic researchers to get accreditation.

Successfully navigating treaty talks requires finding common ground despite nations’ competing priorities. One of the strengths of the present system of organizing talks is that all those involved agree that discussions will be guided by independent scientific knowledge. This is a foundational principle. Moreover, science has brought nations together to agree on a treaty – its role cannot be diminished now.

Finding solutions to the plastic problem has to be a multisectoral, multinational and genuinely collegial effort. No amount of recycling is going to stop the deluge of plastic coming into the economy. Negotiators need to accept that the only way that better waste management and recycling will work is if less plastic is made in the first place.