Executive Summary: Opportunities for pollution prevention, long-term goals and quick wins

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Right now, the UK Government is developing a chemical strategy that will define the future of the current chemical pollution crisis. This strategy provides a unique opportunity to deliver safer products and a healthier environment, and to secure the UK's position as a global leader in green chemistry and sustainable innovation.

By setting ambitious targets and committing to key policies and milestones, we believe this strategy can fulfil the promises that political leaders have made to the UK public, meet the commitments laid out within the 25-year Environment Plan, and drive the UK towards a modern, sustainable, and secure economy.

This briefing summarises Fidra's position paper on the UK chemical strategy, which sets out the case for an ambitious chemical strategy supported by public opinion and industry statements. This includes 10 key 'Principles for Sound Chemical Management' (Appendix 1), and based on Fidra's areas of expertise, proposes the policy commitments described in Box 1 as achievable steps towards these overarching goals.

Where are we now?

The UK currently has a severe chemical pollution problem. All monitored rivers and lakes in England are polluted and the number of water pollution incidents is rising. 75% of chemicals produced across the EU are classified as hazardous to health and/or the environment, whilst 18% of consumer products contain illegal amounts of restricted chemicals. Meanwhile, global chemical production has increased fifty-fold since 1950 and is set to treble again by 2050.

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Chemical pollution is impacting our health, and that of future generations. 1.3 million deaths globally, every year, can be attributed to chemicals in the home, community or workplace. Chemical pollution is fuelling biodiversity loss and undermining nature's ability to adapt to, and mitigate against, the climate emergency.

However, chemicals are also fundamental to both modern society and our economy. Chemical innovation has the potential to tackle many large-scale societal problems, from the development of modern medicines to climate change mitigation and improved product recyclability. To maximise this potential within a sustainable framework, Fidra recommend 10 key 'Principles for Sound Chemical Management' (Appendix 1).

Building a regulatory system for a thriving economy.

Recognising the global trend towards sustainable investment and marketing, this chemical strategy provides a unique opportunity to create a regulatory landscape that meets the needs of modern business, and drives innovation towards new and emerging markets.

For example, the UK has numerous businesses developing innovative alternatives to unsustainable food packaging materials. Implementing clear policy that restricts the use of persistent chemicals, PFAS, ahead of other nations, will drive and support British innovation into new materials that are already under increasing global demand.

Reducing the use of harmful chemicals in consumer products is also vital to an effective circular economy. Under the current system, hazardous chemicals limit the reuse potential of materials and contaminate recycling streams. Harmful chemicals used in electronics are found in recycled plastic cutlery and children's toys, and bisphenols added to thermal papers contaminate paper recycling and sewage sludge. Creating a chemical strategy that reduces the use of hazardous chemicals, and ensures transparency and tracebility throughout supply chains, is therefore a vital prerequisite to an effective circular economy.

Cutting the cost of chemical pollution

Alongside key opportunities for economic growth, this chemical strategy also provides an important mechanism for cutting the costs associated with environmental pollution, both now and in the future. Remediation of contaminated land cost over £52 million of public money between 2000-

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2013. Where wastewater technologies exist to remove hazardous chemicals, these are often prohibitively expensive and energy intensive. Source reduction must therefore be prioritised above remediation.

Chemical restrictions save money. For example, restricting just one harmful substance, tributyltin (TBT), is estimated to have generated €20-160 million for the EU through increased commercial fishing. Across the EEA, the annual health related cost of PFAS exposure is estimated between €52-84 billion. A cost which could be offset through chemical restrictions.

Support for a sustainable future

Public concern for the environment is at an all-time high, with 93% of people surveyed worried about the impact of chemicals on the environment.

Meanwhile, companies are increasingly engaging in voluntary initiatives to improve their chemical footprint, from removing bisphenols from till receipts to committing to PFAS-free food packaging. But voluntary initiatives alone are not enough.

Fidra's own retailer survey showed widespread support for legislative action. Chemical legislation was seen to provide clarity, consistency and a level playing field for proactive companies.

Conclusions and recommendations

To achieve sustainable economic growth this chemical strategy must create a regulatory framework that prioritises health and environmental protections. Fidra highlights the policy commitments below as achievable actions towards this overarching goal.

Box 1: Key policy commitments recommended for inclusion in UK chemical strategy:

- Commitment to phase-out all non-essential uses of per- and poly-fluorinated alkyl substances by 2030, with a clear timeframe of intermediate policies to address ongoing use where suitable alternatives are already available (e.g. food packaging, fire-fighting foams, cosmetics, non-protective clothing).
- Implement a ban on the manufacture and sale of food packaging containing intentionally added PFAS by 2022.
- Implement a ban on the use of *all* bisphenols in thermal papers, including till receipts by 2022.
- Revise legislation, regulation and enforcement of chemicals used as treatments in livestock farming including aquaculture, to ensure that restricted or banned chemicals cannot be applied through alternative paths, i.e. as disinfectant.
- Ensure environmental quality standards are statutory for all chemical applications in livestock farming, including aquaculture and especially for formaldehyde, methanol and hydrogen peroxide.
- Require transparency in livestock farming industries, including aquaculture, through publicly accessible databases or 'sustainability dashboards', including information on chemical use and frequency of application.
- Require supply chain transparency and traceability through full chemical disclosure, development of National Materials Datahub and 'smart labelling' of products.
- Ensure that the health impacts from fire toxicity and chronic chemical exposure are included in the remit for the revision of 'The Furniture and Furnishings (Fire) (Safety) Regulations 1988', alongside fire safety considerations.
- Commit to a minimum requirement to keep pace with EU chemical restrictions, for a limited time period, allowing UK regulatory processes to be developed and implemented whilst maintaining ongoing progress in chemical safety.

Further details and references are available within the full document: Fidra (2021) Opportunities for pollution prevention: long-term goals and quick wins. https://www.fidra.org.uk/wp-content/uploads/Fidra-Position-Paper_Chemicals-Strategy.pdf

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Appendix 1: Principles for Sound Chemical Management

Fidra believes that sound chemical management for the prevention of pollution nes to be based on the principles outlined below:

1. **Chemical Policy Integration:** Recognising the reach of chemicals across all sectors, governments and organisations must move towards 'mainstreaming', or integration, of chemical policy, ensuring consideration of chemical use and impacts are included in all relevant decision-making.

2. **Ending unnecessary use of chemicals:** All producers, manufacturers, retailers and consumers need to identify and undertake measures to reduce non-essential chemical usage. Voluntary efforts must, in turn, be supported by underlying regulatory principles that prevents the use of chemicals of environmental concern for all non-essential functions.

3. **Proceed with precaution:** The precautionary principle must be applied when considering the use and restriction of chemicals. To implement the precautionary principle, we advocate a chemical class-based approach. Restrictions limiting the use of known chemical hazards or chemicals of emerging concern should extend to include similar compounds within the relevant chemical class unless the safety of these chemical analogues can be demonstrated.

4. **Supply chain transparency:** Full materials disclosures are essential to enable the identification of known hazards at all levels within the value chain and will allow supply chains to react efficiently to newly identified hazards, substances of concern and legislative changes.

5. **Access to information:** Transparency and accessibility of data for all users will ensure safe use, reuse and recycling within a circular economy and enable informed decision-making at all levels from primary sale to end-of-life disposal.

6. **Assess and reassess regularly:** Thorough and regular assessment of the emerging evidence base is needed to ensure consumer and environmental safety is maintained.

7. **Enforcement:** Strict enforcement with regular checks and prohibitive penalties for non-compliance, should be applied across all stages of the supply chain.

8. **Who pays:** In line with the polluter pays principle, the economic model should be such that the full financial burden of disposal, management and clean-up is borne by the producers and suppliers of chemicals and products containing chemicals, not the public.

9. **Strong evidence base:** Research and long-term monitoring are essential in providing policy, industry and society with the knowledge, predictive understanding and tools necessary to ensure safe use of existing chemicals and the early identification of emerging contaminants.

10. **Chemical justice:** Those impacted by chemical pollution must be considered and represented in chemicals governance and decision making. Routes to influence must be established for those impacted by chemicals pollution, informing legislation and industry practices.

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