

Input from the Forest Products Biotechnology group at the University of British Columbia

Question 1.1 (Is the objective of promoting biofuels still valid?)

Yes. 1st-generation biofuels still have a long way to go towards reinforcing the security of fuel supplies; in countries with significant biomass reserves, including France, Germany, Spain, Italy, the UK, Poland, etc. the potential supply of these fuels could be significant. Moreover, industrial success with 1st-generation biofuels (i.e., those that are derived from foodstuffs or food residues and which are commercially available today) is starting to enable real investment in 2nd-generation biofuels (i.e., those derived from non-food biomass which can be used in conventional vehicles and distribution systems). When 2nd-generation biofuels reach commercial status, the potential supply of these fuels in Europe will be a statistically significant portion of light vehicle fuel demand. The impact of these fuels will continue to provide employment in the agriculture and forestry sectors, will reduce volatility of fuel prices by increasing the security of fuel supplies, and will have a beneficial environmental impact by reducing fossil carbon emissions. THE PROMOTION OF EXISTING BIOFUELS TODAY IS ENABLING NEW TECHNOLOGIES THAT WILL INCREASE THE SUPPLY AND IMPACT OF BIOFUELS IN THE FUTURE.

Question 2.1 (With existing policies and measures, will biofuels achieve a market share of 5.75% in the EU by the end of 2010?)

Maybe. Some countries have taken longer to organize a response to the directive than would be optimal; for instance, the UK has taken its time in determining the logistics of their response and thus we have not seen the impacts we would like. However, in many cases (like the UK) new development is beginning to make an impact. Capacity for biofuels in most markets is rising - in some markets, like Germany, a year or two have been shown to make a huge difference in terms of biofuel production. In the four years remaining until the 2010 deadline, significant growth in biofuel production could meet the 5.75% target.

Question 2.2 (What are the main factors favouring the development of biofuel use in the EU? What are the main obstacles?)

The main factors favouring development in biofuel use have been: growth in public awareness in some areas; strong national programs in countries such as Sweden, Finland, Germany, France, etc.; the presence of significant incentives in terms of excise tax exemptions (which are significant due to the high base levels of tax for petroleum fuels); the availability of flexi-fuel vehicles and consumer awareness of their abilities in some countries; and the availability of high-biofuel blends at the pump in certain jurisdictions (i.e. Sweden).

The main obstacles to the development of biofuel use are: the use of foodstuffs or food residues as feedstock for production, which limits growth for the industry; the limited feedstocks available in many smaller countries; the lack of public awareness in some countries; uneven fuel tax and producer credits from jurisdiction to jurisdiction; and the lack of cohesive codes and standards for the full range of biofuels, which has limited participation by certain auto manufacturers.

Question 3.1 (Looking towards 2010, is the present European system of indicative targets and support for biofuels appropriate or does it need to be changed?)

The present European system of indicative targets is likely the best 'compromise' solution that will work in a political climate as varied as the EU. The mandate approach, applied from the top down, would not be well received. However, the use of mandates in individual jurisdictions could be useful.

Question 3.2 (What are your views on the advantages and disadvantages of the options described in section 3.2)

Option A does not seem feasible as it makes unreasonable demands on countries without the biomass and the technologies required to create this supply. Option B seems reasonable to me, but likely would create backlash against biofuels which might be more damaging than worthwhile.

Option C seems very close to the best compromise. The advantage of Option C is that it is seen to be more accommodating by governments across the EU, while actually enforcing biofuel directives more closely.

Option D provides an effective tool to each national government; the only disadvantage is that these mandates might be used in a heavy-handed way creating pockets of ill-will towards biofuels.

Option E carries the risk of creating industrial backlash; it also carries the risk of seeing most biofuel sourced from the cheapest supplier, instead of developing domestic capacity.

Option F may favour individual suppliers while creating barriers for others, who don't yet have access to biofuels required. As pointed out, there are risks of a serious internal market barrier associated with this option.

Option G creates a top-down approach that runs the risk of creating issues between the EC and its member governments

Option H represents a very significant logistical challenge with the potential to drag out over a long period; achieving consensus would be very difficult.

Option I is an excellent tool for consumer awareness but must be implemented in an even manner between distributors and jurisdictions.

Option J is a worthwhile effort that could raise interest and consumption of biofuels, which would drive up supplies.

Question 3.3 (How should the options you favour be put into practice?)

I think that Option C be combined with Option D, Option I, and Option J. In this way, mandates can be used by national governments as a tool, while consumers are given education to increase awareness coupled with a tool (biofuel labelling) which allows them to control their behaviour more effectively. I think that individual governments be given as much freedom as possible around Option D; on the other hand, labelling programs (Option I) and educational packages (Option J) should be carried out across the EU in a consistent manner, and should be controlled in its implementation.

Question 3.4 (Should other options than those in section 3.2 be considered?)

Section 3.2 offers a comprehensive list; I can't think of other unique options right now.

Question 3.5 (If your preferred options would have implications for granting tax reductions/exemptions for biofuels would that change your answer?)

I think that any measure that led to incentives being pulled back for biofuels would have a negative effect on the industry. While I don't foresee this outcome, the loss of financial incentives in the form of tax reductions & exemptions would be a significant blow to commercialization. I would not support any option that led to this outcome at this point.

Question 3.6 (Should Member states be able to provide tax reductions/exemptions?)

I think that the two tools can be used effectively together. There should be no 'this or that' statement in the directive.

Question 4.1 (Should there be a system to ensure that biofuels have been made from raw materials whose cultivation meets minimum environmental standards?)

Yes. Being proactive on a certification system will put the industry in control of how this type of system is implemented, and means that there is far less risk of being taken by surprise by a public movement in this direction. The standards should address agricultural management practices as agreed upon through international discussion, similar to the Montreal Process or Helsinki process that applies to forests. I would suggest a system modelled on the Forest Stewardship Council (FSC) certificate system, which identifies forests that are sustainably managed according to a criteria and indicators system. The biofuels directive should introduce certification in a stepwise fashion to give all participants ample time to comply.

Question 4.2 (Should a wider system of certificates be introduced?)

No. The level of certification suggested in Question 4.2 seems a little excessive and probably would create more paperwork than it is worth. I think that issues of GHG emissions and security of supply are open to so much debate that this would be a risky move.

Question 4.3 (Should there be a scheme to reward 2nd-generation biofuels within biofuel support systems?)

Yes. A scheme should be devised that promotes capital investment, production, and utilization of 2nd-generation biofuels as a preferred option. This is necessary to maintain an incentive to move towards a more flexible and higher-impact fuel type that can take us beyond the levels specified in the directive.

Question 5.1 (Should the EU continue acting in favour of biofuels after 2010?)

Yes. In fact, the directive would benefit from linkages to long-range goals (i.e., 50% biofuels by 2100) which reinforce the political will to continue developing renewable, green alternatives to petroleum energy.

Question 5.2 (Should this action include or exclude the definition of a quantified target for biofuels?)

Yes, it should include the definition of a quantified target. The incremental increases in renewable fuel requirements offer concrete targets for industry that are achievable. It is beneficial to continue raising this bar as goals are achieved, but it is also desirable that industry understand the long-term vision and in fact buy in and support this vision.

Question 5.3 (Should EU action include the following measures?)

a) support for research - Yes, it is important that the EU link some of its incentives towards funding research into new and advanced processes

b) continued Community financial support - Yes, although the support for biofuel supply and feedstocks may be reduced over time as the industry becomes fully commercialized.

c) continued scope for Member states to support biofuels - Yes, member states must have the freedom to support biofuels through a flexible system of tax credits etc.

d) labelling of fuel - Yes, this is beneficial and provides consumers with a valuable tool in making personal choice

e) a campaign to inform consumers - Yes, if done on an EU-wide basis so that messages are clear and consistent from jurisdiction to jurisdiction.

f) any other options - None that we can think of.

Question 5.4 (What should the target for biofuels be in 2015, 2020?)

The EU should define a target which is achievable - this requires a consensus between jurisdictions. It is not unreasonable to expect 8% by 2015 and 10% by 2020; this represents relatively minor increases over 5-year periods. However, consensus is important and it may be that these targets are lower or higher.

Question 5.5 (If the EU is to define a target should this be expressed in terms of market share, GHG savings, reduced oil, or reduced fossil fuels?)

The target should remain in terms of market share; changing the way the target is measured will create some confusion but more importantly does not necessarily mean that better savings will be achieved.

Question 5.6 (If the EU is to define a quantified target, should this remain a political step or should it be given concrete form?)

The target should be given concrete form if possible. I would suggest that option b) is selected (i.e., the options in Section 3.2 are put into play) which would allow individual jurisdictions to create their own regulations where necessary.

Question 6.1 (Any comments on the following:)

a) cost-effectiveness - I have no comment other than to say that many factors, including non-economic factors, are included in the measures taken by Member States and we should respect their decision to incorporate these factors, rather than measure everything on a Euro basis.

b) economic and environmental aspects of increasing biofuels - Most of the actual impacts of this move should be positive. All legislation, however, should be linked where possible to alternative transport options. It is not desirable to move towards biofuels that may be more expensive and thus a larger impact on local economies without also considering alternative transport routes including public transport, buses, rail links, etc.

c) life cycle perspective of biofuels - most biofuels have significant GHG savings. The difference in utilizing different fuels are not likely to be the determining factor in selecting fuels; rather, the choice will be made by feedstock availability, cost, and efficiency of use.

d) sustainability of crops - a criteria and indicators system, like that already adopted for forestry, could be useful in measuring agricultural sustainability.

e) assessment of use of biofuels - most biofuels have significant GHG savings. I don't know that legislation is required to push towards a single biofuel option; rather, it is desirable that most fuels move towards a renewable status.

f) long-term options concerning energy efficiency in transport - biofuel development should be linked to public transport and other alternatives in order to achieve maximum energy efficiency.

Question 6.2 (What are the prospects for 2nd-generation biofuels)

The prospects for 2nd-generation fuels are excellent. We are rapidly moving towards a cost-effective system for ethanol production from lignocellulosics, as evidenced by the creation of pilot and demonstration plants by at least two commercial entities (logen, Abengoa). Other processes are also being touted for 2nd-generation production. Continued high prices for oil and demand for biofuels is powering a great deal of development that will continue to reduce costs. I estimate that the first commercial plant will be seen within 5 years.

Question 6.3 (Data or explanations for fuel efficiency)

I have no data or explanations for this statement.

Question 6.4 (Problems in interpreting the directive's requirements for certain types of biofuels, i.e. ETBE)

If ETBE remains a viable biofuel - rather than oxygenate at low blends - then the directive should be clarified. Right now, the directive only describes content (i.e. volume-volume or wt-wt blends). ETBE is favoured in some cases due to its ability for use in existing infrastructure, but represents a higher-cost fuel and thus industry may make the choice to drop it as biofuel contents rise. It may be worthwhile to take a 'wait and see' approach on this, with a review in 2010.