

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.

Kyriakos Maniatis

**QUESTIONS ANSWERED:**

**Question 1**

**ANSWER:**

It is necessary for the society to move towards greater use of biofuels. There is hardly any other alternative than nuclear at present and electric vehicles. However, these should be sustainably produced.

**Question 2**

**ANSWER:**

Future generation biofuels present significantly fewer ethical questions. The issue of food vs fuel has been exaggerated by the press, however, at the same time efforts have to be made to improve not only the biofuel technologies but also agricultural technologies and enabling management of agrioculture in developing economies and other areas (such as Ukraine etc) to increase food production on a global scale. Job security in the agricultural/forestry sectors is a positive ethical issue that has been neglected so far.

**Question 3**

**ANSWER:**

Yes I do. I work in DG TREN on the biofuels technologies and standards. I am also responsible in DG ENER on the demonstration activities in the framework of FP7 and responsible for issuing mandates to CEN on biofuels quality standards.

**Question 4**

**ANSWER:**

Climate change will be the driving force in the next 20-30 years. Later on security of supply - subject to the oil and gas reserves- may take priority. Increased employment in the forestry/agricultural sector. Resource supply (such as short rotation coppice and other energy crops which are needed to augment the available resources) is labour intensive. Although this has a price cost its a positive ethical societal issue. EXport potential of technical knowhow for the EU industry.

**Question 5**

**ANSWER:**

Biofuels from waste streams (such as sewage sludge producing biogas and further upgated to biomethane for transport usage). They should be encouraged by legislation and other market tools (eg, reduced taxation, double counting etc). Not to my knowledge.

**Question 6**

**ANSWER:**

Energy security can also be improved by diversification of supply, eg instead of importing petroleum oil from the Middle East importing ethanol from Brazil. However, most successful are those approaches using domestic resources and technologies. Not to my knowledge.

**Question 7**

**ANSWER:**

For the developing economies local production of biomass resources will also improve agricultural knowhow and low-key industrialisation both desperately needed in these economies. It will be better to produce the biofuel locally (then all or part of it can be used in the local economy) than exporting the biomass resource to the EU or USA to produce the biofuel outside the developing economy. By local investment of EU companies and other tools like those of the Kyoto protocol. Also FAO should get its act together to promote enabling support systems. Not to my knowledge.

#### **Question 8**

##### **ANSWER:**

Most reliable seem to be the sythetic biofuels and lignocellulosic ethanol. Algae have great promise but still a bit early to have more concrete position. Its not possible to prioritise amongst them. All will find their place in the technology puzzle for biofuels. Synthetic biofuels also are very promising but some technology pathways need to be built in a very large scale to be economically viable. This isincreases the risks. Technologies related to black liquor are advanced since this is a process residue and it is in liquid form.....while the pulp and paper industry knows very well how to handle it. First commercial plants are expected beyong 2015. Certainly, mostly are technical risks. Also a major risk is that governments will not provide sufficient financial support to industry to develop the technologies by giving preferential treatment to wind and PV which are already commercial. This is a fact already now.

#### **Question 9**

##### **ANSWER:**

Yes. Why do you ask this for biofuels while it is common practice in other industrial sectors? The above are also applied to agriculture. Because otherwise we may not achieve the rsources we need to decarbonise the economy.

#### **Question 10**

##### **ANSWER:**

This should be left to the industry to deal with. The governments should not play a role here. All industrial players know how to address this issue.

#### **Question 11**

##### **ANSWER:**

Financial support by governments and institutions. For the rest the industry knows pretty well which are the technical barrier that need to be overcome.

#### **Question 12**

##### **ANSWER:**

In overcoming the technical barriers and getting the technologies under development in the market. Here the EC has a role to play as a facilitator between national governments and the EU industry. See for example the work of the European Biofuels Technology Platform and the European Industrial Bioenergy Initiative.

#### **Question 13**

##### **ANSWER:**

The expansion of biofuel production has in the past sometimes resulted in local populations losing control of their land, and even in their removal from the land.

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

No proper government control...eg. The destruction of the Amazon Tropical Forest for soy cultivation...

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

Too complex an issue...unless the same would be applied to other uses of biomass/food/forest you create an unfair level playing field.

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

New approaches are based on residues (no actual effect) and energy crops. Proper legislation and implementation of the legislation would ensure good management.

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

No. Because they are residues and energy crops that should be grown on poor land. If algae will reach the market in say about 8-10 years, then the pressure on food security will further decrease.

**Question 18****ANSWER:**

Application of legislation. Basically proper governance.

**Question 19****ANSWER:**

The new approaches are no different in actual agricultural/forestry production. If EU companies are investing in developing economies for resource production then one should expect a better governance and a more equitable approach towards farmers. The EU sustainability criteria could assist significantly when fully developed.

**Question 20****ANSWER:**

Different application of the laws. In developing countries laws exist but are not applied and the farmers have limited (if any) ability to take their case to the courts. Governance is the issue. However, on what right do we believe that our "societal" values are the correct ones?

**Question 21****ANSWER:**

It should be directed on well specified technology pathways and technology value chains. You need public-private partnerships.

**Question 22****ANSWER:**

I would follow the EU approach.

**Question 23**

**ANSWER:**

Mandate the national markets to achieve a certain % of 2nd generation and advanced biofuels within a certain time frame.

**Question 24**

**ANSWER:**

Fair play in relation to biomass used for power or heat and the same biomass used for biofuels.