



BIOFUELS

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A response to public
concerns from
European farmers
and their cooperatives

Growing concerns over rising greenhouse gas emissions from the transport sector, and the costs and availability of traditional fossil-based energy supplies, have led EU Ministers to introduce measures which will ensure greater use of more environmentally-friendly sources of fuel in the future. By 2020, every European Union Member State will have to draw 10 per cent of its petrol and diesel transport fuel consumption from “renewable sources”.

This policy has caused great controversy, with many groups claiming that it will have a negative rather than a positive impact on the environment, destroying valuable eco-systems, creating more greenhouse gas emissions than it saves and causing food prices to rise, thus contributing to poverty and starvation in developing countries.

Are their claims correct? Let's look at the facts.

- What are “biofuels”?
- Can biofuels really contribute towards reducing greenhouse gas emissions?
- Is the EU policy to set a 10% biofuel mandatory target by 2020 the right one?
- Is increasing demand for biofuels leading to higher prices for food?
- How will biofuels improve EU food security?
- Will biofuel production be damaging for developing countries? Will it increase poverty and even hunger in the world?
- What must we do to ensure that the impacts of biofuels are positive?
- Should we hold back from investing in current technology and wait for the so-called “next generation” of biofuels?
- Is it true that biofuels are only viable if subsidised?
- Should biofuels be left to market forces?

WHAT ARE BIOFUELS?

Biofuels fall into two main categories: bioethanol and biodiesel. Bioethanol replaces fossil petrol and is made from sugar and starch crops like wheat, barley, maize, sugar cane and sugar beet. Biodiesel is a substitute for diesel and is made from oil plants such as oil seed rape (colza), soya oil, animal fats and recycled vegetable oils. Furthermore, scientists are working on advanced biofuels which will enable the cellulose and lignin contained in all plants and organic waste to be converted into liquid fuel. However, more research is needed and advanced biofuels are unlikely to be on the market for a number of years to come.

Biofuels can be blended with existing transport fuels without the need to change existing infrastructure, making them a practical and immediate part of the solution in addressing the rising emissions from the transport sector.

CAN BIOFUELS REALLY CONTRIBUTE TOWARDS REDUCING THE NEGATIVE EFFECTS OF CLIMATE CHANGE?

Yes, they can. Unlike the world's oil fields, biofuels from biomass are renewed quickly with each harvest. Photosynthesis helps the plant capture solar energy and absorb CO₂ from the atmosphere by producing biomass which can be converted into biofuels. Biofuels blended with traditional fuels help reduce greenhouse gas emissions of fossil origin produced by engines. The carbon savings depend on the feedstock used and how the biofuel is produced. Biofuels produced in the right way offer significant savings compared to traditional fossil fuels.

The EU¹ is committed to introducing standards that will ensure that only biofuels which are really effective in reducing CO₂ emissions will be used in the EU. The carbon saved from the use of biofuels will have to be at least 35% of that which would be produced from using fossil fuels.

Typically, biodiesel made from European-grown rapeseed results in a greenhouse gas saving of 44 percent compared to fossil fuels. The typical figure for ethanol made from EU sugar beet is 48 percent. As the industry develops, advances in current technologies and new technology will result in further savings.

IS THE EU POLICY TO SET A 10% BIOFUEL MANDATORY TARGET BY 2020 THE RIGHT ONE?

Yes, biofuels are an important weapon in the fight against climate change. Using more biofuels is a part of the solution for bringing the damaging growth in CO₂ emissions from transport under control - together with other policies such as encouraging cleaner cars or in the organisation of transport logistics. The transport sector is pouring greenhouse gases into our air, 365 days a year. Transport is already responsible for more than one fifth of the greenhouse gas emissions that contribute to climate change in the European Union. And emissions are climbing faster in this sector than in any other. All in all, greenhouse gas emissions from land transport increased by 27% between 1990 and 2005².

The implementation of the EU shows that voluntary targets³ have done very little to stimulate the use of biofuels. Similarly, it is not possible to apply the greenhouse gas quota exchange system⁴ to

¹ COM(2008)19 final

² EEA report "Climate for a Transport Change" 1/2008

³ Directive (EC) n°2003/30

the transport sector because of it is made up of so many small users. This is why a mandatory target is necessary. A minimum binding target of 10% biofuels in transport by 2020 will also help address future energy supply problems. The EU transport sector's dependence on imported oil lies at 98 per cent! Shortages will continue to be a real danger for economic and political reasons. Oil prices of more than \$120 a barrel are not good news for inflation, food, feed or energy costs! So diversification of our fuel sources is needed. Greater energy security is a vital goal of the EU's energy policy, and biofuels are part of the answer.

A patchwork of different approaches across Member States simply will not deliver results, with one Member State reducing its greenhouse gas emissions from the transport sector while another does nothing. Binding targets provide certainty to investors. Long-term regulatory signals in the form of targets give governments and private companies enough stability and assurance in their investment plans. Only if EU Member States adopt a united front can they give confidence to investors, bring production costs down enough, and build a well-functioning internal market for biofuels. Only with a good EU domestic production base will the EU maintain its headway in the area of technological development, which in turn will speed up the development of more efficient first- and second-generation biofuels.

IS INCREASING DEMAND FOR BIOFUELS LEADING TO HIGHER PRICES FOR FOOD?

Biofuels have become a scapegoat to blame for recent commodity price increases that have other causes – growing food demand and poor harvests.

For instance, in Europe, bioethanol production is not the cause of the sharp increase in wheat price - less than 1% of EU cereals are currently used for bioethanol, and total EU oilseed production (part of which is used for biodiesel) represents only 2% of world oilseed demand. EU demand for biodiesel does not contribute to the rise in the price of palm oil given that biodiesel accounts for less than 4% of palm oil use. Worldwide, sugar cane and maize are the two main raw materials used to produce bioethanol. Despite more Brazilian sugar cane being used for ethanol production, world sugar prices decreased by 32% in 2007 over 2006. There has been an upturn in prices in 2008 but this is thought to be largely due to the flow of financial funds speculating in commodities.

The rise in maize prices also cannot simply be explained by the increase in demand for bioethanol in the USA. Rising world demand for meat linked to rapidly increasing incomes in India and China, which are pushing up demand for animal feed, must be taken into account.

The reality is that food is cheaper than ever. Over the last twenty years, food prices have risen by 20% less than prices for other consumer goods. So the recent food price increases go just some way in closing that gap. If EU farm-gate prices had grown over the last 100 years at the same rate as the general cost of living, grain and oilseed prices would be, on average, four times higher than current levels. This also explains why the average household in the EU 27 spends less than 13% of their budget on food in 2006 compared with 21% in 1988 in the EU 12.⁵

⁴ The EU Emissions Trading System (EU ETS) is to help EU Member States achieve their commitments to limit or reduce gas emissions in a cost-effective way. At present, for each trading period under the scheme, Member states draw up national allocation plans (NAPs) which determine their total level of ETS emissions and how many emission allowances each installation in their country receives. At the end of each year, installations must surrender allowances equivalent to their emissions. Companies that keep their emissions below the level of their allowances can sell their excess allowances. Those facing difficulty in keeping their emissions in line with their allowances have a choice between taking measures to reduce their own emissions or buying the extra allowances they need on the market.

⁵ Eurostat

If demand for a commodity increases, for example through the use of biofuels, this will tend to push up the price unless supplies also increase - for example by bringing in previously fallow land where production is currently uneconomical or through productivity increases. There are substantial tracts of arable land lying fallow in many of the new Member States. EU Commission modelling suggests that even if we reach our 10% target by 2020, it will only cause a 3 to 6% increase in cereal prices, and an 8 to 10% increase in rape seed prices. It should also not be forgotten that the price of the product leaving the farm only represents around 4% of the price of food in the shops (e.g.: bread)¹. Labour costs account for 30%. Other costs, such as processing, packaging, distribution and retailing for 66% of the end product are thus far more important in influencing the price paid by consumers than the price of raw materials.

HOW WILL BIOFUELS IMPROVE EU FOOD SECURITY?

Agriculture in the EU has the potential to produce biofuels without jeopardising the security of food supply. According to the European Commission's scenario, the impact on land use in the EU-27 would be modest. Approximately 15% of land grown with arable crops would be used for bioenergies i.e. 17.5 million hectares in 2020.

Only some of the oilseeds, cereals and sugar beet used to produce biofuels are actually turned into energy, with a major share remaining in the food sector as protein-rich animal feed required to produce meat and dairy products. In the case of biodiesel, 55% of the oilseed grains go to make oil cakes fed to animals. In the case of bioethanol, feed produced from D.D.G.S (Distilled Dried Grain and Soluble) make up a third of the cereal volumes used.

It is high-quality and protein-rich animal feed that will allow the EU to reduce its heavy dependence on feed imports. The EU currently imports 80% of its protein needs for animal feed in the form of corn gluten, grains and soya cakes from the United States, Argentina and Brazil, i.e. 35 million tonnes in equivalent soya cakes at a cost of approximately 9 billions €.

Biofuel production will therefore contribute towards reducing the amount of land needed to plant crops principally for the production of animal feed as well as towards bringing down the price of feed. The EC estimated surface area of 17.5 million hectares in 2020 used for liquid biofuels in the EU ought to be revised downwards. Accounting for the by-products remaining in the animal feed sector, approximately 8 million hectares would be used for liquid biofuels between now and 2020, which corresponds to more or less the whole area of land put into set aside between 1992-2007.

It should not be forgotten that farmers are the first in line to face the impact of climate change. If greenhouse gas emissions are not reduced, e.g. by the use of biofuels, it could threaten the world's ability to produce food.

WILL BIOFUEL PRODUCTION BE DAMAGING FOR DEVELOPING COUNTRIES?

WILL IT INCREASE POVERTY AND EVEN HUNGER IN THE WORLD?

Hunger is not due to a lack of food supply but to poverty, a lack of buying power and poor agriculture and social policies (e.g. infrastructure, seeds, education, financing, etc.).

Over the last 30 years, Europe's farmers have stood accused of over-producing and dumping their surpluses with the aid of export subsidies, thus lowering prices received by farmers in developing countries and causing poverty. That criticism has now been stood on its head and the EU is now being blamed for increasing prices.

¹ Ikee

Consumers living in urban areas would always prefer lower food prices. But seven out of ten of the world's poor live in rural areas and most of them are farmers¹. Farmers have faced a decline in world prices in real terms for two decades or more. If commodity prices rise, it means higher income for farmers in poor countries. This in turn will allow land which was previously unprofitable to be brought back into production and enable farmers to purchase much-needed inputs and allow investments in machinery, crop storage facilities and infrastructure. This will enable poorer countries to become more self-sufficient in food and in some cases to diversify by producing for local energy needs.

WHAT MUST BE DONE TO ENSURE THAT THE IMPACTS OF BIOFUELS ARE POSITIVE?

The development of biofuels in Europe will not have a negative impact on the environment. This will be ensured by EU and national legislation and the Common Agricultural Policy.

An argument commonly heard is that there is a danger of biofuel production causing environmental damage elsewhere in the world through the destruction of rain forest and other natural habitats to make way for crops like palm oil and sugar cane for export to the EU.

There are good ways of producing biofuels and bad ways. Cutting down forests and destroying habitats in order to plant crops to produce food, cosmetics, or biofuels is totally unacceptable. We do not want biofuels produced this way in the EU, and the industry and Member State governments will do everything they can to ensure that such biofuels are not used here. This will be done through the introduction of sustainability criteria, which are leading the way when it comes to responsible production.

Within the EU, national environmental legislation and the Common Agricultural Policy already guarantees the sustainability of all agricultural production within the EU. All farmers in the EU who infringe environmental legislation are penalised twice: through cuts in their support payments and through their national court. Therefore, biofuels produced in the EU provide the greatest guarantee of sustainability.

But we also need to make sure that the production of biofuels which we import has not caused environmental damage. The best way we can do this is to ensure that sustainability criteria cover not only home-produced but also imported biofuels. The EU² authorities have already recognised the importance of this and are in the process of drawing up strict standards which must be put in place without delay.

SHOULD WE HOLD BACK FROM INVESTING IN CURRENT TECHNOLOGY AND WAIT FOR THE SO-CALLED "NEXT GENERATION" OF BIOFUELS?

No.

The use of first generation biofuels is fully justified because they are already effective in reducing greenhouse gas emissions. Moreover, as always in evolution, the development of the first generation is necessary for the second generation. The advantage of investing now is that it is easier to piggy-back on existing plants than to start afresh, and current investment drives continuous improvements in efficiency. If produced in the right way, second generation biofuels

¹ IFAD

² COM(2008)19final

will have advantages but most experts confirm that commercial output is at least a number of years away. So, at the moment first-generation biofuels offer the only realistic renewable alternative to fossil fuels used for transport, which is responsible for one-fifth of EU greenhouse gas emissions.

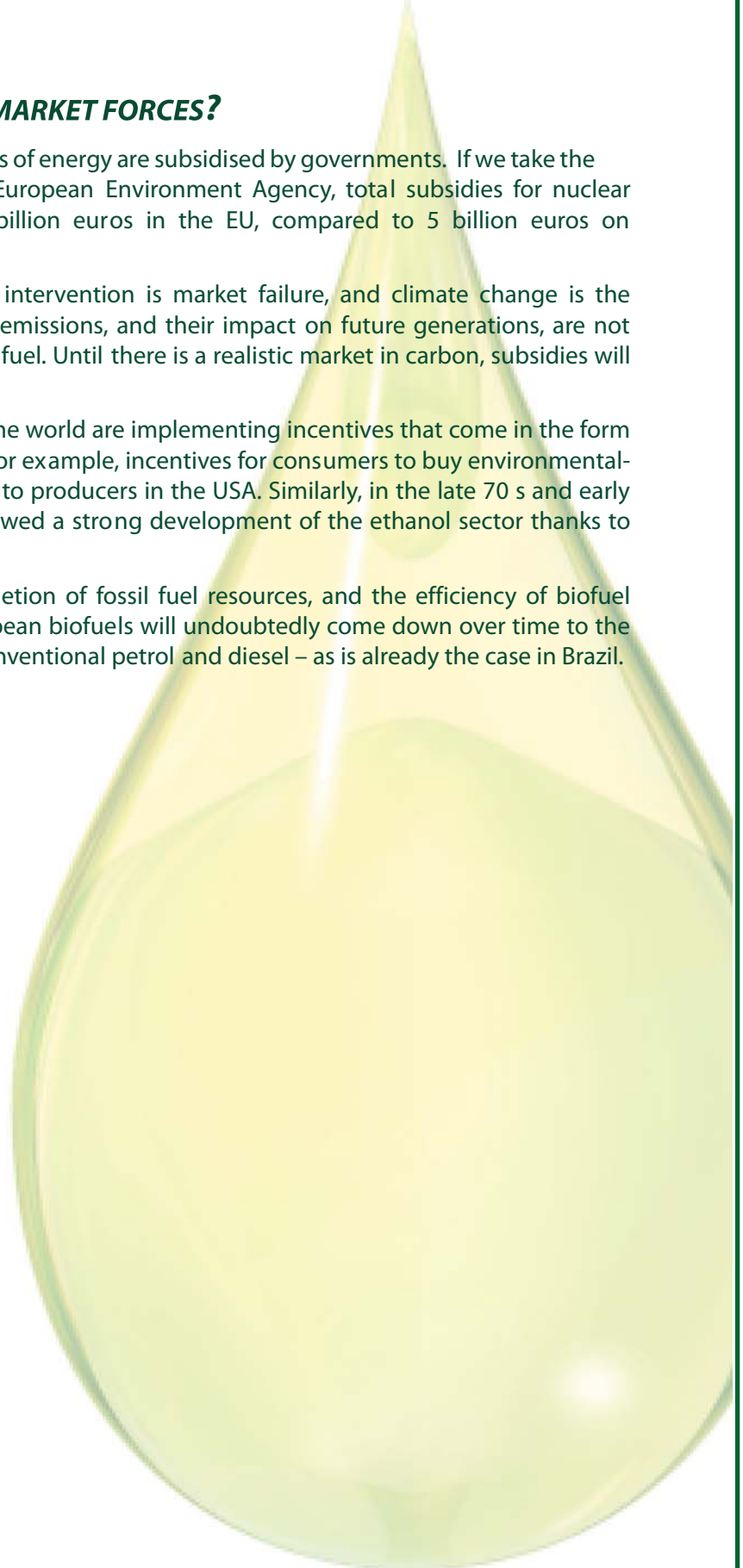
SHOULD BIOFUELS BE LEFT TO MARKET FORCES?

First of all, it must be noted that all forms of energy are subsidised by governments. If we take the EU as an example, according to the European Environment Agency, total subsidies for nuclear energy, oil and coal amount to 33 billion euros in the EU, compared to 5 billion euros on renewables a year.

But the main justification for market intervention is market failure, and climate change is the biggest market failure in history. CO₂ emissions, and their impact on future generations, are not accounted for in the price of energy or fuel. Until there is a realistic market in carbon, subsidies will be totally justified.

This is why governments throughout the world are implementing incentives that come in the form of either direct or indirect subsidies. For example, incentives for consumers to buy environmental-friendly cars (Brazil) or direct subsidies to producers in the USA. Similarly, in the late 70 s and early 80 s, the Brazilian Proalcool plan allowed a strong development of the ethanol sector thanks to huge public measures and subsidies.

Also oil prices rise, reflecting the depletion of fossil fuel resources, and the efficiency of biofuel production increases, the cost of European biofuels will undoubtedly come down over time to the point where they can compete with conventional petrol and diesel – as is already the case in Brazil.



COPA (Committee of Professional Agricultural Organisations in the European Union) and COGECA (General Confederation of Agricultural Cooperatives in the European Union) are the organisations which represent the vast majority of farmers and their cooperatives in the European Union. These organisations represent 15 million people working either full-time or part-time on EU farm holdings and more than 40,000 cooperatives. They have 76 member organisations from the EU member states. Their aim is to defend the general interests of agriculture.



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