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RSC Science & Technology Department

Royal Society of Chemistry
Burlington House
Piccadilly, London
W1J 0BA, UK

Tel +44 (0)20 7437 8656
Direct line +44 (0)20 7440 3333
Fax +44 (0)20 7734 1227
Email bhattif@rsc.org

www.rsc.org

Policy & Communications Directorate

Institution of Chemical Engineers
Davis Building
Rugby, Warwickshire
CV21 3HQ, UK

Tel +44 (0) 1788 578214
Direct line +44 (0) 1788 534 454
Fax +44 (0)1788 560 833
Email sturney@icheme.org

www.icheme.org

RSC/IChemE joint response to the Government Office for Science review of 'the quality, management and use of both natural and social science in the Food Standards Agency'

The RSC and IChemE welcome the opportunity to comment on the Government Office for Science review of 'the quality, management and use of both natural and social science in the Food Standards Agency'.

The RSC is the UK Professional Body for chemical scientists and an international Learned Society for advancing the chemical sciences. Supported by a network of over 44,000 members worldwide and an internationally acclaimed publishing business, our activities span education and training, conferences and science policy, and the promotion of the chemical sciences to the public.

IChemE is the hub for 27,000 chemical, biochemical and process engineering professionals worldwide. We are the heart of the process community, promoting competence and a commitment to sustainable development, advancing the discipline for the benefit of society and supporting the professional development of members

If you would like further information or need anything in this document clarified, please do not hesitate to contact me.

Yours Sincerely

Farrah Bhatti

Contact details:

Ms. Farrah Bhatti
Science and Technology Executive
Email: bhattif@rsc.org

Ms. Sam Turney
Technical Project Manager
Email: sturney@icheme.org

Royal Society of Chemistry
Burlington House
Piccadilly, London, W1J 0BA, UK
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1. Develop a clear, overall science strategy

The RSC and IChemE strongly support the objective that the FSA should publish their science and innovation strategies. In order to develop an effective science strategy, the FSA must involve internal and external stakeholders across all sectors that contribute to food science. The chemical sciences have an impact on the entire food chain; beginning with primary production, flowing through raw ingredient and product manufacture, to retailer and, finally, to the consumer. Issues of food safety, composition, labelling and nutritional value are all affected by chemical science technologies. In order to prioritise research and formulate a clear science strategy, the FSA must consult more widely within the scientific community. It is important that organisations such as the RSC and IChemE are not overlooked in this process.

The current science strategy of the FSA recognises issues relating to food safety, healthy eating and choice as major themes of research; however it fails to recognise the importance of sustainability in food production and supply, and the impact this has on food safety. Increasing population and the effects of climate change mean that the world's food-supply is not sustainable without changes in technology, business practice and consumer behaviour.

2. Horizon scan – to identify future science-related issues

The RSC and IChemE believe that effective horizon scanning will only be possible if the FSA engages with other government departments and external stakeholders. Leadership should come from the learned institutions, which will need to work together to provide scientific authority and common guidance. This must be based on strong scientific evidence, which is only possible if the appropriate experts from across the scientific community are involved.

The RSC and IChemE are in the process of finalising a report on 'Chemical Science Priorities for Food Production and Sustainability', which identifies the huge impact new technologies will have on, among other things, food safety. From novel disinfectants and materials for food hygiene, through to analytical and diagnostic methods for improved food traceability, the chemical sciences have a major role to play in the future. By consulting with

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the RSC, IChemE and other learned institutions, the FSA will be able to draw on the expertise provided by our extensive network of members.

The FSA must promote a shared understanding of horizon scanning and ensure that relevant findings from horizon scanning are passed on to other government departments and stakeholders.

3. Review and harness existing science and identify gaps and opportunities for future research

This area links strongly with 1 and 2 above. The RSC and IChemE do not consider it to be creditable to develop a science strategy without a clear understanding of the strengths and weaknesses of existing scientific technologies. For the FSA these should be considered in the context of identified needs. There are many chemical technologies that can be harnessed and developed, but these will have to be applied within the broader context of climate change and careful planning for the future of the planet.

In light of the increasing demand for food, as a consequence of the increasing global population, the RSC and IChemE are concerned that key scientific technologies that improve the sustainability of the food supply are often disregarded because of a lack of understanding of issues related to food safety. Widespread resistance to the use of GM foods in the UK and Europe is an example of this. The RSC and IChemE would encourage a comprehensive review on the safety of current scientific technologies, such as genetic modification, irradiation, cloning and nanotechnology. This process must be transparent, and the findings should be widely disseminated at all levels to ensure that both government and the public are well-informed on the basis of strong scientific evidence.

Learned organisations such as the RSC and IChemE will have a key role to play in the identification of gaps and opportunities for future research. Horizon scanning will identify future science related issues, and the FSA in conjunction with the research councils must ensure that the investigation of new and innovative science is appropriately funded.

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The FSA must develop closer links with EFSA and other European food agencies; many of the gaps and opportunities for future research will not be unique to the UK.

4. Commission and manage new science; and,

5. Ensure the quality and relevance of the science they carry out and sponsor

The RSC and IChemE reiterate the importance of transparency of process and engagement with a wide range of external stakeholders to ensure that the science carried out and sponsored by the FSA is relevant to current scientific technologies and future areas of importance.

6. Use science and scientific advice

The RSC and IChemE agree entirely with the statement that “there needs to be an effective bridge between the experts and the policy makers”. However for this to happen some of the policy makers must have an understanding of the scientific method. They do not have to be “experts” but they do need to understand the language and should preferably hold a science degree in a related area. At the same time, the RSC and IChemE acknowledge that it is equally important for the experts to understand the political process.

The RSC and IChemE are concerned about science-related policy constructed in the absence of scientific evidence. It must be widely understood that policy formulated without evidence is unreliable and that it should be modified as necessary when evidence becomes available. There are examples (for example, with respect to food additives) where this does not seem to occur.

In addition, the RSC and IChemE emphasise that good regulation needs to be based on risk assessment. This requires evaluation of both hazard and exposure and is a much better measure of the likelihood of harm than hazard alone.

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7. Publish results and debate their findings and implications openly

An agreement on intention to publish should be explicit in all research contracts. This is necessary because in some areas individuals fail to recognise that their research is publishable.

8. Share, transfer and manage knowledge

The FSA must have robust procedures for the timely dissemination of “best practice” within the agency and across other government departments. The scientific community has benefited from the introduction of specific knowledge transfer networks; lessons of how best to transfer and manage knowledge can be learnt through them.

9. Follow the Guidelines on Scientific advice and policy making and the Code of Practice for Scientific Advisory Committees

The RSC and IChemE believe that the FSA should follow the guidelines on scientific advice and policy making and the code of practice for scientific advisory committees.

10. Use, maintain and develop scientific expertise (including both capacity and capability building)

The RSC and IChemE reiterate that policy makers must have an understanding of the scientific method. Scientists within the FSA who are able to understand issues at the science-policy interface should act as a bridge between the experts and policy makers. These scientists will only be able to take into account the full range of scientific opinion if they are kept up-to-date with current trends and the progress of scientific research within the wider community. Regular scrutiny of their expertise and further development through their careers should be encouraged; participation in appropriate scientific meetings and policy seminars held by organisations such as the RSC and IChemE will be hugely beneficial.

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