elobio

Biofuel policies for dynamic markets

Policy Paper 1 – September 2008

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Intelligent Energy Europe

Elobio: a very short introduction

I. The problem:

Increased demand for biofuels could have significant long-term impacts on several commodity markets. Current disputes on this issue (with rising prices in today's markets) require responsible policy.

II. The objective:

Formulation of efficient and low-disturbing policy options that enhance biofuels while minimizing the impacts on e.g. food and feed markets and biomass for power and heat.

III. The activities:

- Review of current experiences with biofuels and other renewable energy policies and their impacts on other markets;
- Iterative stakeholder-supported development of low disturbing biofuels policies;
- Model-supported evaluation of these policies' impacts on food & feed and lignocellulosic markets;
- Assessment of selected optimal policies' impact on biofuels development, potentials and costs.

The Elobio Policy Paper series

In the course of the project (November 2007 – April 2009), the Elobio team will prepare a short series of Policy Papers presenting Elobio results and news in the context of the actual policy debate on biofuels. Key target audience are policy makers at the EU and EU member state level. Contributions will largely be based on (intermediate) results of the project.

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Understanding the dynamics between biofuels and commodity markets

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Because of the several challenges facing the transport sector today, governments are increasingly turning to biofuels as part of the solution and are offering different support schemes to facilitate their expansion. However, increased biofuels production and use might have side-effects on the environment and the economy, which policy makers need to be aware of, given that demand for biofuels is mostly policy-induced. One of the biggest issues surrounding biofuels is their potential impact on food prices. The recent development of biofuel industries coincides with significant increases in prices of basic agricultural commodities pointing to a relationship between the two. However, it appears that this is not quite so straightforward; there are a number of factors that determine the level of impact of the biofuels sector on other commodities and which are subject to influence from policies of various domains (trade, agricultural, environmental, competition). Understanding these interactions is of crucial importance when formulating policies for low-disturbing biofuels. Based on the analysis of these factors and estimates of studies that attempted to quantify the price impacts of biofuels on crop prices it is difficult to come to any solid conclusions on the magnitude of the problem. The current state of knowledge points in very different directions implying that all options must be considered. Nevertheless, adequate policies can ensure that in the long term any such impacts are not substantial.

1. Introduction

The recent development of biofuel industries coincides with significant increases in prices of basic commodities such as food and feed. Because rising food prices are a matter of high concern amongst citizens and politicians alike, a great sense of urgency accompanies efforts to explain fast price changes for agricultural commodities, which can sometimes lead to hasty conclusions. Biofuels have been touted by many as the main culprit for the recent increases in prices of basic agricultural commodities; however, a closer inspection reveals that the relationship between the two is not so straightforward. This means that a rushed policy response as is sometimes advocated (e.g. abandoning biofuel targets) could unnecessarily disrupt the development of this industry without achieving the result it is motivated upon (reducing food prices). It is therefore of paramount importance to understand the complex relationships between biofuels and markets of other commodities and all factors affecting them. At the same time, we must be able to put things into context and hence give due consideration to all other mechanisms affecting markets of agro-commodities.

This paper aims at exploring these relationships and the mechanisms that govern them. We start with an explanation of the possible approaches to the problem and then go on analyzing in more detail the factors determining the relationship between biofuels, agricultural commodities and consumer food. We also provide a summary of results of several studies attempting to quantify the price impacts of biofuels on crops and finally we discuss other underlying factors of food price increases to put the role of biofuels into perspective.

2. Approaches to price impact estimation

The top-down approach

Quantifying the impact of the biofuels industry demand for agricultural commodities on their price can be done in different ways. The traditional top-down approach starts with the goal of a given share of biofuels in total transport fuels (e.g.10% as in the EU target), selects a path to achieve this target (number of Mtoe derived from different types of biofuels), calculates the amount of feedstock required to produce this amount of biofuels and finds possible sources (e.g. marginal land, export diversion, import etc) and finally predicts the impact on prices.

Such an approach is likely to underestimate both the price effect (at least in the short term) as well as the biofuel production volumes. In reality, the biofuel industry will seek to achieve the same as every other industry – a least-cost production chain, within the frame conditions provided by government interventions and policies. This is why policies that aim to reflect preferences for biofuels of certain types (e.g. second generation lignocellulosic) or from certain feedstock (waste cooking oil) or from certain land (marginal or abandoned agricultural) need to selectively encourage those, otherwise they will remain underused.

The bottom-up approach

A bottom-up approach that starts by considering price dynamics of feedstock markets and approximates their impact on production levels of biofuels might deliver a more realistic picture. Such an approach starts with relative production costs (using the cheaper feedstocks as the starting point) and goes on to assess the break-even point of viability – what is the maximum level the biofuels industry can pay to remain profitable (considering of course the price of oil and level of government support). Based on this the production levels likely to be achieved by the biofuels industry are estimated. This approach also takes into consideration the cyclical nature of markets, where high feedstock prices restrict production and thus relax the impact on prices. It basically shows that it is prices that determine production levels rather the other way around. Of course policy instruments such as obligation quotas or obligatory target shares can work against these market mechanisms and can help sustain prices on higher levels if significant amounts of feedstocks are diverted to biofuel production.

3. Biofuels-agro-commodities relationship determinants

The impact of biofuels on commodity markets cannot be generalized as it depends on a number of factors determining the level of this impact. Those factors are different for different types of markets; feedstock markets (markets of agro-commodities used as input in other industrial processes such as food processing and animal husbandry) will be affected differently than consumer (e.g. retail food) markets.

3.1. Factors determining the impact on feedstock markets

Relative feedstock consumption

In this respect, there are wide differences between biofuel types. On one hand, there is the example of cereal-based bioethanol industry, which in Europe consumes only about 1,4% of total cereal end-use.

Clearly, a sector that consumes such a small proportion of the total cereal use cannot cause an almost 100% price increase. On the other hand, the example of rapeseed oil-based biodiesel, where approximately 60% of European rapeseed oil is used for biodiesel production, show clear signs of price correlation. It is rather difficult to determine at what point price correlations start and if they do, whether this is a temporary or sustained relationship.

Biofuel's sector purchasing power

Additional feedstock demand for biofuels depends to a large extent on its purchasing power *relative* to other players competing for the same raw material. In the case of foodstuffs, markets are often highly concentrated, with clear market leaders who buy up most of the crops available and thus set the floor price for agricultural commodities. In this context, the biofuel industry is mostly a price-taker.

Because most of the demand for biofuels is government-induced, the purchasing power of the sector does not depend only on the price of its product but also on the level of government support. In a situation with loose policies for biofuels (such as indicative targets), the sector is particularly vulnerable to feedstock price increases, as feedstock costs represent 60% or more of total production costs of first generation biofuels (Deurwaarder et al, 2007). If the price of biofuels does not follow an increase of feedstock price, the margins of producers are being squeezed and capacity expansion is discouraged.

Conversely, with governments switching to stronger policies (e.g. tax-based systems and quota obligations), the sector's purchasing power is being increased. This does not mean that the sector is now moving to a position of being the price setter, but it can continue purchasing feedstock at high prices and indeed to a certain extent help them maintain their high levels. In such a situation, either the taxpayer or the consumer at the pump ultimately pays the higher production costs of biofuels.

Responsiveness of the feedstock (agricultural) sector to market signals

In a completely free market situation, farmers all over the world should respond to global increases in prices for agricultural commodities by planting more crops. This is in fact happening in many countries with functioning agricultural markets where price signals reach the producers (farmers). However, output increases can be hampered by export-limiting measures adopted by governments (for example in an effort to curb domestic inflation), which disincentivises farmers in those countries now unable to sell their crops at the higher world prices. To minimize the impact of any additional demand for agro commodities, governments must ensure that all institutions necessary to ensure proper functioning of the agricultural markets are in place and that there are no distorting policies that prevent market signals to being translated into supply adjustments.

Availability of substitutes

Many basic agricultural commodities are highly substitutable among themselves, allowing industries to turn to another feedstock option, when the one they normally consume becomes too scarce. In the context of biofuels this means that additional demand for feedstocks which have readily available substitutes will be felt less by the industries competing for the same raw material. However, an increased demand for the substitute will also raise its price causing spill-over effects into markets of agricultural commodities that are not directly consumed by the biofuel industry (or in negligible quantities). Although this substitution effect can cushion any price increases caused by the biofuel sector on markets of feedstocks it consumes, it also means that biofuel policies will have indirect effects even on commodities that are not directly used for biofuels production.

3.2. Price impact estimates for feedstock markets

Several studies attempted to quantify the impact of the biofuels industry on agricultural commodity markets. Interestingly, very few comprehensive studies focus on the price impact of biofuels so far (Rosegrant et al is one of them), On the other hand, most of the model-based studies are forward-looking and estimate a situation where biofuels develop to reach the targets set by countries and regions of the world. Table 1 summarizes the results of these studies, starting with those focusing on regional biofuel industries (EU, US) and then widening the scope to include major transport fuel consuming countries and finally the world.

Table 1.: Summary of studies assessing price impacts of biofuels on agricultural commodities

Source	**Geographic scope of target**	**Biof %**	**Impact on global price of**		**Cross P impact**	**Comments**
			Bioethanol feedstock	Biodiesel feedstock		
EC DG agri (2007)	EU-27	10% by 2020	+ 3-6% cereal *Relative to 2006 prices*	+ 8-10% rapeseed + 15% sunflower seed *Relative to 2006 prices*		Dynamic model, 30% 2nd gen, 20% imports
Banse et al (2008)	EU	10% by 2020	+6% cereals +2% sugar *Relative to situation with no biofuels*	+9% oilseeds *Relative to situation with no biofuels*		No 2nd gen, General equilibrium model
JRC (2008)	EU	10% by 2020	+4% cereal	+24% veg oils		
Elobeid et al, (2006)	USA	20% by 2015	+58% maize *Relative to 2006 prices*		+ 5 soybean +20% soy oil +20% wheat	Calculates price changes through demand elast.
Collins (2008)	USA	2008/09 levels	+40% maize *Relative to 2006/07 maize price level*			Calculates price changes through demand elast
OECD AGLINK (2006)	US, Brazil, Canada, EU	10% by 2014	+ 60% sugar + 4% cereals *Relative to situation with no biofuels*	+2% oilseeds +20% veg oil *Relative to situation with no biofuels*		Static, no production increases, no int trade, no marginal land
IFPRI (Msangi et al., 2007)	China+USA+ EU+India+Br azil	20% by 2020	+25-40% corn +40-65% sugar cane +15-30% wheat *Relative to situation with low biofuels (1997 level)*	+ 40-75% oilseeds *Relative to situation with low biofuels (1997 level)*		Depending on penetration of 2nd gen and yield improvement, Partial equilibrium model
Schmidhuber (2005)	World	Not specified	+2,8% maize +9,8% sugar *Relative to situation with no biofuels*		+1,1 sugar, +0,2 veg oils, +0,9 wheat, +1,2 rice	For every additional 10 mio t of feedstock used for ethanol), No second generation
IFPRI (Rosegrant, 2008)	World	2007 levels	30% of weighted average price increase for grains between 2001-2007 *Relative to situation with low biofuels*			Relative to a situation with no biofuels, No 2nd gen, Partial equilibrium model
Banse et al (2008a)	World	Various country targets for 2020	+18% cereals +10% sugar *Relative to situation with no biofuels*	+20% oilseeds *Relative to situation with no biofuels*		No 2nd gen, General equilibrium model

Although the comparability of the results is reduced by the differences in approaches and also by the different baselines used (some track price changes relative to a certain point in time, others to a situation without biofuels), there are certain conclusions that can be drawn from these studies.

The first obvious observation is that there is a large variation in results, especially when also considering estimates based on ad hoc calculations and opinions. For example, the IMF stated that biofuels account for 20-30% of the food price increases in the past two years (Open Europe, April 14, 2008), while the World Bank believes this share to be around 70% for the period between 2003 and 2008 (Mitchell, 2008). These claims, however, were not accompanied by extensive analysis (or at least this analysis was not published).

Most estimates based on agro-economic models predict price impacts of the order from a few percent to a few tens of percents at the most. These are for cases where no or low productivity increases are expected and no second generation biofuels are taken into account. The impact on prices of the current production level of biofuels (2,6% of transport fuel based on energy content in the EU in 2007, according to EurObserver's Biofuel Barometer) would therefore be even smaller. Studies that compare future scenarios with and without biofuels (Banse 2008 and Schmidhuber 2006) actually estimate that rather than increasing them, in the long term biofuels would rather slow down further decreases in real agricultural prices. Furthermore, to estimate the net price effects on agricultural commodities the biofuels-induced reductions in prices of by-products would have to be taken into account, although those are studied much less. Schmidhuber (2005) estimates that for every extra 10 mio tons of soybeans and 10 mio t maize, vegetable protein prices fall by 8% which in turn causes a reduction in costs of meat production and hence its price (especially for poultry).

The second important observation is that the impact of biofuels is likely to grow as more countries adopt specific targets. National biofuels policies must therefore not be developed in isolation but always take into consideration the global outlook for biofuels deployment.

3.3. Impact on consumer (retail) markets

The relative share of raw material costs in retail food price

To understand how an increase in the costs of inputs translates into price increases, we must take a look at the price structure of food commodities (and its link to actual production costs). The share of production costs in retail prices has been steadily decreasing, while the shares of distribution, marketing and margins have been increasing over time. Out of the production costs, the share of agricultural input costs in retail food price has reached particularly low levels in the past few years. In Western Europe, plant products on average account for only 9% of the retail price but the share of cereal costs in a loaf of bread is only around 4% (DG Agri, 2007). Based on the estimates of biofuels impact on crop prices discussed above, even in 2020 and with significantly higher shares of biofuels on the market, this would cause an increase in the price of bread by only a fraction of a percentage (if all else stays equal). Animal products are more affected by price increases since feed costs account between 20% and 70% of total meat production costs depending on the type of livestock (but on average only 25% of meat retails price)[1].

[1] Although we can expect the situation in developing countries to be somewhat different, the higher share of agricultural inputs in retail food prices is most likely to come from lower costs of capital and labor, rather than higher share of feedstock inputs.

For example, estimates of the impact of biofuels on CPI[2] in the USA expect an increase of between 1% (USDA, 2008 and Urbanchuk, 2007) to 9% (Lapp, 2007). However, there have been cases of retailers disproportionately increasing food prices on account of increasing food production costs, especially where they hold large shares of the retail food market. Stimulating competition in the retail sector can help curtail such practices.

Elasticity of demand

Food demand elasticity is very low in developed countries averaging only 0,3 (Schmidhuber, 2006) which means that a 10% increase in food prices translates into a 3% reduction in consumption of the pricier food. Such inelastic demand is made possible by the fact that we spend a relatively small amount of our incomes on food (The EU average being 12% of total household expenditure). For the food industry this means that its profitability is not going to be highly impacted by increases in production costs, since most of them can be transferred to the consumers who will not be buying much less, while for the consumers this means their consumption patterns can remain largely unchained because their incomes allow that. Average figures of course underestimate the impact of food price increases on the poorer households in developed countries, and of course the situation in developing countries where the average price elasticity of food demand is 0,75 where the population is much more vulnerable to food price increases, whatever the causes. This must be kept in mind when considering large-scale imports of biofuels from regional markets in developing countries.

4. Other factors affecting food prices

Even though there has been limited assessment on biofuel price impacts so far (most studies focus on the implications of various country targets in the future), biofuels are often mentioned as a main driver for food price increases. The IFPRI (Rosegrant, 2008) estimates that 30% of the weighted average price increase for grains between 2001-2007 can be attributed to the additional demand from the biofuel sector. However, the impact on world price levels is commodity specific. For corn the impact is relatively high due to the fact that most US ethanol production is corn based. For other cereals – e.g., wheat and rice, where the use for biofuels is almost zero – only indirect effects over the land use affects the world price level (Banse et al., 2008a).

While a limited impact on prices of certain food is expected, the movements of food prices are subject to a large number of market, political and meteorological forces that can have long and short term effects on both supply and demand for crops. Long term effects on demand include income and population growth (both increasing, albeit at a slowing rate), while the most important determinants of long term supply are yields (also increasing at a slowing rate) and area of agricultural land, which is slowly increasing (Banse et al, 2008a).

However, it is the short term effects that cause sudden food price hikes and the many problems that come with them. They include weather influence[3], oil prices[4], outside investor influence[5], market

[2] Consumer Price Index

[3] For example, the combined cereal supply shortfall in North America, Europe and Australia in 2006 was 60 Mt, which is 4 times larger then the 17Mt increase in cereal use for ethanol in these countries.

[4] The share of energy in total crop production costs is 25% in developed countries and 43% in developing countries (OECD, 2006). This means that with raising oil prices, agricultural production costs will also increase proportionally due to increased cost of fertilizer use, processing and distributing the crops.

[5] After the downturn of financial markets the interest of hedge funds and sovereign wealth funds has turned to agricultural commodity markets. By pouring their considerable financial resources into agricultural markets they significantly increased their liquidity and thus

expectations (nervousness) leading to hoarding by some importing countries with large foreign exchange reserves, and the already mentioned exporting countries measures to curb domestic inflation[6].

To quantify the separate effects of these factors is equally difficult then quantification of the impact of biofuels, especially in the cases where expectations prompt short-term actions through either speculative behavior or protectionist measures.

5. Conclusions and policy recommendations

This brief investigation of the complexity of the relationship between biofuels and markets of agricultural commodities (both feedstock and consumer food markets) leads to two main conclusions:

1. The discussion on the impacts of biofuels on commodity markets must move from its currently generalist nature to a more biofuel-specific one because of the wide differences between types of biofuels and their impacts. For example, 2nd generation biofuels, with their feedstock base or low-value residues and perennial crops, will have completely different (and probably less strong) impacts on commodity markets.
2. It is not only biofuel policies that affect the relationship between biofuels and commodity markets. Several other policy domains (including agricultural, environmental, trade and competition) can have at least equally important influence. The successful achievement of a large share of sustainable biofuels in total transport fuels will have to be the result of a coordinated policy mix across several sectors. The key challenge is do develop this policy mix.

In the meantime, if ambitious biofuels targets are to be maintained into the long-term, first measures to ensure that any impact on crop prices remain small should focus on:

- Enhancing productivities in countries lagging behind in agricultural development, e.g in the eastern past of Europe;
- Reducing the share of fossil fuels in total crop production costs;
- Critically reviewing the use of trade-distorting government interventions;
- Developing selective incentives for biofuels produced from residues and crops on marginal land.

Biofuels could also have a positive impact on agricultural markets. Although the biofuels sector is mostly a price taker on markets of staple foods like cereals and oilseeds, its demand could help stabilize the floor price for some agricultural commodities. While this could benefit rural development it is unclear whether the price incentive would be significant enough to trigger the spare agro capacity, especially taking into account the export barriers in use in some countries. If they do, they can have positive income effects especially in regions where agricultural production is still labor intensive. However, a series of other conditions must be in place for such benefits to materialize, starting with equitable land access and labor legislation. These conditions seem to be least fulfilled in areas with the biggest potential for agricultural expansion making the actual impact of increased demand for agro-commodities even more uncertain. To increase the chances of bioenergy's impact being a positive one, bioenergy targets must be contingent on the successful enforcement of strict sustainability criteria that will cover both environmental and social aspects.

volatility. However, the Commodities Futures Trading Commission has argued that the relationship between market liquidity and price volatility might in fact work the other way around.

[6] E.g. increased export taxes or downright export bans.

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Biofuel policy support in Europe

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Current transport is facing several challenges, including congestion, local air pollution, its contribution to greenhouse gas emissions, and last but not least its overwhelming dependence on fossil fuels, and in particular crude oil derived fuels. This dependence is even getting more critical as crude oil prices have started to rise exponentially in the past years.
Various alternatives exist, but their success largely depends on the policy support they receive, often in terms of fiscal incentives. The issue of biofuels for transport has become increasingly prevalent in the media and on political agendas, a fact reflected by the recent European Commission proposed binding target for at least 10% of vehicle fuel in the European Union to come from biofuels by 2020.

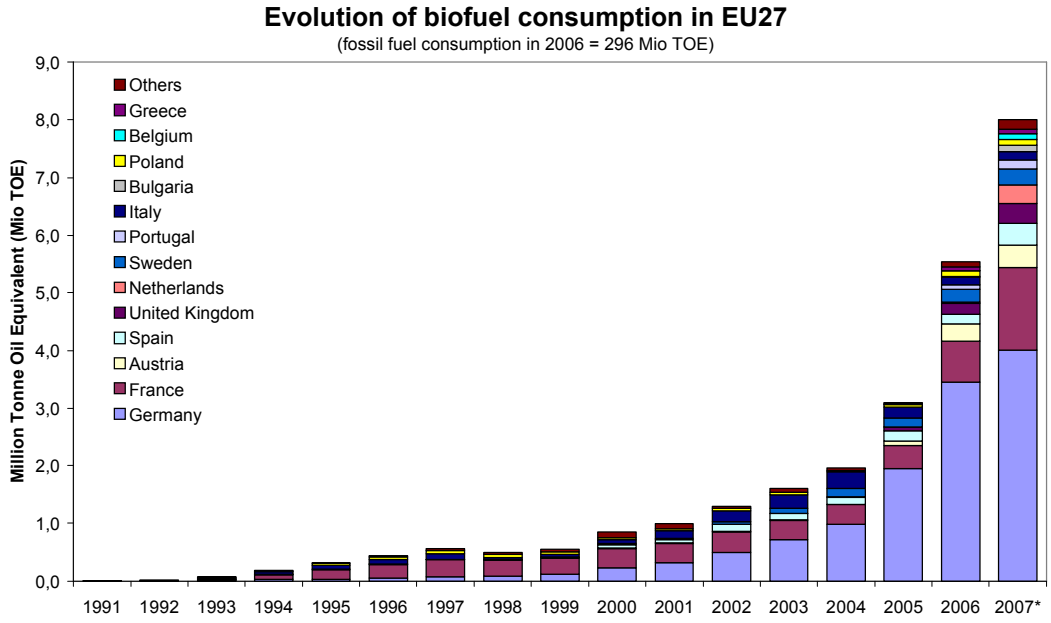
Biofuels are supported on an EU and Member State level with the instruments being closely interlinked. While support to the agricultural production is regulated on an EU-level (as the Common Agricultural Policy CAP is a common policy under sole EU responsibility), in most other areas, the EU provides the framework (e.g. allowing for tax exemptions of biofuels) and leaves the decision on concrete policy measures to the Member States.

A large variety of biofuel support policies are in place in EU Member States. As (conventional) biofuels are a mature fuel, the policy focus today often lies on facilitating their market entry rather than R&D support. There are two main instruments which are actually the basis of biofuels supports schemes: subsidisation to compensate the extra costs of biofuels compared to fossil fuels, or prescription of a mandatory uptake in the market.
The first option is implemented by a tax exemption scheme, which has proven successful although it caused important revenue losses for government. In the second option, fuel suppliers are obliged to achieve a certain biofuel share in their total sales. Here, fuel suppliers and ultimately the transport users will carry the additional costs. Both instruments can be complemented by a number of other incentives, such as support to dedicated vehicles.

Past experience shows that partial or total exemptions from fuel taxes for biofuels were vital in promoting biofuels in the EU. All Member States with a high penetration of biofuels have, or have had, a favourable tax regime in place, e.g. Germany (until the end of 2006), Sweden, Austria, France and Spain.
As the tax exemption must not exceed the level of the fuel tax, the instrument has proven most successful in countries with high enough fossil fuel tax levels to compensate the additional production costs of biofuels compared to the fossil alternatives. This relation becomes very clear for Germany, where the introduction of a continuously rising ecotax on fossil fuels from 1999 onwards, combined with a full tax exemption for biofuels eventually led to biodiesel pump prices falling below those of fossil diesel.

A switch towards obligation schemes can recently be observed as a consequence of the high revenue losses resulting from tax exemption schemes. Since 2005, 12 EU Member States – accounting for almost 90% of the total EU biofuels consumption in 2006 – have switched or will switch from a tax exemption to an obligation scheme in the very short term. In many Member States, some mixed schemes are in place, in which quota either limit the amount of biofuels that will benefit from a tax exemption, or tax exemptions only apply to certain biofuels (often high blends) while the large volume biofuels fall under an obligation scheme.

The following figure shows the evolution of biofuel consumption in the EU27. In 2007 the share of biofuels reached around 2.6% of transport energy consumption.



It is clear that biofuels and bio-energy play an increasing role in the abatement of greenhouse gas emissions and the reduction of energy dependency. However part of the biomass needs to be imported from outside the EU. Although biomass has a 'green' image, an increasing concern arises about the sustainability of produced biomass (e.g. including impacts on biodiversity, displacement of food production, but also the effectiveness in GHG reduction), specifically for imported biofuels.

Traceability and certification of biofuels will be key. A ranking of different biofuel production pathways based on the efficient use of biomass, the carbon content and GHG savings potential, production costs and interference with food markets would be helpful to identify those pathways that should primarily be supported to best fulfil the main objectives in supporting biofuels, which are reducing greenhouse gas emissions, increasing security of supply or securing agricultural income, while avoiding an excessive impact on other markets (like food). So a government may thus decide to differentiate support to different biofuels in order to minimise potential negative impacts. Other measures will therefore ideally complement the main instrument that creates the market demand (obligation or tax exemption). The proposed Renewable Energy Directive has given first guidance for practical implementation of sustainability requirements.

Feeding the analysis:

The first Elobio stakeholder event

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A substantial part of the Elobio activities is dedicated to further analysis of the relations between biofuels development, demand from competing sectors, and commodity price development. An essential feature is that these activities will work on the basis of inputs from stakeholders from all relevant sectors. This stakeholder process will try to identify and formulate innovative policy options for policies that lessen the potential impacts of biofuel policies on commodity markets, and vice versa.

The first workshop

The workshop to be held on 30th October 2008 in Brussels is the first step in a stakeholder consultation process involving three steps in all. The first workshop is aiming at having stakeholders reflect on existing policies and identifying key issues and mechanisms leading to market disturbance. The idea is to have stakeholders define criteria for biofuels policies that can be classified as "low-disturbing". The results of the first workshop will be used as an input into an economic model developed for the purpose (assessing potential and cost of such biofuels policies). Later, the preliminary results of the model runs (indicating the impacts on food & feed markets as well as on ligno-cellulosic markets) are to be reflected upon by the stakeholders, encouraging them to evaluate the methodologies applied as well as suggesting further improvements. After the first complete round of results (identifying impacts), a second workshop shall be held aiming at evaluating synergies and conflicts between impacts and identifying best policies and practices using the criteria set in the first workshop. As the stakeholder consultation process consists of three steps, but concentrates on developing one set of solutions, we are interested in identifying stakeholders that can participate throughout this process, so that it is the same people who are defining criteria as well as ultimately endorsing the best policies.

Some key questions for the first workshop

- what are important ways by which biofuels policy and changes in commodity markets affects the different sectors?
- what good and bad effects may occur due to the fact that biofuels and other sectors start responding to each other via commodity markets?
- what can be done to accommodate rising food and feed prices and prices of other commodities, and what (new types of) policies would enhance this?
- what research questions should the ELOBIO project look into?

Target group / stakeholders

The target group of the workshop is stakeholders, who represent the various players that are most affected by biofuels policies. Participants will be invited from the agricultural and forestry sectors, their corresponding processing industries, and product users (biofuels as well as others). target group of the ELOBIO project is firstly DG TREN, and secondly more generally policy makers in the EU Commission.