

2 August 2018

Submission to the Defra Consultation “Environmental Principles and Governance after EU Exit”

Overview

- The Society recommends that the proposed statutory policy statement on environmental principles should clarify the interpretation and application of the precautionary principle to ensure that it does not prevent new technologies being developed safely, in ways and for purposes which the public feel comfortable with.
- The UK is respected around the world for its proportionate approach to regulating emerging technologies in a way that balances emerging scientific understanding and competing values, and should identify and learn from this good practice when developing the proposed environmental body.
- Horizon scanning and public engagement will be critical functions of the proposed body to ensure that the benefits for the environment arising from research and innovation can be fully realised.
- A more effective regulatory system for the commercial production of plants and animals using genetic technologies would result from a shift in emphasis from the method by which an organism is produced towards the trait that has been introduced.

Introduction

1. The Royal Society is the UK’s national academy of science. It is a self-governing Fellowship of many of the world’s most distinguished scientists working in academia, charities, industry and public service. Its fundamental purpose is to recognise, promote, and support excellence in science and to encourage the development and use of science for the benefit of humanity.
2. This response draws on the Society’s work on genetic technologies and their regulation, the precautionary principle, UK research and innovation policy, and data management and governance.

Question 2: Do you agree with these proposals for a statutory policy statement on environmental principles (this applies to both Options 1 and 2)?

3. The stated intent to create a new, comprehensive policy statement setting out the environmental principles which will guide our environmental policy-making and legislation, in a similar way to existing EU principles, is an important opportunity to define and provide clarity over the interpretation of these principles. Your consultation document provides a list of widely-recognised environmental principles, including the precautionary principle, defined as “Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”. The Society’s response focuses on the interpretation and application of this principle.
4. The precautionary principle has been applied to the regulation of genetic technologies used in agriculture. In this context the Society has found that decisions based on the precautionary principle have failed to take into account the possible benefits of using a new technology, the risks of not using a new technology, and the relevance of evidence that emerges after a

decision based on the precautionary principle has been made¹. To address these concerns, the government should take the opportunity to clarify that the interpretation and application of the precautionary principle should:

- include an assessment of potential benefits alongside potential risks, and take into account the uncertainties associated with both;
- assess the risks of *not* taking action alongside its assessment of the risks associated with taking a certain course of action; and
- include the reassessment of the need for any restrictions when new evidence becomes available after a reasonable period of time, thereby helping to ensure that any restrictions that are no longer scientifically justifiable are removed.

Question 5: Do you agree with the proposed objectives for the establishment of the new environmental body?

5. We welcome the stated objectives that the new environmental body act as a strong, objective, impartial and well-evidenced body alongside the objective that it operate in a clear, proportionate and transparent way in the public interest, recognising that it is necessary to balance environmental protection against other priorities. The UK's world-leading research base provides an excellent source of new ideas and discoveries, which, through innovation, can result in advances in our economy, social and cultural well-being and health. The UK is respected around the world for its proportionate approach to regulating emergent technologies in a way that balances emerging scientific understanding and competing values², and should identify and learn from this good practice in the development of the body.
6. Policymaking is increasingly dependent on complex evidence that could help unlock solutions of great economic and social value. High-quality expert advice should be based on an assessment of the overall strength of the available evidence. If there is no strong consensus, or if knowledge is still tentative, these uncertainties should be reflected in the advice³. Other factors, such as moral values, also play a legitimate role in shaping policy. In all cases, the Government should be transparent about why decisions have been made and should clearly distinguish scientific evidence from political considerations.
7. In order to fulfil the objectives set out in the consultation, horizon scanning and public engagement will be crucial functions of the proposed body. Horizon scanning is a useful strategic tool for government decision-making. Tangible activities for horizon scanning include proactive listening and evidence gathering, and staying in touch with potentially disruptive areas of research and practice. Organisations able to undertake this function well must have the capacity to identify and explore potential futures around specific issues to help identify questions, manage risk or enable well-founded public debate.
8. The public also play an important role and should be involved from the earliest stages of policy development. Public engagement can help to ensure that research and innovation is open and inclusive and that citizens make informed choices about their lives and the lives of others. In this way, informed public engagement can help to ensure that the benefits arising in research and innovation can be fully realised.

¹ Royal Society (2014) *Submission to the Commons Science and Technology Committee inquiry into GM foods and the application of the precautionary principle in Europe* <https://royalsociety.org/~media/policy/Publications/2014/response-to-hoc-sandt-committe-inquiry-on-gm.pdf>

² Mark Walport, Claire Craig (2014) *Innovation: Managing risk, not avoiding it*.

³ Royal Society (2018) *Evidence Synthesis* - <https://royalsociety.org/topics-policy/projects/evidence-synthesis/>

9. Informed public engagement should:
- be a dialogue rather than a one-way activity;
 - be open;
 - have a demonstrable capacity to influence policy;
 - explicitly articulate the competing values at stake, and include evidence as part of discussions of future scenarios.⁴

Question 14: Do you have any other comments or wish to provide any further information relating to the issues addressed in this consultation document?

10. In leaving the EU, the UK might look to reshape the aspects of its regulatory system that apply to the commercial production of agricultural plants and animals using genetic technologies. This is of course dependent on the final withdrawal agreement reached with the EU and whether the UK chooses to diverge from EU regulation of agri-food.^{5]}
11. Paragraph 97 of the consultation document notes “The EU’s activities sit within the unique circumstances of creating and enforcing a union and a single market among the Member States. This consultation seeks to establish which functions and activities can be closely replicated in a domestic setting and where a different approach may be required.” As noted in our response to question 2, we believe that the current application of the precautionary principle to the regulation of genetic technologies used in agriculture is problematic.
12. This is in part because the debate around the governance of agricultural innovation should not be limited to the safety of one specific technology, but rather extend to the evidence-based assessment of what constitutes a sustainable and resilient agricultural system. The EU’s process-based approach to regulation results in inconsistencies because the same phenotypic trait, for example resistance to an herbicide, may fall in or out of scope of the regulations (i.e. it may be judged to represent a different risk) simply because of the way it was introduced. Moreover, technological developments quickly outpace process-based regulations, leading to the regulations failing to capture emerging technologies. This is demonstrated by the fact that the European Commission has been debating since 2015 whether plants and animals created using new genome editing techniques should fall inside or outside the scope of the existing genetically modified organism regulations. The ruling was published on 26 July 2018.
13. The Society considers that a more effective regulatory system would result from a shift in emphasis from the method by which an organism is produced towards the trait that has been introduced⁶, similar to that in operation in Canada⁷. This system would be more resilient to the introduction of new technologies and more likely to deliver environmental protection and food safety. Under the terms of Canada’s trade deal with the European Union, any products that are defined by the EU as a genetically modified organism have to go through the EU’s regulatory process before they can be imported by any EU member state.

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⁴ Royal Society and British Academy (2017) *Data Management and Use: Governance in the 21st century*

⁵ The July 2018 White Paper on the Future Relationship between the UK and EU states an intent to instigate a common rulebook for **goods including agri-food**, covering only those rules necessary to provide for frictionless trade at the border – meaning that the UK would make an upfront choice to commit by treaty to ongoing harmonisation with the relevant EU rules, with all those rules legislated for by Parliament or the devolved legislatures;

⁶ See recommendation 2 of EASAC (2013) *Planting the Future*, p.37

⁷ EASAC (2013) *Planting the Future*, par. 2.3.5 (pp. 16-18)