

## Case Study: Understanding Public Perceptions of Specific Applications of Nanotechnologies

Between October 2014 and September 2015, the Department for Environment, Food and Rural Affairs (Defra) ran a public dialogue, supported by the Sciencewise programme, to explore public opinions on the potential benefits and risks of use of nanotechnologies in four specific circumstances. This public dialogue provided valuable insight for policymakers on this developing area which can be used to inform future regulation, frameworks and policy.

### 1. Background

Nanotechnologies allow products containing them to be lighter and stronger, therefore offering significant potential economic benefits. However, as with any new technology or chemical, there are also concerns about their toxicity to humans and impact on the environment. There are a wide variety of nanotechnologies currently being developed. Therefore, to focus the public dialogue, Defra presented the public with four specific applications of nanotechnologies to discuss: in paints and coatings, fuel additives, contaminated land remediation and sunscreen. Having specific applications to focus on allowed the dialogue to offer useful insight on public attitudes to inform policymakers. This focus also allowed the public dialogue to build on previous public engagement on nanotechnologies in general.



Figure 1. Image from project Evaluation Report.

Participants thoughts on nanotechnologies varied depending on the specific application, risks to health and environment and the problem it attempts to solve: they were more favourable towards use in fuel additives and less favourable towards use in sunscreen. The dialogue also identified the importance of there being a trusted regulator who was independent, transparent, accountable and reputable to ensure public safety whilst encouraging innovation. The dialogue was overseen and supported by an Advisory Group, was framed by a stakeholder consultation event and then consisted of three public dialogue events with forty members from Birmingham and surrounding areas.

### 2. Impact

This public dialogue occurred upstream in the policy process and met a “long-standing request by Ministers to understand more about the public’s views on nanotechnology in

general and will enable decision makers in Defra and BIS to react to any likely policy decisions on nanotechnology that they are likely to face over the next few years”<sup>1</sup>.

The public dialogue enhanced Government and industry’s understanding of public attitudes on the use of nanotechnologies, particularly with regards to the four specific applications discussed. Upon completion it was expected that this dialogue would provide

useful evidence in any Government submission to the Registration, Evaluation, Authorisation and restriction of Chemicals (REACH) future directives, and that findings would be formally shared with the European Commission. The involvement of the Chemical Industries Association was beneficial in building a partnership with industry<sup>2</sup> with experts expecting the dialogue would also contribute to the responsible innovation debate through the Nanotechnology Environment and Health Industry Group. In addition, it was noted in the project evaluation report that if, through continued innovation, momentum gathered to lift the 2005 moratorium on use of nano Zero-Valent Iron (nZVI) in land-remediation, this public dialogue would prove a useful resource in shaping that policy process<sup>3</sup>. Finally, Defra also identified the impact the dialogue findings would have on related issues such as the cleaning of water and novel breeding techniques<sup>4</sup>

A senior civil servant involved with the project concluded “This was a very worthwhile exercise providing not just policy makers but industry and academic colleagues the opportunity to directly engage with members of the public and each other on a vast array of potential different applications of nanotechnologies over a series of structured events. I was very pleased to have been able to take part in the dialogues the results of which have provided some longstanding and telling insights that have shaped the thinking of those involved.”<sup>5</sup>



Figure 2. Image from project Dialogue Report.

### 3. Vital Statistics

Commissioning Body	Defra and BIS (now BEIS)
Duration of Process	October 2014 – September 2015
Number of Participants	40 Public and 36 Stakeholders
Budget of Project	£105,420 (£42,676 from Sciencewise, remainder from Defra)
Dialogue Contractor	OPM Group
Evaluation Contractor	URSUS

<sup>1</sup> Ursus Consulting Ltd. 2015. Evaluation of the Public Dialogue to understand public perception of specific nanotechnologies. Pg.iii

<sup>2</sup> Interview conducted with a Defra representative.

<sup>3</sup> Ursus Consulting Ltd. 2015. Evaluation of the Public Dialogue to understand public perception of specific nanotechnologies. pgii

<sup>4</sup> Post-dialogue Interview conducted with a Defra representative

<sup>5</sup> Post-dialogue interview conducted with a Defra representative