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PHASING OUT FIRST GENERATION BIOFUELS: WHAT IS AT STAKE?

#NobiofuelNofood

Key Facts¹

- 1) The EU's share of biofuels in transport reached 4.9% in 2014. The total amount of biofuels used in the European Union amounted to 14 Mtoe, which consisted of 11.4 Mtoe of biodiesel (around 4% of all transport fuel) and 2.6 Mtoe of ethanol (around 0.9% of all transport fuel).
- 2) In 2012, 79% of biodiesel and 71% of bioethanol consumed in the EU was produced within the EU. Biodiesel imports came primarily from Argentina and Indonesia, however, in 2013, EU anti-dumping measures were imposed against these two countries. Bioethanol imports mainly came from the United States and Brazil.
- 3) The development of first generation biofuels resulted in some 35 Mt of gross avoided CO₂ emissions in 2013. The deployment of renewable energies in transport led to a 116 Mtoe drop in EU demand for fossil fuels. More importantly for the EU's security of supply, the increased use of renewable energies led to savings of €30 billion per year thanks to avoided imported fuel costs.
- 4) The total agricultural area required to produce feedstocks for biofuels consumed in the EU amounted to 7.8 million hectares in 2012. This area was made up of 4.4 million hectares within the EU (3% of total EU cropland) and 3.5 million hectares outside of the EU.
- 5) Today, first generation biofuels provide a market for European agricultural raw materials. 2 to 3% of the EU's available cereals, 4 to 8% of its available sugar/isoglucose and 2/3 of available rapeseed oil are used to produce EU first generation biofuels. 10 million tonnes of cereals (wheat and maize), 13 million tonnes of sugar beet and 14 million tonnes of rapeseeds are used to produce first generation biofuels in the EU. These market outlets for EU agricultural raw materials must not be closed.
- 6) The Commission's analysis has found that the grains used to produce bioethanol constituted 3% of the total cereals used in 2010/2011. This is estimated to have a minor effect on prices on the global cereals market (1 to 2%). EU biodiesel consumption is greater and had an estimated 4% price effect on food oil crops (rapeseed, soybean, palm oil) for 2008 and 2010. It also appears that biofuel demand is much more price sensitive than demand on the food market, therefore demand declines more in response to rising prices.

¹ Based on biofuels barometer, Renewable Energy Progress Reports and Court of Auditors Special report 18/2016

- 7) Only biofuels that are certified as sustainable can be taken into account in the EU's target. The sustainability of most biofuels placed on the EU market is certified by voluntary schemes that are recognised by the Commission.
- 8) The Commission's public consultation on RED II (2016) revealed that two thirds of the respondents were in favour of public support for first generation biofuels or had no opinion. The respondents supported incorporation obligations as a way to increase the use of renewables in transport.

The Commission proposes a gradual phasing out of first generation biofuels. What is at stake?

The EU's plant protein supply and outsourcing EU livestock production

The EU's reliance on imported protein has continued to push up the price of animal feed. Furthermore, there is a risk of disrupting supply because of inconsistent authorisations of genetically modified organisms (GMOs). As a result, the risk of certain livestock production activities being relocated outside of the EU could increase further in the future. The sustainable production of biofuels from EU arable crops plays an important role in narrowing this deficit for the benefit of both livestock and arable producers, as well as the EU's trade balance and food security for its citizens.

Key facts:

- ▲ The EU imports 70% of the plant protein it needs, mainly meal and soya meal for animal feed from South America.
- ▲ The value of these imports, i.e. around 35 million tonnes of soya meal equivalent, increased from €9 to €12 billion between 2008 and 2015.
- ▲ The emergence of new clients for suppliers in South America, particularly China, which have less strict requirements than the EU in terms of production conditions and a rather opaque supply strategy, could upset the balance on the EU's supply markets in the long term.
- ▲ Cereals are particularly well-adapted to the EU's soil and climate conditions and are also a major local source of plant protein thanks to their productivity and protein content.
- ▲ More than 12 million tonnes of meal are produced by crushing oilseed rape grains for biodiesel production in the EU.
- ▲ By-products from conventional bioethanol production generate 5 million tonnes of feed for farm animals.
- ▲ For every litre of bioethanol produced in the EU, between 1 and 1.2 kg of by-products for animal feed are produced. For every litre of biodiesel, more than 1.3 kg of protein-rich by-products are produced.
- ▲ First generation biofuels produced from arable crops grown in the EU replace 4 to 5 million hectares of soya that would otherwise be imported from third countries, mainly in South America. This led to a 10% drop in the EU's self-sufficiency rate from early 2010.

Stability on agricultural markets, farmers' incomes and EU food security

- The question is not to choose between food production and conventional biofuel production, rather we must make the most of the resources at our disposal to produce food and renewable energy, as well as other products, often from the same crops. Conventional biofuels are not automatically synonymous with market conflicts. On the contrary, conventional biofuels make it easier to manage agricultural commodity markets, which can help stabilise agricultural commodity markets and prices, as well as providing greater security for consumers and farmers.
- Stable agricultural markets lead to increased investments and increased productivity, which is beneficial for food as well as biofuels.

Key facts:

- ▲ Agricultural market volatility has increased significantly in the last few years due to several factors. These factors include successive agricultural policy reforms since the Uruguay round, which have left EU agricultural markets more open to global fluctuations as is the case for other non-agricultural commodities; extreme weather events (flooding, drought and storms as a result of climate change); trade bans; and financial speculation.
- ▲ This market volatility is expected to continue in the future. At the same time, it is commonly acknowledged that global food production will need to double by 2050 and input costs are rising.
- ▲ The market price of cereals has fallen by 40% over the past 3 years as a result of record production levels across the world, which is not particularly related to EU first generation biofuel production.

Fully using the EU's agricultural production capacity and green growth in rural areas

Producing biofuels from arable crops in the EU has opened up new agricultural commodity markets for European farmers. Biofuel production has encouraged investments on farm and into agricultural research, which in turn has allowed yields to be increased through improved techniques and new crop varieties. This is beneficial for the production of food, feed and biofuels.

- Rapeseed is a very good example of how the agricultural sector has benefitted from a better understanding of crop rotations: new markets have led to investments in this crop because there is more demand and more money in the supply chain thanks to biodiesel. Using oilseed rape in a cereals rotation offers numerous agricultural benefits: it is an effective break crop that allows better yields for the first cereal crop; it makes it possible to control resistant weeds using alternative control methods; it permits early sowing and harvesting; fosters a good labour distribution; and reduces capital investment.
- Using maize as a monoculture can sometimes be the most well adapted crop system for a particular type of land and does not lead to soil degradation. Cereals are also forgotten havens of biodiversity, be it for wheat or maize. Maize in particular is somewhat of a refuge for several species of summer insects and mammals, as it provides green, humid and fresh vegetation in full development, as well as food and shelter on hot days. In the winter, any corn ears or grains left on the field serve as food for migrating birds, such as cranes. Straw cereals provide food and breeding sites for small wildlife on the plains.
- Sugar beet is a perfect example of environmental sustainability. Because the roots turn, the sugar beet improves soil structure and reduces soil compaction and erosion. Generally, fertilisers and pesticides are applied in small doses. The energy yield of sugar beet is very favourable: sugar beet produces 15 to 16 times more energy than what is needed to grow the crop.

Conventional biofuels produced from oilseeds, cereals and sugar beet would drive the development of these crops, generating an additional supply of crop residues for the production of advanced biofuels.

Key facts:

- ▲ 1.5 to 2 million hectares of arable land in the EU has not been cultivated since the end of compulsory set aside in 2009.
- ▲ The total surface area of rapeseed crops in rotations has gone from 2 to 6.7 million hectares since the turn of the century. The 6.5 million tonnes of rapeseed oil that is used for biodiesel does not create any excess tension on the global oil and fat market. It can be compared to rising yearly production, which has been increasing by 5 to 7 million tonnes per year for at least a decade now. Production in 2010 was 175 million tonnes, compared to 110 million tonnes in 2000. Forecasts predict that it will reach 240 million tonnes in 2020.
- ▲ Only 10 million tonnes of cereals of the 335 million tonnes produced in the EU are used for bioethanol production. These 10 million tonnes would otherwise inflate levels in storage as they would have no outlet. The EU produces sufficient cereals surpluses, which are exported.
- ▲ For sugar beet, it is estimated that 150,000 hectares are currently used for energy purposes (bioethanol, biogas).
- ▲ The amount of land used for conventional biofuel production equates to around 2.5% of the EU's agricultural land (UAA). Yet, the ecological focus area measure could see around 5 million hectares of arable land taken out of production.
- ▲ It is possible to encourage green growth with new technologies (plant genome, precision farming, water and soil management, etc.).

What would be the negative repercussions of phasing out first generation biofuels?

Agricultural markets

- ▲ More than two thirds of the rapeseed oil produced in the EU (some 6 to 7 million tonnes) is used in the local production of FAME biodiesel. It is unrealistic to think that the EU could increase its exports of rapeseed oil to third countries twentyfold in order to replace the internal FAME biodiesel market or to replace other oils and fats on the EU food market if this were to be eliminated. Farmers may turn to other cereals, such as soft wheat, as an alternative to growing rapeseed. Abandoning 15 million tonnes of rapeseed with an average yield of 3.1 tonnes per hectare would free up 4.84 million hectares of arable land. With soft wheat yielding an average of 5.5 tonnes per hectare, if all hectares no longer used to grow rapeseed for FAME biodiesel were instead planted with soft wheat, the availability of soft wheat could shoot up by 27 million tonnes, which is the equivalent of over 15% of the total volume of soft wheat available in the EU. This could create market disturbances in the cereals sector if the EU is not able to find new export markets.
- ▲ As there will be no sugar quotas in place after 2017, there is a risk that uncertainty and volatility on the sugar and starch markets will be further exacerbated. The sugar beet sector should not be deprived of its ethanol for carburation outlet, which is an outlet that plays an important role in adjusting sugar prices in other regions of the world such as Brazil.

Farmers and jobs in rural areas

- ▲ Ending EU support for conventional biofuels would cause rapeseed production to be abandoned due to the lack of a rapeseed oil market. The resulting economic loss would not be offset by an increase in the price of rapeseed meal. Rapeseed producers would suffer income losses of €300 per hectare.
- ▲ Moreover, there is a risk that phasing out support for conventional biofuels could limit farmers' leeway when implementing the crop diversification obligations.
- ▲ The biofuel industry could also be restructured because its production capacity would not be used to its full. The EU's renewable energy and biofuels targets led to €16 billion of investments that generated 220,000 jobs, which are now at risk.

- ▲ In the field of renewables in transport, the constant change of direction by the Commission has triggered further uncertainty for investors. While we welcome the clear support for ‘advanced biofuels’ in the Low Emissions Mobility Communication dated 20th July, the Commission’s proposed vision of developing an advanced biofuels industry by sacrificing the conventional biofuels industry actually damages investor confidence and bankability, thereby undermining confidence in the biofuels market as a whole and having a negative impact on the EU’s 2030 objectives for climate and energy.

Environment

- ▲ The EU’s ambitious greenhouse gas targets for 2030 will be more difficult to achieve due to more fossil fuels being used in transport instead of first generation biofuels, until there is a more large-scale development of e-mobility.
- ▲ Removing the option of using conventional biofuels, a proven technology available at scale to decarbonise transport fuels, would place an extra burden on other non-ETS sectors. This would therefore require substantial additional emissions savings in the agricultural, construction and waste sectors. This would therefore jeopardise the Member States’ ability to achieve their Effort Sharing obligations.
- ▲ The EU’s area under cover crops could be reduced, thus having a negative effect on crop biodiversity.
- ▲ What's more, the availability of used oil in the EU will fall far short of what is needed to replace all of the rapeseed oil used to produce FAME biodiesel; consequently, the EU will have to import more waste.

Energy security

- ▲ The EU would become more dependent on fossil fuel imports for the transport sector.
- ▲ It is essential at the very least to maintain the EU’s first generation biofuel production capacity in order to face extreme volatility on the fossil fuels market, which could result in geopolitical instability across the world.
- ▲ It is not always possible to add advanced biofuel processes to first generation biofuel production capacities.

Waste of public money

- ▲ The first generation biofuel industry developed thanks to non-food set-aside supported via the Common Agricultural Policy, national state aid and a de-taxation programmes over the past 25 years. Phasing out support for first generation biofuels would lead to industrial restructuring and be a waste of public money.

The Bio-based economy

First generation biofuels are a major sector of the bio-based economy. Developing and distributing first generation and advanced biofuels can be a step towards establishing an economy that is less dependent on fossil fuels. The mass production of biofuels is a pre-condition for greater investments in the bio-economy and the development of solutions in the agricultural, food and forestry sectors in order to mitigate climate change.

Proposals

We are firmly opposed to scrapping EU support for conventional biofuels after 2020. We need a long term, stable policy and more consistency between the different fields of EU policy, including on the energy, climate, agriculture, industry and trade in order that the ambitious targets of the Climate and Energy strategy can actually be implemented.

We propose

- First generation biofuels generating animal feed and proteins for the European market must be a priority. This must be reflected with an appropriate EU binding target for first generation biofuels produced from EU arable crops.
- There must be mandatory blending obligations for first generation biofuels and advanced biofuels, taking the results of the public consultation on RED II into account.
- The level of the mandatory blending target for 2030 for first generation biofuels must not be below 7% by 2030. In order to maintain the current existing production capacity, the level of the mandatory blending target must be increased beyond 7% because the development of the electrification mobility will lead to a reduction of the volume of the fuel for road transport.
- The EU's binding targets in the RED and FQD are the most cost-efficient ways of ensuring that greenhouse gas emission reductions in this sector and must therefore be extended after 2020.
- The renationalisation of the first generation biofuels market must be strongly avoided as it will have a negative impact on the EU internal market.
- The principle of technological neutrality must be maintained in the FQD.

In parallel, concessions granted for ethanol and biodiesel imports from third countries in bilateral, multilateral and generalised scheme of preference (GSP) agreements must be phased out. Moreover, the EU's legal challenge against differential export taxes in Argentina and Indonesia must be maintained and supported both by the WTO and the EU Court of Justice.
