This response was submitted to the consultation held by the Nuffield Council on Bioethics on *New approaches to biofuels* between December 2009 and March 2010. The views expressed are solely those of the respondent(s) and not those of the Council.

Michael Hammer, One World Trust

**5. Our comments**

***Ethical challenges***

Like any major technological innovation, research for, trialling and larger scale production of future generation biofuels relies on the interaction of a worldwide network of actors in academic and independent scientific research and the humanities, politics, policy, civil society, private business, regulators and adjudicators (such as in the judiciary, but not limited to it). Progress towards agreement on acceptable methods and results of research, and their use in production is characterised by non-linearity, contradictions, multiple, parallel and iterative loops of rejection and confirmation. Cause and effect are hard to isolate, and uncertainty prevails in terms of actual ownership of knowledge (often generated with public funds), impact on public policy, and the timelines when resulting technologies may be introduced, where, when, and at what scale.

None of this is particular to this field of research and policy, but results in specific challenges in ethically difficult contexts. Despite a growing consensus in the community of research and practice concerned with them of what 'future generation' biofuels are, and in what shape they may be produced and exploited, there will be significantly diverging normative views in other epistemological communities (including faith based, conservationist, medical, or environmentalist communities but not limited to these) on whether they should be used and promoted (let alone researched) at all because of uncertainty of impact for instance on ecosystems and human health, or the type of intervention in living organisms necessary to produce them.

The ethical challenges are thus both instrumental, i.e. is the research and development effort (including engaging in conflict with others) worth it from a point of view of investment balanced against both private and public benefit, and normative, i.e. is it the right thing to do? While to the first question answers may (but not necessarily will) be found on the basis of exploring costs, risks and benefits in the short, medium and long term, many normative concerns can only be addressed (if at all) through ensuring the highest degree of accountability in the process of gathering evidence and making decisions on its basis.

Given the complexity of issues involved, and the wide range of stakeholders, such accountability can in our view not be realised effectively by seeking to address the specific accountability challenges of any particular actor with individual requirements or solutions. Key to achieving accountability of the process of innovation has to rely on the use and increasing acceptance of principles of accountability which all actors involved in producing evidence as part of research and trialling, using evidence for policy or legal decisions, or deciding about technological solutions and their scaling up to industrial level, ought to observe.

Our research on accountability principles for research organisations has shown that this involves both normative and practical challenges.1 First, the definition of such principles that can be usefully and appropriately applied to research, including and specifically in the domain of innovation, is still in its infancy2. Second, a high level of buy-in needs to be generated amongst the vast array of people and institutions involved in the process for why such principles should be observed. Third, on a more practical level, our experience

1 Whitty, B. (2008): Accountability principles for Research Organisations – Report, London, One World Trust

2 Whitty, B.; Gersten, J.; Poskakukhina, Y. (2010): Accountability of Innovation. A literature review, framework and guidelines to strengthen accountability of organisations engaged in technological innovation, One World Trust Briefing Paper Number 124, February 2010, http://www.oneworldtrust.org/index.php?option=com_docman&task=doc_download&gid=413&Itemid=55

of accountability reform with global and other organisations has shown that the adoption, practical implementation, and review of compliance with regards to such principles poses significant challenges at the level of each organisation, but also across different sets of actors.3

The significant ethical risk which arises from this is that the practical obstacles to addressing the accountability challenge, may lead to it remaining unanswered, both from an angle of instrumental accountability, and from a normative point of view. Allowing this to happen, may make it harder to come to build an important majority consensus which needs to underpin the introduction of any controversial research, policy or industrial technology.

The current debates about the credibility of science underpinning propositions for global climate change policy responses is a case in point. The main objective of the so called climate sceptics, which is to undermine a growing majority consensus on the need for a change of policy and behaviour, are not pursued through a contest of ideas, scientific results and methods, but through attacks on the ethics and accountability frameworks which underpin the work of scientists and policy makers who argue for the need of a reduction of carbon emissions.

The ethical challenge is thus not only to build majority consensus on the substantive issue, but equally to build majority consensus on the ethical and accountability frameworks within which the substantive innovations are produced, and decisions are made that affect a wide range of stakeholders in and outside the country where the decisions are made.

***Access to information and transparency***

Information release is a critical element of accountability in the research process. Based on our research on accountability in technological innovation, we argue that research managers should make public commitments to release information about the research at different stages of the process, including the mission, strategy and research agenda of the research; key ongoing projects, and their methodologies; information about key stakeholders including donors, partners, research networks and advocacy coalitions of which it is a member; if a non-profit organisation who, as specifically as possible, are their intended beneficiaries, and basic staff profiles.

That said, we recognise the transparency dilemma that many research organisations face: their data comprises a valuable asset bought by a great deal of effort and expertise. For a researcher to open the body of work to the public, is for them to lose its uniqueness, and thus its value. An organisation in an ideal world may wish to be transparent, but may not be able to afford to release the data to its competition – presenting it with a transparency dilemma. We argue therefore that before research products has been made public, there is no need to be transparent. However, once the organisation steps into the public domain and uses their research to claim objective support for their position, the obligation to be transparent is triggered.4

***Identifying stakeholders and primary accountability relationships***

The literature recommends that innovators need to take into account the interests of a variety of stakeholders throughout the processes of an organisation engaged in scientific or technological innovation. This includes the processes of identification of problems and priorities – through strategy setting and the identification of a particular project – through

3 The One World Trust Global Accountability report (2006,2007, 2008) provides insight into the comparative benchmarking of approaches to accountability across the intergovernmental, NGO and corporate sectors.

4 Whitty et. al. (2010), op. cit, p. 19

implementing the project and all the way to closing the loop. Closing the loop refers to a bundle of activities, including finalising products, disseminating them, evaluating the responses and communicating results to stakeholders. Governance systems – such as advisory boards, internal project meetings and so on – exist as ongoing mechanisms for responsiveness, forming a common bond through each process.

Each of these processes can be characterised by iterated feedback loops eliciting the needs, responses and knowledge of stakeholder and feeding them back into the

processes.

There are several key ideas that can be used to inform how an innovator organisations can be accountable to its stakeholders, and importantly balance the different relationships it has:

*Participation:* participation concerns the way in which the organisation involves stakeholders in its decision-making processes and activities and gives them a voice in the activities of the organisation. This will happen in an ongoing and consistent manner, through repeated feedback loops.

*Monitoring and adaptive management:* the organisation will ensure that it monitors the project and changes its behaviour on the basis of what the monitoring phases turns up.

*Evaluation and learning:* an accountable and responsive organisation will evaluate its projects and will try to extract lessons learned, and then change its behaviour to take into account these lessons.

*Transparency and communication*: maintaining good transparency and communication as an ongoing principle to ensure the wider group of stakeholders remain informed and engaged.5

Key to realising accountability in the context of future generation biofuels is to map out the stakeholder landscape in a way that takes particular barriers and main directions of impact into account. Like with all innovations involving potential changes in global patterns of agricultural production, developing countries may be more strongly or more directly affected by the growth of future generation biofuels at macroeconomic, and individual livelihood level. Independent of the question of claims to benefits of such countries or groups of people, the accountability relationships to those most affected by innovation have therefore to be underpinned by mechanisms that allow these particular stakeholder groups to engage effectively with the innovator, funders of innovation, and policy makers, who are all in a significantly more structured and influential position, then ordinary citizens.

We hope that the above input is of use to the consultation process. Please do not hesitate to contact us should you require further materials or support. We believe this is a very important area of debate.

Yours sincerely

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5 Whitty (2010), op. cit, p. 14