

**The EU's main agrofuels subsidies in 2006 and 2020<sup>1</sup>**  
Jacques Berthelot (jacques.berthelot4@wanadoo.fr), Solidarité,  
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The EU agrofuels subsidies concern mainly the reductions or exemptions of excise taxes on these fuels, which benefit to agrofuels processors, and the direct payments to farmers who grow the feedstocks: cereals, oilseeds and sugarbeets.

**I – The main agrofuels subsidies in 2006**

**1) The weaknesses of the IISD's analysis**

The International Institute for Sustainable Development (IISD) of Geneva has made in October 2007 an in-depth analysis of the EU agrofuels subsidies<sup>2</sup> but this analysis is questionable, particularly on two points, as a result of its neo-liberal leanings.

On the one hand, as OECD, it considers as subsidies to agrofuels producers paid by consumers the gap between the EU domestic prices and the world prices of agrofuels. This is an ideological stance, which considers the world prices as the "true prices", whereas they are most often highly dumped prices – that dumping being commercial, monetary or even environmental and social –, which denies the right to food sovereignty. However, as agrofuels imports were still low in 2006 (about 260,000 tons of bioethanol from Brazil), this "market price support" was of about €334 million (M) in 2006, and in fact of €289 M after deduction of €45 M in tariffs.

On the other hand, it does not take into account the direct payments of the single payment scheme (SPS) to the EU producers of cereals, oilseeds and sugar beets under the pretext that this SPS is fully "decoupled" from production. This assertion has been refuted implicitly by the WTO Appellate Body which has ruled in March 2005, in the US cotton case, that the US fixed direct payments supposedly fully decoupled also were not so, hence are not in the WTO "green box", because the US farmers are not allowed to grow fruits and vegetables. Now the SPS has many more production restrictions: not only the EU farmers getting SPS payments – most of them get them now – cannot grow fruits and vegetables either but there are many more restrictions: milk and sugar beet quotas up to 2014, plantation rights on vineyard, production ceilings on cotton, tobacco and olive oil. In other words, after the WTO precedent in the US cotton case, any proceeding at the WTO against the SPS is ensured to rule that the SPS is not fully decoupled. Paradoxically the IISD takes into account the set aside payments (€29 M for cereals used in bioethanol and €232 M for oilseeds used in biodiesel) whereas set aside payments were directly linked to the fixed direct payments on cereals and oilseeds. But the magic of "decoupling" has permitted to "decouple" also the set aside payments from direct payments to products! Here we have incorporated the set aside payments in the direct payments.

The IISD estimates at €10 M the energy crop aid in 2006 whereas the European Commission writes that 1.3 M hectares have been used for energy crops in 2006<sup>3</sup>, which, on the basis of a subsidy of €45 per hectare, amounts to €58.5 M, rounded at €59 M.

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<sup>1</sup> This paper has been prepared as a non published technical annex for ActionAid International.

<sup>2</sup> Géraldine Kutas, Carina Lindberg and Ronald Steenblik, *Biofuels: At What Cost? Government Support for Ethanol and Biodiesel in the European Union*, International Institute for Sustainable Development, October 2007.

<sup>3</sup> [http://ec.europa.eu/agriculture/bioenergy/index\\_en.htm](http://ec.europa.eu/agriculture/bioenergy/index_en.htm)

On the other hand the IISD takes into account €1 M in subsidies to research and development, of which €5 M for bioethanol and €6 M for biodiesel. The IISD mentions also other subsidies without being able to estimate them by lack of data: to investments of agrofuels processors and to agrofuels consumers. Therefore the following figures are also underestimated.

## **2) Exemption of the excise tax**

Biodiesel has accounted for 69.2% of the EU agrofuels in tons of crude oil energy equivalent (toe) in 2006 (4.170 Mtoe for 4.849 M t of biodiesel), pure vegetable oil for 15.1% (0.915 Mtoe) and bioethanol for 15.7% (0.945 Mtoe for 1.477 Mt of bioethanol)<sup>4</sup>. The agrofuels processing generates animal feed co-products: 1 ton of wheat gives 293 kg of ethanol and 458 kg of dried distillers grains plus soluble (DDGS), 1 ton of corn gives 314 kg of ethanol and 304 kg of DDGS and 1 ton of rapeseed gives 410 kg of rape oil and 560 kg of meals<sup>5</sup>. On the whole we have then 1.865 Mt of DDGS and 8.125 Mt of oilseeds meals, of which 6.623 Mt linked to biodiesel and 1.502 Mt linked to rape oil.

The exemption or reduction of excise taxes (TIPP in France) on EU agrofuels have been estimated by IISD at €2.960 billion in 2006<sup>6</sup>, of which €29 M for bioethanol and €2.131 billion for biodiesel. Bioethanol has thus been subsidized on average at €0.877 per toe (€/toe) and biodiesel and vegetable oil considered jointly at 0.419 €/toe.

## **3) Direct payments to cereals and oilseeds feedstocks**

The cereals and oilseeds processed in agrofuels have benefitted from the direct payments of the single payment scheme (SPS), including the set aside payments linked to them.

**a) SPS to cereals:** on average €14.465 billion of the "blue box" direct payments (including part of set aside payments) were given for the average production of 211 Mt of cereals in 2000-02, base period to compute the SPS rights, which remain fixed over time<sup>7</sup>. As the EU-15 cereals production has remained about the same in 2006-2008 as in 2000-02, this means that €185 million of the SPS have gone to the 2.7 Mt of cereals (including 0.3 Mt of potato starch) used to produce bioethanol in 2006. To simplify, we have allocated the whole production to the EU-15 even if Poland has produced 130,000 t. This overstates marginally the direct payments to cereals since the EU-12 will get the same SPS rights per hectare as in the EU-15 only in 2013.

**b) SPS to oilseeds:** on 23.6 Mt of EU oilseeds produced in 2006<sup>8</sup> (of which 15.6 Mt in the EU-15), 11 Mt were used for biodiesel and 1.1 Mt for pure vegetable oil biofuel. The average €1.982 billion of direct payments (including a part of set aside payments) allocated to 13.140 Mt of oilseeds in the base period 2000-02 have been transferred to the SPS. Which means that €1.122 billion (58% of the production) of SPS are attributable to the 12.1 Mt of oilseeds feedstocks for a total of 5.949 Mt of oilseeds oil: 4.849 Mt for biodiesel and 1.1 Mt for pure vegetable oil agrofuel, that is respectively of €15 M and €207 M. The EU-A2 biodiesel production has been insignificant in 2006.

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<sup>4</sup> USDA-FAS, EU-27 Bio-fuels annual 2008, <http://www.fas.usda.gov/gainfiles/200806/146294845.pdf>

<sup>5</sup> <http://www.ecologyandsociety.org/vol11/iss1/resp2/>

<sup>6</sup> [http://www.globalsubsidies.org/files/assets/Subsidies\\_to\\_biofuels\\_in\\_the\\_EU\\_final.pdf](http://www.globalsubsidies.org/files/assets/Subsidies_to_biofuels_in_the_EU_final.pdf)

<sup>7</sup> Worked out from statistics of the Agriculture DG website of the European Commission.

<sup>8</sup> USDA-FAS, *Oilseeds: world markets and trade*, July 2008, <http://www.fas.usda.gov/oilseeds/circular/2008/July/oilseedsfull0708.pdf>

**c) SPS to sugar beets:** 270,000 t have been used in 2006 in the EU-27 for bioethanol. They have received SPS rights of 6.462 €/t (60% of the decrease in the minimum price of sugar beet under quota, from 43.63 € to 32.86 €/t), for a total of €1.745 M, rounded to €2 M.

#### **4) The other subsidies**

We have mentioned that the EU farmers have got energy crop aids of 59 M€ in 2006. They have also received a wine distillation aid of €80 million for the alcohol used in bioethanol. We have also mentioned the €91 M in subsidies to research and development on biofuels.

#### **5) Summary for 2006**

On the whole €4.5 billion of subsidies have been granted to agrofuels in 2006, of which €1.448 billion (59 + 80 + 185 + 2 + 1122) to farmers and €3.051 billion to processors.

Table 1 – Main EU biofuels subsidies going to farmers and processors in 2006

€million	Farmers				Biofuels processors			Total
	Ethanol	Biodiesel	Veg. oil	Total	Bioéthanol	Biodiesel	Total	
Excise tax exemption					829	2,131	2,960	2,960
Energy crop subsidy				59				59
Wine distillation aid	80			80				80
SPS on cereals	185			185				185
" on oilseeds		915	207	1,122				1,122
" on sugar beets	2			2				2
Research-development					55	36	91	91
Total	185	915	207	1,448	884	2,167	3,051	4499

## **II – The agrofuels subsidies in 2020**

### **1) The necessary reliance on huge imports of biofuels or/and of feedstocks**

The European Commission estimates at 34.6 Mtoe of biofuels<sup>9</sup> the mandate of 10% of biofuels in transport fuels by 2020, of which 6.4 Mtoe from imports – 1.3 Mtoe (2 Mt of ethanol) and 5.1 Mtoe of biodiesel (10 Mt of oilseeds equivalent) –, 8.7 Mtoe expected from second generation biofuels and the EU production mobilizing 17.5 M ha or 15% of its arable land for the rest. The EU feedstocks would be of 59 Mt of cereals – or 19% of EU total use, of which 43 Mt of wheat, 14.2 Mt of maize, 1.8 Mt of barley – for 10.8 Mtoe, 28.1 Mt of oilseeds for 8.3 Mtoe and 2.3 Mt of sugar for 1 Mtoe<sup>10</sup>.

However the Joint Research Center (JRC) of the European Commission estimates that *"It is unlikely that 2<sup>nd</sup> generation biofuels will be competitive with 1<sup>st</sup> generation by 2020, and will anyway use largely imported biomass"*<sup>11</sup>, an assumption confirmed by the International Energy Agency that second generation will not take-off before 2030. Furthermore, on the 28.1 Mt of oilseeds, 18.1 Mt correspond to the EU rapeseed oil which would be used for food and, *"If we assume that people and animals do not eat less because of biofuels targets, this would be replaced by imported vegetable oil and oilseeds, especially palm oil"* so that *"If we include indirect imports, the overall % of biofuel imported... would rise to 56-64% overall, and 80% of biodiesel"*<sup>12</sup>. Therefore only 10 Mt of the EU rapeseed could be used.

<sup>9</sup> According to the EU Commission, 1 ton of bioethanol equals 0.64 toe and 1 ton of biodiesel 0.86 toe (<http://www.biofuelstp.eu/downloads/baro185.pdf>)

<sup>10</sup> It is not clear from the EU report if 9.9 Mt of vegetable oil have to be added or are extracted from the 30.4 Mt of oilseeds so that we will not add them.

<sup>11</sup> [http://ec.europa.eu/dgs/jrc/downloads/jrc\\_biofuels\\_report.pdf](http://ec.europa.eu/dgs/jrc/downloads/jrc_biofuels_report.pdf)

<sup>12</sup> [http://www.biofuelstp.eu/downloads/jrc\\_biofuels\\_report\\_march\\_2008.pdf](http://www.biofuelstp.eu/downloads/jrc_biofuels_report_march_2008.pdf)

The consequence is that "10% 1<sup>st</sup> generation ethanol in EU gasoline would use ~2.5% of world 2020 cereals. On the basis of the market flexibility, that would cause a world cereals price change of at least +4%, whilst 10% 1<sup>st</sup> generation biodiesel in EU diesel would use ~19% of world 2020 vegetable oils, which would cause a world price change of at least +24%" even if "The price of oilseed meals... fall by at least this proportion".

Besides, on the greenhouse gas (GHG) emission issue the JRC concludes that "if roughly 2.4% of biodiesel comes directly or indirectly from palm oil grown on peatland, the GHG savings from EU biodiesel are cancelled out... The only major biofuels which we can say are likely to save greenhouse gas (considering indirect effects) are bioethanol from sugar cane from Brazil, compressed biogas and second generation biofuels. For 1<sup>st</sup> generation biofuels made in EU it is clear that the overall indirect emissions are potentially much higher than the direct ones whilst they are unlikely to be much lower". Even in Brazil "where soybean expansion is mostly onto ranches, and ranchers then further cut the rainforest, because ranching is still cheaper than feeding their cattle on soybean-meal, which can be exported". And the JRC concludes: "The cost disadvantage of biofuels is so great with respect to conventional fuels... that even in the best of cases they exceed the value of the external benefits that can be achieved... The net discounted welfare loss (net cost to society)... ranges between 33 and 65 billion EUR, with 80% probability".

## **2) Excise tax exemption**

On the other hand, 11 Mt of cereals over the 59 Mt expected correspond to feed cereals replaced by the feed by-products of ethanol (DDGS) and biodiesel (oilseeds meals) so that the needed EU cereals production would be of 48 Mt, of which 36.5 Mt of wheat and 11.5 Mt of maize. This would give 14.3 Mt of ethanol (or 9.15 Mtoe) and 20.2 Mt of DDGS. The 10 Mt of rapeseeds used<sup>13</sup> would give 4.1 Mt of biodiesel (3.53 Mtoe) and 5.6 Mt of rape meals.

If the excise tax exemption would keep the same bases as in 2006, it would rise at €9.506 billion, of which €8.027 for bioethanol and €1.479 billion for biodiesel, that is 3.2 times more than in 2006. However it is very likely that these amounts would be much lower because the French government has just state its intent to eliminate progressively the TIPP reductions on agrofuels at the end of 2012, beginning in January 2009. These exemptions are today of €0.27 per liter of bioethanol and €0.22 per liter of biodiesel. Already Germany, which had exempted totally biodiesel from the tax of €0.47 per liter of oil, has begun since June 2006 to reduce that exemption which should disappear totally by end 2012. It is therefore likely that, after Germany and France, other EU Member States would follow suit, and some of them may have already done so.

## **3) The SPS direct payments**

### **a) SPS to cereals**

The EU is expecting 317 Mt of cereals in 2020, among which we can estimate 228 Mt in the EU-15 and 89 Mt in the EU-12. If the SPS of €14.465 billion for cereals is fixed overtime for the EU-15 and falls per ton as the production increase – it would be of €63.4 per ton in 2020 against €69.4 in the base period 2000-02 –, by 2014 the SPS rights for the EU-12 would have been aligned per ton on the EU-15 level in the base period so that, for an average production of cereals of 72.6 Mt in the base period, the EU-12 should have €5.04 billion of SPS rights for cereals. We assume that the EU-12 would contribute to 21% of the EU-27 bioethanol in 2020 – against a 14% share as in 2006 and a 28% share in cereals production –, thus to 10.1 Mt

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<sup>13</sup> To simplify we assume that all oilseeds would be processed in biodiesel and that there would not be any pure vegetable oil use.

against 37.9 Mt for the EU-15 and that 75% of them would be maize (maize has represented 30% of cereals in the EU-12 from 2003 to 2006 against 18% in the EU-15). The SPS attributable to ethanol in 2020 would then be of €2.631 billion for the EU-15 and of €701 million for the EU-12, that is a total of €3.332 billion.

#### **b) SPS to oilseeds**

As for the 10 Mt of oilseeds to produce biodiesel in 2020, they would represent 30% of the total EU-27 production of 33.4 Mt according to the EU Commission. The EU-12 SPS rights for oilseeds in the base period 2000-02, aligned on the EU-15 rate of €150.8 per ton (€1.932 billion for 13.140 Mt), would amount to €831 million for their average 5.521 Mt in that period. However, although the EU-12 has represented 33.8% of the EU-27 oilseeds production from 2003 to 2006 – and we assume that this share would be the same in 2020 (hence of 11.3 Mt against 22.1 Mt for the EU-15) –, their biodiesel production of 2006 was only of 2.6%, the more so as they grow mainly sunflower, much less used than rapeseed for biodiesel. Therefore we assume that their share would represent only 10% or 1 Mt used for biodiesel in 2020. The 9 Mt of oilseeds of the EU-15 would receive €787 million and the 1 Mt of the EU-12 €74 million, hence a total of €861 million in the EU-27.

#### **c) SPS to sugar beets**

The SPS to sugar beets should be of 9.9 €/t from 2009, that is €22.7 M for the 2.3 Mt foreseen by the EU Commission for the bioethanol in 2020.

#### **4) Other subsidies**

We will not keep the energy crop aid of €45 per hectare of biofuel feedstock that the EU Commission has proposed to eliminate. And we will not keep either the wine distillation aid for ethanol which would likely have the same fate. On the other hand we will keep the subsidies to research and development at the same level of €91 M as in 2006.

#### **5) Summary and conclusion**

To summarize, the EU mandate to use 10% of biofuels in the fuels for transport by 2020 would imply at least €13.813 billion of subsidies, of which €4.216 billion of SPS direct payments to farmers and €9.597 billion to biofuels processors for the exemption in excise taxes and to research and development. This would represent a multiplication by 3.1 of the €4.5 billion granted in 2006.

Table 2 – The main EU biofuels subsidies going to farmers and processors in 2020

€million	Farmers			Processors			Total
	Ethanol	Biodiesel	Total	Ethanol	Biodiesel	Total	
Excise tax exemption				8,027	1,479	9,506	9,506
SPS on cereals	3,332		3,332				3,332
" on oilseeds		861	861				861
" on sugar beets	23		23				23
Research-development				55	36	91	91
Total	3,355	861	4,216	8,082	1,515	9,597	13,813

However several factors will modify these forecasts:

1) The lower exemptions of excise taxes, which have begun in Germany and France, the future of which being linked with the evolution of oil prices.

- 2) Conversely, if the second generation of biofuels would still not be profitable by 2020, a larger share of the EU production of cereals, oilseeds and sugar beets could be devoted to agrofuels.
- 3) The contrary would occur if the second generation would make a breakthrough without subsidies, or with lower subsidies than for the present feedstocks, before 2020.
- 4) The civil society's pressures on the EU and Member States politicians to reduce the imports of biofuels or feedstocks.
- 5) Or even the complete stop of the production of agrofuels in the EU, taking into account their detrimental effects on the food prices level and the environment in the EU and the rest of the world.