Hazardous Substances Advisory Committee (HSAC)

Horizon Scanning to Identify Future Chemical Issues

January 2021

Commission

Defra and the Environment Agency would like the HSAC to participate as panellists in a horizon scanning exercise using a Delphi like method to identify future chemical issues. This will collate and list of issues and then shortlist them to identify a consensus based final 15. Issues must meet the following criteria:

- Be novel or represent novelty through a step-change in impact
- Have potentially substantive positive or negative impacts on chemical pollution in the environment at a UK or global level
- Appear likely to have greater impact in the future.

Delivery

Committee members will be asked to participate as members of a wider multi-sectoral, multidisciplinary panel between February and the end of March 2021 to identify and shortlist issues. It is anticipated that this will take up to 15 hours of each member's time. If the standard of the work and its outputs are of high enough quality, then HSAC members will be requested to lead and coordinate the drafting of a scientific paper for submission for publication in the peer reviewed literature between April and June 2021. At minimum a report will be produced for the Defra Chemicals Team with the findings from the work which HSAC may be requested to contribute to this.

The committee will be updated on progress on the work at meetings in February and March. A timeline for the work is included in the background below.

Background

Following the UK's Exit from the European Union Defra has a new opportunity to develop our own approaches to chemicals to achieve the 25 Year Environment Plan ambition to pass on to the next generation an environment protected and enhanced for the future. A key part of this will be the Chemicals Strategy: its ambition is to ensure chemicals are safely used and managed and that the levels of legacy harmful chemicals and those entering the environment are significantly reduced. It will set out the Government's vision for a Chemicals

Framework, building on a robust statutory regime and our international obligations, and set out how we intend to develop important policies. This horizon scan will inform futures thinking within the development of chemicals policy at Defra to enable more proactive policy making and enhanced preparedness. It will allow potential threats and opportunities to be identified for potential mitigation or exploitation.

Chemicals are an intrinsic part of our everyday lives with a wide range of applications from consumer products and food, to healthcare, construction, transport, crop protection and green energy. Societal and consumer behaviour, policy interventions and new innovations in related (and what may be perceived as areas unrelated to chemicals) may have unexpected impacts on chemical emissions and consequent pollution in the environment, positively or negatively. Horizon scanning can help to identify the future threats and new opportunities associated with these.

In previous HSAC discussions on the development of a Chemicals Strategy and the Prioritisation and Early Warning System, the committee has recommended the Delphi Method as an effective approach to horizon scanning, highlighting success of the approach by Sutherland et al in the annual Global Conservation Horizon Scan. This is credited with identifying issues such as nanomaterials and microplastics as future issues in publications in 2008 and 2010 which have now come to fore over the last few years in UK and European policy. It was considered to have a role to play in providing a forward look and developing thinking on emerging problems beyond identifying individual chemicals and towards considering issues and process that could impact pollution.

Our Delphi approach has been co-designed with the Environment Agency's Horizon Scanning and Futures Team. The process is as follows:

Our process is split into three stages, which take place over approximately two months starting in February 2021. We have refined the process based on participant feedback. Below is a brief outline, with further details about each stage:

Stage One (max 90 mins)	Issue submission. Participants are asked to identify two novel and far-reaching chemical related future issues that could impact on pollution in the environment. They submit these issues via a template provided by the facilitator. **Start: Monday 8th February. Deadline: Friday 26th February.**
Stage Two (approximately 6 hours)	There will be a combined total of up to 50 issues identified by the panel. Participants score all the anonymised issue submissions based on criteria provided and return their scores to the facilitator. The facilitator converts the scores into rankings. **Start: Friday 5th March. Deadline: Friday 19th March**

Stage Three (max 30 mins)	The facilitator sends a list of the ranked issues back out to the participants to rescore and rank the top issues to produce a consensus based top 15. **Start: Wednesday 24th March. Deadline: Wednesday 31st March**

Total time = approximately 15 hours.

The results will be shared with Chemicals team in Defra, related policy areas teams and regulators in Government agencies via a report and presentation. There is scope to publish the results in the peer reviewed scientific literature if there the quality is high enough and there is appetite and a suitable journal can be identified.

Policy linkage

Horizon scanning activity provides a forward look which could provide useful input into the development of a Chemicals Strategy, a key activity of the 25 Year Environment Plan to meet strategic objective 2 (pass on to the next generation an environment protected and enhanced for the future) by ensuring that exposure to chemicals is managed (Defra outcome 2.7). The results will also be shared with related policy areas relating to chemicals and environmental pollution where the findings may also find application.

Supporting Papers

Sutherland et al. (2019) Ten Years On: A Review of the First Global Conservation Horizon Scan. Trends in Ecology and Evolution **34** (2) pp 139-153 https://doi.org/10.1016/j.tree.2018.12.003

Dinsdale et al. (2020) Horizon Scanning Exercise for Identifying Future Chemical Pollution Issues 2021 – Introductory Document.