

## **Agrofuels and the EU research budget: public funding for private interests**

Corporate Europe Observatory

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### **Summary**

The European Commission's high-level European Technology Platforms (ETPs) provide privileged access to industry in shaping the EU research direction and spending of the research budget.

Advice from the industry-dominated European Biofuels Technology Platform (EBFTP), for example, has resulted in projects being approved for public funding, regardless of whether these are in the public interest. Examples include developing GM trees and promoting agrofuel production in Brazil for the European market. Projects approved so far under the current EU research funding programme (FP7) have received a total of at least 61.5 million euro.

Several of the companies that participated in the EBFTP have received public funding for their research projects, including Bayer, Shell, Syngenta, Novozymes, SEKAB, Abengoa, Repsol and SweTree Technologies.

Some of these projects raise serious social and environmental concerns. GM trees which have been modified to reduce the amount of lignin pose a very serious threat to native tree varieties. The promotion of agrofuel production in Latin-America for the European market is likely to lead to further expansion of monocultures, destroying natural habitat and replacing small-scale farming systems.

The approval of projects reflects recommendations made in the Strategic Research Agenda developed by the EBFTP. The European Commission does not disclose which experts decide on which project, but a number of experts listed work for companies with an interest in agrofuels.

As a result, public funding is being directed principally to serve the interests of industry, while the broader impacts of agrofuel expansion are not taken into account.

Corporate Europe Observatory has called for the EBFTP to be abandoned, and has filed a complaint with the European Ombudsman regarding the Commission's biased approach which favours industry interests through the EBFTP.

### **Introduction**

Despite well-publicised concerns about the damaging social and environmental impacts of large-scale agrofuel production, the European Union continues to provide incentives to promote their development.

One way is through the EU research agenda and public funding for research. Like other industry sectors, the agrofuel industry has been directly invited and sponsored by the European Commission to help design the EU's research strategy and its main funding programme for research called the Seventh Framework Programme, or FP7.

This is done through the industry-dominated "European Technology Platforms" (ETPs) set up by the European Commission. Both the ETPs and the FP7 are designed to meet the main goal of

the much criticised 'Lisbon Agenda', ie. to make EU industry (especially high- tech industries) the most competitive in the world.

The European Biofuels Technology Platform (EBFTP) is one of the European Technology Platforms. Its stated mission is "to contribute to the development of sustainable, cost-competitive, world-class biofuels technologies, to the creation of a healthy biofuels industry and to accelerate the deployment of biofuels in the European Union through a process of guidance, prioritisation and promotion of research, development and demonstration"<sup>1</sup>. The EBFTP designed a Strategic Research Agenda to shape EU agrofuel research towards a 25% target by 2030.

This paper explores the links between the European Biofuel Technology Platform and its recommendations to the Commission, and actual FP7 funding. It examines the kind of agrofuel-related projects that are receiving funding and highlights the implications of subsidising these projects. The article focuses particularly on GM trees, which represent one of the big areas attracting funding within so-called second generation agrofuel projects.

## Background

### The 10% agrofuel target

Agrofuels are being pushed by the EU 10% agrofuel target included in the Renewable Energy Directive (RED), adopted in December 2008. 'Second generation' agrofuels count double in meeting the target compared to 'first generation'. The sustainability criteria agreed in the framework directive do not include any social or many environmental issues (only reporting) and there is no consideration of indirect land use change<sup>2</sup>. See further [Annex III](#).

### Seventh Framework Programme (FP7)

FP7 is an EU funding programme for research running from 2007-2013, which is intended to support the aims of the Lisbon Agenda<sup>3</sup>. The total FP7 budget is €50.52 billion<sup>4</sup> and it's divided in 4 areas (*Cooperation, Ideas, People and Capacities*). Euratom gets €2.8 billion for nuclear research. The 'energy' theme has been allocated a total of €2.3 billion<sup>5</sup>. As the Commission stated, FP7 places greater emphasis than previously on research "that is relevant to the needs of European industry"<sup>6</sup>. Research Commissioner Janez Potočnik commented: "...our best hope for keeping one step ahead of the rest of the world is our brain power"<sup>7</sup>.

### European Technology Platforms

European Technology Platforms (ETPs) have been set up on a wide range of issues. They are part of the 'Lisbon Strategy', which sets a goal of making the European economy the "most dynamic competitive knowledge-based economy in the world"<sup>8</sup>. ETPs play a key role in aligning EU research priorities to the needs of industry, giving advice on policies and on the allocation of (FP7) research funds.

### The European Biofuel Technology Platform (EBFTP)

The EBFTP was set up to provide strategic advice on research into agrofuels, implementing the proposals of BIOFRAC, an earlier group appointed by the Commission to advise on agrofuel policy

1 EBFTP website; <http://www.biofuelstp.eu>

2 Biomass and biofuels in the Renewable Energy Directive, by Almuth Ernsting, Biofuelwatch, January 2009; <http://www.biofuelwatch.org.uk/docs/RenewableEnergyDirective.pdf>

3 <http://www.timeshighereducation.co.uk/story.asp?storyCode=194733&sectioncode=26>

4 [http://cordis.europa.eu/fetch?CALLER=FP7\\_NEWS&ACTION=D&RCN=26875](http://cordis.europa.eu/fetch?CALLER=FP7_NEWS&ACTION=D&RCN=26875)

5 [http://ec.europa.eu/research/conferences/2008/energy\\_infoday/pdf/fp7\\_infoday\\_sept\\_2008\\_bruno\\_schmitz\\_en.pdf](http://ec.europa.eu/research/conferences/2008/energy_infoday/pdf/fp7_infoday_sept_2008_bruno_schmitz_en.pdf)

6 Memo DG Research, April 2005, EU research – Building Knowledge Europe: The EU's new Research Framework Programme 2007-2013; <http://ec.europa.eu/research/press/2005/pr0704-2en.cfm>

7 [http://ec.europa.eu/commission\\_barroso/potocnik/research/docs/20061222\\_fp7\\_interview.pdf](http://ec.europa.eu/commission_barroso/potocnik/research/docs/20061222_fp7_interview.pdf)

8 [http://cordis.europa.eu/fp7/understand\\_en.html](http://cordis.europa.eu/fp7/understand_en.html)

(see CEO report<sup>9</sup> 2007). Members of its steering committee were drawn primarily from industry (see [Annex I](#) for list of members) and just two civil society representatives were selected for inclusion among the 125 members of its working groups. EBFTP developed a Strategic Research Agenda for FP7, including the 25% target for agrofuel use by 2030, which had been previously proposed by BIOFRAC. This target ignored the widespread opposition to the Commission's proposed target of 10%.

Corporate Europe Observatory (CEO) filed a complaint with the European Ombudsman<sup>10</sup> in April 2008 regarding the Commission's biased approach in favour of industry in the European Biofuels Technology Platform (EBFTP).

## Where does the money go? FP7 funded agrofuel projects

Applications for financial support under FP7 are submitted to the Commission in response to specific calls for proposals on different themes. Agrofuel related applications can be made primarily through the *Cooperation* area of FP7 under the Energy Call (which has several sub-calls), the Transport Call and the Knowledge Based Bio Economy (KBBE) as well as in other areas of FP7 such as *People and Ideas*.

From the labyrinthic website of the FP7, it is not easy to extract a complete list of all approved projects relating to agrofuels. There is no complete list by theme nor any list of all the projects approved under each call or sub-call. Some calls are still open, while new calls might still be published. Therefore, the list of projects established by CEO only gives a picture of agrofuel research projects that have been approved up till now (May 2009), and it might not be complete.

The total amount of money spent so far on identified agrofuel-related projects funded under FP7 totals at least €61.5 million (see [Annex II](#)). This includes all projects found so far, and the special EU-Brazil coordinated call budget (4 million euros) which is entirely focused on agrofuels.

All of these projects include the involvement of industry partners. They cover a broad range of areas, such as:

- Research into technological developments to allow the expansion of agrofuels in Brazil and Latin America
- Further research on second generation agrofuels through developing processes related to genetic engineering to design GM trees
- Developing biochemical processes to improve agricultural yields
- Developing aircraft agrofuel
- Further research on biorefineries

This appears to comply with the recommendations in the BIOFRAC report, particularly:

- up until 2010, existing technologies should be improved and R&D into 'second generation' agrofuels should be promoted
- from 2010-2020, deployment of 2<sup>nd</sup> generation agrofuels should take place, and R&D in ligno-cellulosic agrofuel should continue
- and from 2020 large scale production of 2<sup>nd</sup> generation agrofuels should be in place<sup>11</sup>.

9 The EU Agrofuel Folly, Corporate Europe Observatory, June 2007;  
<http://archive.corporateeurope.org/agrofuelfolly.html>

10 Complaint to the European Ombudsman about the EBFTP from Corporate Europe Observatory (1151/2008/DK), April 2008

11 [Biofuels in the European Union. A vision for 2030 and beyond](#). Final report of the Biofuels Research Advisory Council, Directorate-General for Research, Sustainable Energy Systems. 2006.

A number of companies that are members of the EBFTP and therefore involved in setting the research priorities, have benefited from FP7 funding for agrofuel projects. These include Bayer Bioscience NV, Shell Aviation Limited, Syngenta Crop Protection AG (as a member of the Integrated Biorefining Technologies Initiative, a EBFTP stakeholder), Novozymes Denmark A/S<sup>12</sup>, SEKAB E-technology, Abengoa Bioenergía Nuevas Tecnologías, Repsol YPF and SweTree Technologies.

Their projects were granted public funding for:

- applying genetic engineering to vegetable oil for high yielding oil crops (Bayer Bioscience NV);
- developing the use of alternative fuels in aeronautics (Shell Aviation Limited);
- developing enzymes and microbes for second generation bioethanol production (Syngenta Crop Protection AG and SEKAB E-technology);
- developing advanced biorefinery schemes to be integrated into existing industrial fuel producing complexes (Abengoa Bioenergía Nuevas Tecnologías and Repsol YPF);
- developing energy poplars to be used as a source of lignocellulosic feedstock for bioethanol (SweTree Technologies).
- developing processes to convert the cane bagasses and waste materials into fermentable sugars, and promoting second generation ethanol (based on sugar cane biomass) in Latin America (Novozymes Denmark A/S)

### **Public funding for private interests**

Public funding for scientific research is increasingly being directed at the private sector. Under the FP7, proposals have more chance of being approved if they have private partners. As noted in the Energy Call for Second Generation Biofuels (January 2009): “The active participation of relevant industrial partners is deemed as necessary for achieving the expected impact”<sup>13</sup>.

### **Public money for GM crops, enzymes and trees: ‘second generation’ agrofuels**

Some agrofuel-related projects funded under FP7 are directed at improving the performance of crops for agrofuel production through genetic engineering. A total of €5.8 million has been awarded to apply genetic engineering for high yielding oil crops<sup>14</sup>, while €3 million has gone to developing more cost-effective enzyme tools for bioethanol production<sup>15</sup>.

The EU and the agrofuel industry have both become keen supporters of so-called ‘second generation’ agrofuels which are portrayed as the solution to concerns about the competition between food and crop-based agrofuels. Second generation agrofuels are often defined as being produced from fibrous cellulose-rich material such as trees, plant waste, grass or straw. Much of the research goes into developing ‘low-lignin’ varieties of these crops. Lignin is the substance that give trees their sturdiness to stand up, but it is an obstacle to processing cellulose materials, requiring high levels of energy.

One project in this field (“Enhancing poplar traits for energy applications”) has received nearly 3 million euros under FP7 to develop genetically modified poplars to be used as a source of lignocellulosic feedstock for the production of bioethanol. This is co-ordinated by the French Institute for Agronomic Research (INRA) and a Swedish partner company, SweTree Technologies. SweTree’s chief director, Björn Häggblun, is also chief director of WWF Sweden. WWF is one of the two NGOs admitted to take part in the EBFTP working groups, but which officially claim to be opposed to GMOs.

12 Novozymes North America Inc. is one of the EBFTP members. See [Annex I](#).

13 Call title: Energy Second Generation Biofuels - EU Brazil Coordinated Call

<http://rp7.ffg.at/Kontext/WebService/SecureFileAccess.aspx?fileguid=%7Bbf0397df-a35b-4a92-87c1-2bf35e7591e6%7D>

14 Project title: “Industrial crops producing added value oils for novel chemicals”.

15 Project title: “Targeted discovery of novel cellulases and hemicellulases and their reaction mechanisms for hydrolysis of lignocellulosic biomass”.

GM tree development is highly controversial. Forest trees are long-lived and produce pollen and seeds that can spread long distances. Forest trees also reproduce a-sexually, via clones that can spread a long way from the mother plant, enabling GM contamination over a large area. Out-crossing of the low lignin-trait will result in GM trees making native trees weaker.

### **Impacts of (GM) tree plantations**

The dangers posed by GM trees are in some ways even more serious than those posed by GM crops. Trees live longer than agricultural crops, which means that changes in their metabolism may occur many years after they are planted. At the same time, scientists' knowledge about forest ecosystems is poor. Some specific factors:<sup>16</sup>

- GM contamination: forest trees live for a long time and produce pollen and seeds that can be spread long distances. Forest trees also reproduce a-sexually, via clones that spread a long way from the mother plant, enabling GM contamination over a larger area. The contamination of native trees by GM trees is inevitable and unavoidable.
- Low lignin GM trees make forests vulnerable. If the reduced-lignin trait spreads to native forest trees, it will make them susceptible to storms, attacks by pests, and fungal and bacterial diseases.
- The introduction of invasive species unbalances ecosystems.
- Insecticidal GM trees destroy biodiversity by killing insects
- Herbicide-tolerant GM trees lead to green deserts, because the surrounding plants are killed off by herbicides.
- Proponents claim that cellulose produced by plants and trees do not require extra farmland for cultivation and so do not compete with the food crops. However, because of the quantities needed, industrial tree plantations are already competing with food for both agricultural land and water<sup>17</sup>.
- Replacing forest with fast growing trees (GM or not) exacerbates climate change. Tree plantations are much less effective in sequestering carbon than the native forest ecosystems.

GM trees may be promoted as 'carbon sinks' under the Clean Development Mechanism of the UN Climate Change Convention. Civil society organisations from all over the world have repeatedly demanded a global moratorium on GM trees. But in May 2008, members of the UN Convention on Biological Diversity (CBD) refused to impose such a ban<sup>18</sup>. In several countries of the EU such as Belgium, Netherlands, UK and Germany groups of concerned citizens and environment NGOs have recently protested against the GM tree field trials which they say represent a serious threat to the environment<sup>19</sup>.

### **Globalising the EU agrofuel policy**

Several FP7 projects are about promoting agrofuel production in tropical regions such as Latin America, for EU consumption. This is in line with BIOFRAC's recommendation to reduce the costs of agrofuel consumption by importing them from low-cost countries, and not try to be self-sufficient in agrofuel production.

16 Own elaboration from resources from the Institute of Science in Society; GM forest. The ultimate threat; <http://www.i-sis.org.uk/GMFTTUT.php> and Lang, C., Plantations, poverty and power. Europe's role in the expansion of the pulp industry in the South; [http://www.wrm.org.uy/publications/Plantations\\_Poverty\\_Power.pdf](http://www.wrm.org.uy/publications/Plantations_Poverty_Power.pdf)

17 Smolker, R., et al. The True cost of Agrofuels. Impacts on Food, Forests, People and Climate. Global Ecology Project and Global Forest Coalition, <http://www.globalforestcoalition.org/img/userpics/File/publications/Truecostagrofuels.pdf>

18 <http://www.telegraph.co.uk/earth/earthnews/3343163/Ban-decision-could-mean-GM-trees-in-the-wild.html>

19 [http://www.volkskrant.nl/wetenschap/article1152115.ece/Transgene\\_peppels\\_niet\\_naar\\_Zeeland](http://www.volkskrant.nl/wetenschap/article1152115.ece/Transgene_peppels_niet_naar_Zeeland) and <http://www.tribunemagazine.co.uk/2008/09/11/campaigners-attack-plans-to-plant-gm-trees-in-uk/>

One project called “Biofuels assessment on technical opportunities and research needs for Latin America”, whose overall objective is to identify technical opportunities and research needs for Latin America and to create and support specific research & technological development cooperation activities between Latin America and the EU in order to “maximise synergies” in the biofuel sectors, received nearly one million euros.

Similarly, the project on “Enhancing international cooperation between the EU and Latin America in the field of biofuels”, which received €1.7 million is aimed at developing a cost-effective process for converting sugar cane bagasse and waste materials into fermentable sugars. This will make sugar cane monocultures for agrofuel more financially attractive.

There is even a specific call for ‘Energy Second Generation Biofuels - EU Brazil Coordinated Call’, with a budget of 4 million euros for EU projects to coordinate the development of second generation agrofuels with the Brazilian authorities<sup>20</sup>. Sugar cane and eucalyptus are both potential sources of feedstock for these “second generation” agrofuels.

Monoculture plantations of these crops are already causing widespread environmental and social damage in Brazil and are opposed by local communities<sup>21</sup>. This funding call is the result of EU-Brazil bilateral agreements and conferences held in Brussels (2006) and Sao Paulo (2008).

## Approval process

To evaluate the proposals submitted in response to each call, the Commission draws up a list of experts. All kinds of organisations (from universities to corporations to NGOs) can put forward candidates to be in this expert list. For instance, in 2007, four Bayer employees evaluated projects under the Knowledge-Based Bio-Economy (KBBE) call. Most universities and research centres had just one employee on the list<sup>22</sup>.

Officially, experts apply as individuals to work as a project evaluator for the Commission, not as company or university representatives. Proposals are evaluated by a minimum of three experts. Every year, a list containing the names of experts who have been evaluating projects by funding call is disclosed. However, the information as to who is assigned to which proposals is intentionally kept confidential, even after the publication of funding approval.

All experts are required to sign a declaration of confidentiality and to confirm that they have no conflict of interest regarding the proposals that they are asked to examine. The Commission has a mechanism to avoid conflicts of interest, excluding a company’s employee from the team of experts deciding over a project benefiting that company. However this would not prevent a company expert deciding on projects that his or her company may have an interest in. And since there is no transparency on who evaluates which project, it cannot be verified whether the exclusion mechanism is always being applied.

The project proposals are evaluated following some basic criteria, based on the principles given in the Specific Programmes<sup>23</sup>. For instance, *in the Energy Second Generation Biofuels - EU Brazil Coordinated Call*, the criteria consider ‘quality’, ‘implementation’, and ‘impact’<sup>24</sup>. The criteria do not consider the social and environmental impacts of large scale deployment of the technologies they

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20 Call title: Energy Second Generation Biofuels - EU Brazil Coordinated Call

<http://rp7.ffg.at/Kontext/WebService/SecureFileAccess.aspx?fileguid=%7Bbf0397df-a35b-4a92-87c1-2bf35e7591e6%7D>

21 Mendonça, M.L., Os impactos da produção de cana no Cerrado e Amazônia, October 2008;

<http://www.cptpe.org.br/files/cartilhaimpactoscana.pdf>

22 [http://cordis.europa.eu/fp7/experts\\_en.html](http://cordis.europa.eu/fp7/experts_en.html)

23 European Commission. Rules for submission of proposals, and the related evaluation, selection and award procedures. Version 3, 21 August 2008. C(2008)4617

24 FP7-ENERGY-2009-BRAZIL Guide for applicants. Energy. Collaborative Project. p.32

are intended to promote, including who is going to benefit or suffer from them.

The impact of research policy is increasingly under debate. Jacques Testart, former president of the French Commission for Sustainable Development, has proposed the integration of citizens' conferences or conventions into making strategical political choices, "... particularly with respect to those decisions concerning priorities in innovation and the dissemination of new technology"<sup>25</sup>.

On a similar note, a recent publication by the International Institute for Environment and Development (IIED) makes proposals for agricultural research 'to serve people, not corporate interests'<sup>26</sup>. The author, Dr Michel Pimbert warns that agricultural research is increasingly serving a powerful, private sector minority rather than bringing benefits to wider society and the environment. He adds: "It is also the very nature of the knowledge produced by mainstream research institutes and policy think tanks that needs to be fundamentally transformed to regenerate local food systems and economies"<sup>27</sup>. But in reality, funding is allocated inside the Commission's corridors.

## Conclusion

So far, an estimated 61.5 million euro has been approved to boost agrofuel research through FP7. There is uncertainty regarding the completeness of the list, and there are still open calls so the final amount may be more than this.

The type of projects gaining approval show that the interests of society at large are not being taken into account: as illustrated by the funding awarded for the development of GM trees and the expansion of monocultures in Brazil for example.

There is also evidence that a number of EBFTP industry members have gone on to benefit from FP7 funding. This shows that domination of the European Technology Platforms by industry allows business to benefit by gaining privileged access to influence public research policies leading to the allocation of public funding. Corporate Europe Observatory believes it is high time to reclaim public research and abandon platforms like the EBFTP.

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25 Integrating citizens' conferences or "conventions" into decision making, Challenge for Europe, May 2009;  
<http://challengeforeurope.blogactiv.eu/2009/05/08/integrating-citizens'-conferences-or-'conventions'-into-decision-making>

26 Towards Food Sovereignty: Reclaiming autonomous food systems, IIED, May 2009;  
<http://www.iied.org/pubs/display.php?o=G02268%20>

27 Africa Science News Service, 6 May 2009;  
[http://africasciencenews.org/asns/index.php?option=com\\_content&task=view&id=1223&Itemid=1](http://africasciencenews.org/asns/index.php?option=com_content&task=view&id=1223&Itemid=1)