

Polis' reply to the Commission's public consultation

Biofuel issues in the new legislation on the promotion of renewable energy

1. How should a biofuel sustainability system be designed?

Question 1.1:

Do you think the "possible way forward" described above is feasible?

Sustainability criterion 1 – achieving a minimum level of greenhouse gas savings.

During the foreseeable future, EU will have to import fuel, whether fossil or biofuels. Biofuels should hence be produced where they save the most GHG, with the methods that save the most GHG, regardless if this is outside or inside EU. Any GHG emissions from the transport of the biofuels should of course be included in the GHG calculations.

For 2nd generation biofuels, but also for some production of the 1st generation, it is necessary to combine production of biofuel with other types of production: e.g. electricity, heat, district heating, by-products like glycerol a.o. Also these products must be included when calculating the GHG savings for a certain biofuel.

Sustainability criterion 2-3

Within EU there is satisfactory legislation to prevent loss of Biological diversity.

Countries that have ratified the convention on Biological Diversity should in principle have satisfactory legislation, though this is not always the case. Furthermore the reinforcement is sometimes weak.

*As there has been so much debate on the environmental consequences of Biofuel production (e.g. cutting rain forest to produce palm oil or soy bean oil) and on the social situation for e.g. sugar cane labour in Brazil, there is an obvious need for a **certification** which includes both environmental, health and social criteria. It is vital that there is a known source for the fuel and that the method of production (including artificial fertiliser use) and type of crop is also known and controlled.*

Such criteria should of course also be adopted when EU imports e.g. soy beans for animal production. This import is far more extensive than the biofuel import.

It is important to add that there are proposals for brewing biofuels using micro-organisms which may require limited land use (in some cases using technology first developed 100 years ago). Sustainability of these systems will need to be looked at.

Question 1.2

What do you think the administrative burden of an approach like the "possible way forward" would be? (If possible, please quantify your answer.)

Existing certification schemes and agriculture/forestry policies/ natural protection legislation can be used to a high degree.

Deciding the GHG-savings seems to be an additional administrative burden, but does not need to be specified on a very detailed level. There is a clear and easily spotted difference between production methods making use of biofuels for input energy vs using fossil fuels, as it is clear whether the energy in the feedstock is used also for co-generation.

Question 1.3

Please give your general comments on the "possible way forward", and on how it could be implemented. Does it give an adequate level of assurance that biofuels will be sustainably produced?

A biofuel system, in order to be considered as sustainable, should give priority to recycling of biological material which should firstly be done locally. Some sort of sustainability grading could be applied. Recycled cooking oil etc should have a high score and be preferred. Locally crushed oil producing crops used in the immediate vicinity and used either as a pure plant oil (PPO) or processed into "standard" biodiesel should also be preferred (we have experience of this and run a vehicle on oil seed rape grown crushed and processed within 10 miles). Fuel from other areas other countries or elsewhere in the world is clearly less sustainable.

Local authorities have a strong role to play on managing this recycling chain. Support should be provided to the agriculture sector to encourage it to produce biological material for biofuels, so they can better be produced in the region were they will be used.

To avoid both very large scale monocultures and to develop many more small producers of easily identifiable sustainable biofuel and to expand biofuel production fuel crops could be grown in partnership with local users/customers. Producer and perhaps buyer cooperatives could be set up in order to make sure there is sufficient supply of biofuel. Land put over to biofuel production could link with fuel sustainability appraisal as noted above. This would encourage widely distributed small scale growing of fuels as part of a mixed farming regime which would be a more sustainable option. A cooperative system would then allow the combining of known source fuel for bulk sales and use.

A joint supplier/user framework could be developed for local authorities, bus companies and larger users (or groups of smaller users) of diesel and other fuels to ensure there is enough local production. Experiences show is that only small batches are made and then replenished as needed. These batches are enough for a few small vehicles but not a large bus on a regular basis because of the consumption of larger vehicles. Some sort of

security for the producer is needed which could be provided by a small network of guaranteed users while small producers should also be encouraged to form some sort of supply cooperative. Such a system is likely to create both demand and supply.

2. How should overall effects on land use be monitored?

Question 2.1:

Please give your comments on the "possible way forward" described above. If you think the problem should be tackled in a different way, please say how.

The “do nothing scenario” (how land use would have developed if biofuel use had remained constant) must include effects related to the current trend of using increasing amounts of oil.

3. How should the use of second-generation biofuels be encouraged?

Question 3.1:

How should second-generation biofuels be defined? Should the definition be based on:

- a) the type of raw materials from which biofuels are made (for example, "biofuel from cellulosic material")?**
- b) the type of technology used to produce the biofuel (for example, "biofuels produced using a production technique that is capable of handling cellulosic material")?**
- c) other criteria (please give details)?**

The definition should rather be based on the efficiency in decreasing GHG.

FT-diesel from biomass and lignocellulosic ethanol are often called 2nd generation. None of these are more efficient in reducing GHG than e.g. sugar cane ethanol from Brazil, biomethane made from waste, or wheat ethanol with co-generation of electricity and/or heat.

While FT-diesel is a fuel with better driving performance than 1st generation biodiesel, there is no difference between lignocellulosic ethanol and so called 1st generation of ethanol. Neither is there any need to make a “petrol-like” 2nd generation-biofuel. On the opposite – ethanol is a better fuel than petrol or diesel, being a simple molecule that burns with less heat, result in more complete combustion and hence less dangerous emissions, higher octane or cetane number – hence more energy efficient.

The advantage these 2nd generation of biofuels have is mostly to increase the feedstock potential. Lignocellulosic ethanol is also regarded to be cheaper than starch-ethanol.

Bio-DME could reduce dangerous emissions to the same low level as biomethane, but is still not economically viable to produce. Nor is there any infrastructure or even vehicles available.

Question 3.2:

Please give your comments on the "possible way forward" described above. If you think the problem should be tackled in a different way, please say how.

*Several of the 1st generation biofuels are as good in reducing GHG as the biofuels that are normally named 2nd generation. Hence 2nd generation should **not** be treated favourable just because they are called 2nd generation.*

What is needed is RoD to develop cost efficient production methods of 2nd generation. EU and MS should support this RoD. They should then be able to compete with price with 1st generation.

*To make this competition fair and not biased towards any special technology, subsidies for **use** of biofuels could be linked to the amount of GHG-savings for each fuel (still a rather general scheme - not to make the system too bureaucratic). This would probably benefit the gasoues fuels biomethane and DME – and make it possible for these to compete on similar conditions with liquid biofuels.*

Also we need some regulations requiring that manufacturers are either not allowed to make warranties on new/newer vehicles invalid if more than 5% of biofuel is included in the fuel used, or that all vehicles must be manufactured in a way that allows use of 85 to 100% biofuels. This is often only a problem for fuel lines with biodiesel. Fuel line materials need to be biodiesel compatible, and are not an expensive component.

Question 3.3

Should second-generation biofuels only be able to benefit from these advantages if they also achieve a defined level of greenhouse gas savings?

Yes, the GHG-savings must be higher than for so called 1st generation – or rather: any biofuel that reach this higher limit should be regarded as 2nd generation – regardless of technology.

4. What further action is needed to make it possible to achieve a 10% biofuel share?

Question 4.2:

Should the legislation include measures to encourage the use of ethanol and biodiesel in high blends? If so, what?

Yes. Biofuels should not be significantly diluted with ordinary fuel as this reduces the air quality benefits and encourages large scale but unsustainable fuel production.

Ethanol in high blends is a well proven technology, with the highest feedstock potential of all currently available biofuels. Energy efficiency is similar to petrol and diesel or somewhat higher and could be raised even further with dedicated vehicles optimised for E100.

There is a need to make the driving cost equal to petrol (or even diesel) vehicles. Currently production cost for all biofuels are higher and there is a need to even out this by subsidies (e.g. tax discounts/duty derogations). With increasing oil price + support for RoD on cost efficient production methods for producing biofuels + economy of scale these subsidies can subsequently be phased out.

*With an increasing amount of different fuels and fuel qualities with widely different energy content (Diesel, B5, B10, B20?, B100, E5, E10, E20, E85, E95, E100?, petrol, biomethane, CNG, LPG, DME? etc) it is obvious that pricing and taxation per **litre** is obsolete and tends to confuse both consumers and tax authorities. Energy content would be more appropriate.*

To promote high blends, standards are needed.

- E85 (E100) standard (Spark-plug ignition)
- E95 standard (compression ignition)
- B100 standard
- Standards for handling and operation of these fuels
- Recognition of these fuels in all relevant national legislation (customs, safety, planning etc.)
- Biomethane standard compatible with current best diesel standard
- Possibility to certify vehicles on these fuels
- E10, B10, B20 standard
- A definition of clean vehicles to be able to incentivise vehicle use
- Possibility to register these vehicles as clean vehicles (all ethanol vehicles, biogas vehicles etc) to be able to reinforce any incentive

Question 4.3:

Should the legislation include measures to encourage the use of biomethane, methanol and DME in transport? If so, what?

These fuels will be encouraged by technology neutral measures, based on the GHG savings. They will however need support in RoD, and possibly also for infrastructure.

Question 4.6

More generally, what role should taxation play in the promotion of biofuels (considering different situations such as low blends, high blends and second-generation biofuels)?

There is a need to make the driving cost equal to petrol (or even diesel) vehicles. Currently production cost for all biofuels are higher and there is a need to even out this by subsidies (e.g. tax discounts/duty derogations). With increasing oil price + support for RoD on cost efficient production methods for producing biofuels + economy of scale these subsidies can subsequently be phased out.

General remark

In order to achieve a 10% biofuel share biofuel share introduced locally should be accounted. Incentive systems should be created and awareness should be increased on the feasibility and economic and market opportunity of biofuels. In addition, the car and fuel industry should be also targeted and stricter standards should be set up.

Care over the scale and size of production, both agricultural and industrial is important as there will be an optimum amount of biofuel that can be produced without becoming unsustainable. Along with gas and electric power options it is to some extent a stop gap until hydrogen fuel cell technology becomes main stream and perhaps something saying that ultimately switching to fuel cell technology away from internal combustion engines is the ultimate goal for both air quality, and if the right methodologies and technologies are used, for climate change.