

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.

Vertigo SDC Limited

**QUESTIONS ANSWERED:**

**Question 1**

**ANSWER:**

I am positive about this as long as the move is informed by holistic sustainability principles.

**Question 2**

**ANSWER:**

The colonisation of land in developing countries by developed countries. The destruction of habitats resulting in loss of biodiversity and huge carbon emissions. The loss of productive food growing land. Water stress.

**Question 3**

**ANSWER:**

Reasonably well informed, but I appreciate that it is a hugely complex issue. Biofuels can be very positive or very negative depending upon a whole range of circumstances. Most info is from the internet.

**Question 4**

**ANSWER:**

Clear policies that measure the overall sustainability of the biofuel, so that sustainable fuels are supported and encouraged and others are penalised. The ability to sequester carbon and improve soil fertility through by-products such as biochar should be a major benefit for many biofuels in the future.

**Question 5**

**ANSWER:**

I think that use of residual ('waste') products close to source in scaleable systems are most likely to be effective. Transport over long distances raises both environmental and social sustainability issues.

**Question 6**

**ANSWER:**

Identify existing residuals/wastes and utilise these where possible. Look to bring woodlands back into management which also creates ecological benefit and rural employment. Generally win win situations should be sought.

**Question 7**

**ANSWER:**

Have to be very careful as to whether mass production of biofuel crops actually benefits local people. History tells us that foreign corporations will ruthlessly exploit developing countries and will often produce little benefit for local people.

**Question 8**

**ANSWER:**

Pyrolysis is available now-EPI's technology is cited in the GLA Environment Committee's 'Where There's Muck There's Brass' report. It produces biogas rather than bio-oil as suggested in your text. It is commercial now, but further work to maximise efficiencies will continue over a number of years.

**Question 9****ANSWER:**

Advanced plant breeding strategies are acceptable. GM must consider all of the risks before progressing-given it is unlikely to ever be risk free, then this is probably to be avoided. I know little of synthetic biology.

**Question 10****ANSWER:****Question 11****ANSWER:**

No comment.

**Question 12****ANSWER:**

Government should promote the most favourable areas based on a triple bottom line approach.

**Question 13****ANSWER:**

Mass use of land for biofuels should generally be avoided unless it can be shown to be degraded and not suitable for other production or for biodiversity purposes. The important issue is to find scaleable technologies that can work in harmony with a mixed use, vibrant landscape.

**Question 14****ANSWER:**

The issue of colonisation is much larger for developing nations.

**Question 15****ANSWER:**

No comment.

**Question 16****ANSWER:**

The biodiversity and natural economic services of land must be taken into account. Perhaps some form of certification is required-but need to be careful of third parties destroying land so that others can then take it on for biofuel crops.

**Question 17****ANSWER:**

No comment

**Question 19**

**ANSWER:**

Major concerns over exploitation by foreign corporates-perhaps a fair trade label could be applied?

**Question 21**

**ANSWER:**

Public private sector mechmsims may prove useful in stimulating the market and overcoming barriers.

**Question 22**

**ANSWER:**

**Question 23**

**ANSWER:**

ROc's are effective, but at the moment do not discriminate enough-they apply to unsustainably sourced biofuels-this must be changed.

**Question 24**

**ANSWER:**