QUESTIONS ANSWERED:

Question 1

ANSWER:
There should not be any limit to the increased use of biofuels, except the environmental and social impacts. As long as this increase does not involve loss of important ecosystems, other types of environmental damages or social issues, a greater use of biofuels is a good thing.

Question 2

ANSWER:
- the Land-Use issue is key. More biofuels may mean either an increased yield (but with some risks of higher soil and water degradation) or an increased surface of production, which may involve the destruction of ecosystems or land tenure issues. - Being able to bring a real benefit for climate change mitigation; so far, several pathways show only a slight benefit or even a worst GHG performance. - Although the exact impact of biofuels on food price is not yet clear,the competition with food remains an important challenge.

Question 3

ANSWER:
I am well informed about some particular aspects of biofuels, e.g. everything about sustainability and regulations. For some other aspects (e.g. trade, markets), my level of information is rather weak. The information mainly comes from newsletter or is sent by colleagues (emails).

Question 4

ANSWER:
The key factor is the creation of a fair and unbiased market for biofuels. It relies a lot on the regulation and policies implemented by countries. By setting targets for biofuel blending, countries enhance this market. However, subsidies and other financial mechanisms may distort this market towards the richest countries, with some negative consequences in the developing world. Policies, if based on sustainability requirements, will play an important role in ensuring that biofuels bring more good than harm. However, by imposing sustainability requirements, decision-makers will also add to the burden of biofuel producers and reduce the access to the market for non-compliant operators. Decision-makers should make sure that sustainability requirements do not unnecessarily (i.e. without a significant benefit for the environment or people) penalize producers. If regulation or certification of biofuels prove successful, it could become a showcase for sustainable agriculture and enhance changes in KAP for other related sectors.

Question 5

ANSWER:
Because the encouraging figures about new pathways are bound to specific assumptions, it is still risky to consider that a given technology shall be unconditionally encouraged. As always, one will discover that lignocellulosic biofuels have their flaws as well, which may impair their GHG performance over the entire life cycle. The only way to encourage better biofuels in a fair way is to calculate the GHG performance on

a case-by-case basis through the use of objective and science-based standards, such as that one developed by the roundtable on sustainable biofuels (RSB). Governments or companies that commit to source from RSB certified biofuels would indeed create a positive trend, which would allow better biofuels to be rewarded.

Question 6

ANSWER:
This is a highly political aspect, which is the source of the majority of negative impacts. Because of energy security, some countries established overambitious targets for biofuel blending, which ends up with a massive demand for biofuels. This is the highest risk to see biofuels being produced at any cost and whatever the environmental and social price to be paid. Targets and incentives should be limited by the actual capacity of production under sustainable conditions, otherwise the increase in energy security will be at the expense of people and the environment.

Question 7

ANSWER:
Local benefits should be a central requirements for biofuel projects, in particular the obligation to employ local people and to ensure that the access to energy is ensured in the region of production before thinking about exports.

Question 8

ANSWER:
Since the main issue with next generations is their high cost compared to fossil fuel, any technology, which is able to reduce the process of transforming raw material into biofuel will receive much attention and support. For instance, genetic modifications that induce a lower lignin content in the plant, seem promising. With the growing demand for genuinely green biofuels, any technology (possibly GM) that reduce the water consumption for a similar yield will equally be privileged. These technologies, in particular biotechnologies, shall be carefully evaluated and monitored, once on the field. Main risks for the environment are related to some of the chemicals associated with GM crops or the impact on pollinators. Because they are using aggressive business models, which create a vicious cycle of dependence among stakeholders, some companies shall also be subject to regulations to avoid unacceptable situations where the technological benefit is jeopardised by new environmental/social issues.

Question 9

ANSWER:
All these technologies are appropriate as long as they are implemented with the aim to bring a social or environmental benefit, which can indeed be the case. If such technologies are exclusively driven by companies' profit, the risk is high that they will bring more harm than good to the environment and people. Standard/certification can help ensuring that only beneficial technologies are used.

Question 10

ANSWER:
IP rules should prevail according to international Law. Outside this framework, it is important that biofuel production commits to transparency. Because the civil society remains highly skeptical, if not negative, about biofuel production and use, it should be possible at any moment for companies to report about their business model and impacts on the environment and or people. The respect of IP is bound to local law. As far as transparency, a standard/certification can achieve this objective.

Question 11

ANSWER:
- Production Cost - Reduction of GHG emissions over life cycle - Reduction of Water Consumption - Increased Yield

Question 12

ANSWER:
R&D should focus on trying to improve yields without trade-offs regarding water consumption or soil degradation. Another focus should be to reduce costs by making some processing steps simpler (e.g. cellulose extraction) and cheaper.

Question 13

ANSWER:
New technologies may pose the same problem re Land-Use. The fundamental parameter to cope with LU issue is a global land-use planning at the country or region level. The needs in terms of land should be evaluated by authorities according to priorities and land-use planned accordingly. Staple food production and conservation of important ecosystems shall always come first in the priorities. Land-Use issues are rather bound to politics than to technologies. It would be fair that the debate is broadened to ALL land uses, to avoid that biofuel producers are penalized while other sectors continue their business as usual.

Question 14

ANSWER:
Overall, the potential for increasing the surface of cultivated areas is much bigger in the developing world. Yet, these areas are in majority natural and for most of them, should be left intact for conservation purposes. Future generation biofuels shall aim for using land without necessarily converting it (e.g. use of forest residues). In parallel to the negotiations to make sure that countries do not destroy their most valuable ecosystems to produce biofuels, it is extremely important that the developed countries give a compensation to the country losing some economic opportunities by keeping some areas unconverted. Without such a compensation mechanism, it is unfair and unrealistic to push countries to limit land conversion.

Question 15

ANSWER:
iLUC should definitely be considered in the GHG calculations. However, the methodologies that could achieve that are not yet fully operational and it may take another year before a methodology is approved by all stakeholders and ultimately included in GHG calculations. Another approach consists in selecting those pathways with the lowest risk of indirect impacts (for example, using true wastes or land with low value), which is considered a better immediate solution to cope with iLUC.

Question 16

ANSWER:
The aim should be to avoid trade-offs. Improved yield shall not involve a higher use of chemicals or the use of GM crop shall be controlled. Among other risks, the invasiveness of 2nd generation crops (switchgrass, miscanthus, giant reed, etc...) is a major concern. It is crucial for operators to follow national instructions or conduct a Weed Risk Assessment before planting these crops. If a high risk of invasiveness exists under local conditions, the plant shall not be used and if the risk is moderate, then safeguards shall be put in place to avoid the invasion. The IUCN guideline on biofuels and invasive species is an excellent guidance that describe all steps to be followed in this process.

Question 17

ANSWER:
Because a raw material cannot be eaten, it does not mean it necessarily have no effect on food security. The threats to food security mainly comes from competition for: - land - water - manpower Whatever technology is used, operators shall always control that their operations does not affect local food production for one of these aspects. The impact on global food security are much more complex and shall be dealt with at a national level through a coherent land-use planning.

Question 19

ANSWER:
Whenever new technologies request some land, issues of land tenure will arise, similarly to any other agricultural or industrial practices. The fundamental requirement for operators to respect land rights is not specific to biofuels, but shall apply to all uses. Technologies that reduce the need for new land (e.g. algae, wastes) will necessarily reduce the risk of land rights violation. Workers rights shall be respected like in any domain. Implementation of national and/or international legislation shall be sufficient.

Question 20

ANSWER:
There is nothing specific to biofuels here. Overall, workers' and farmers' rights are more efficiently respected in the developed world, whereas countries with weak governance are not able to ensure that human rights are respected. This failure could be compensated by a volunteer standard such as fairtrade or the Roundtable on Sustainable Biofuels. Independent auditors could then certify whether operators respect farmers' and workers' rights.

Question 21

ANSWER:
biofuels were developped to fulfil an urgent requirement: reduce the impact of human activity on climate change. The criteria for investment in biofuels shall take this requirement as a priority. Any biofuel with no or low benefit for GHG savings compared to fossil fuels shall never receive any investment. In addition to this, investments shall target those biofuels with no/low impact on the environment and people. Independent certification (such as the RSB's) shall be used by investors to identify biofuel pathways, which really bring a genuine benefit for the environment and the people.

Question 22

ANSWER:
Recent policies on biofuels are encouraging but some of them did not go far enough to ensure that biofuels really deliver on their promises (i.e. contributing to less GHG emissions, energy security, local development) without bringing new problems (deforestation, food security, etc.). The EU regulation (RED) is a good first step but without imposing any requirement for social aspects, it remains incomplete. Similarly, the policies developed in the United States lack a lot of requirements re the environment and people. Leading countries in terms of sustainability policies for biofuels are the UK, the Neterhlands and Germany. The only comprehensive tool for sustainable biofuels is the Roundtable on Sustainable Biofuels' Standard (www.rsb.org). This voluntary certification system is unique in ensuring that biofuel producers implemented good practices. By recognising voluntary standards such as the RSB (or requesting imported biofuels to comply with it), regulating authorities would make sure that sustainable biofuels are used.

Question 23

ANSWER:
A better (i.e. sustainable) biofuels involves the implementation of good practices, which automatically increase the production costs. Furthermore, voluntary certifications such as the RSB's involve costs related to the audit. These additional costs will reduce producers' competitiveness, if not compensated somehow. This could happen if a market for better biofuels exist (consumer would pay a higher price to compensate for the production costs or else, companies would commit to source from sustainable biofuels only, which would give a competitive advantage to the certified producers). Decision-makers could also divert much of the current subsidies to reward better biofuels, but this may be problematic re WTO rules.

Question 24

ANSWER: