

This response was submitted to the consultation held by the Nuffield Council on Bioethics on Emerging biotechnologies between April 2011 and June 2011. The views expressed are solely those of the respondent(s) and not those of the Council.

RESPONSE

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The work and experience of CBET in nanotechnologies in the arenas of EU FP7 nanotechnology projects (FP7-NanoImpactNet, NapolyNet and COST-FA0904) and CEN/ISO (standardisation) labelling of nano-products, has demonstrated to us that technological applications in the field are or should be of great ethical and policy concern because these technologies are increasingly running ahead of corresponding developments in:

the scientific and technology fields of

- Nanotoxicology (immunotoxicity, genotoxicity, ecotoxicity etc.)
- Nanometrology and characterisation
- Safe and effective waste disposal (soil, water, atmosphere) of the end-of-life products of emerging technologies
- Adequate understanding of DNA and protein-synthesis and interactive (e.g. protein-folding) behaviour in the living system in response to nanoscale particles and fibres

The regulatory field in which

- REACH is still inadequate in regard to these nanoscale technologies (the nanoscale does give us new materials, otherwise we would have no technological interest in them)
- there is lack of harmonisation of a wide range of overlapping regulatory instruments (cosmetics, health and medicine, electronics, environment, waste disposal etc.)
- the applicability of the recent Environmental Liability Directive 2004/35/EC to this field is unclear
- we should assume a longer-term and life-cycle perspective in relation to nanoscale/nanobio entities
- The independence of critical research has been compromised by conflict-of-interest relations with industry and corporations
- An inadequate understanding of hazard in the context of the kind of radical uncertainty and complexity that arise in the nanoscale field.
- There is backsliding on the precautionary principle (under competitive pressure) and calls for a 'proactionary principle' which promotes an uncertain benefit against the minimisation or ignoring of an uncertain (misconceived) hazard.