

# PAVING THE WAY FOR AGROFUELS

EU policy, sustainability criteria  
and climate calculations



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Cover by Drukkerij Overtoom  
Printed on 100% Recycled Paper

## **Thanks to**

Almuth Ernsting, Jutta Kill,  
and Larry Lohmann

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ISSN 1871-3408

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First published Amsterdam, September 2007  
Revised second printing, February 2008

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## List of Abbreviations:

ACP – African, Caribbean and Pacific countries	ISO—International Standardisation Organisation
APDR – Asociación pola defensa da Ría	JI – Joint Implementation
BP – British Petroleum	JSPL – Jindal Steel and Power Limited
BSI – Better Sugar cane Initiative	LowCVP – Low Carbon Vehicle Partnership
CAP – Common Agriculture Policy	MEP – Member of the European Parliament
CCB – Climate Community and Biodiversity Alliance	N <sub>2</sub> O – Nitrous Oxide
CDM – Clean Development Mechanism	PES – Party of European Socialists
CH <sub>4</sub> – Methane	ppm – parts per million
CO <sub>2</sub> – Carbon Dioxide	HRE – Human Rights Everywhere
CSO – Civil Society Organisation	RSPO – Round Table on Sustainable Palm Oil
DG TREN – The Directorate General of Transport and Energy	RTFO – Renewable Transport Fuel Obligation
EC – European Commission	RTRS – Round Table on Responsible Soy
EPFL – Ecole Polytechnique Federale de Lausanne, Suisse	SD – Sustainable Development
EU – European Union	UEWC – Unilever European Works Council
FAO – Food and Agriculture Organisation of the United Nations	UNBI – United Nations Biofuels Initiative
FSC – Forest Stewardship Council	UNFCCC – United Framework Convention on Climate Change
G8 – Group of Eight	WRM – World Rainforest Movement
GJ – gigajoule	WTO – World Trade Organisation
GBEP – Global Bioenergy Partnership	WWF – Worldwide Fund for Nature
GHG – Greenhouse Gases	
GMO – Genetically Modified Organism	
IBEP – International Bioenergy Platform	
IEA – International Energy Agency	
IFEU – Institute for Energy and Environmental Research	
ISEAL – The International Social and Environmental Labeling Alliance	

## INTRODUCTION

The twin pressures of the threat of climate change and the increasing scarcity of fossil fuels mean that the world is at an important crossroads, with today's choices carrying enormous consequences for future generations. Difficult policy decisions need to be made, backed up by action, to drastically reduce global net greenhouse gas (GHG) emissions.

Against this backdrop, boosting the use of agrofuels for transport and bio-energy for electricity generation is a very attractive option for both industry and governments.<sup>1</sup> Agrofuels are presented as a promising option to reduce CO<sub>2</sub> emissions from the rapidly expanding transport sector. Yet there is strong and growing evidence that, far from reducing global emissions, their use will significantly accelerate climate change.<sup>2</sup>

**Who actually decides  
what is sustainable?**

The European Commission, EU member states and many countries around the world are establishing support measures and creating alliances to promote the use of agrofuels.<sup>3</sup> Support measures, set down in policies or legislation, can include setting voluntary ('indicative') or mandatory targets for agrofuel use, tax breaks and subsidies.<sup>4</sup> Agrofuel production could in the near future also be promoted in other ways, for example by financial support through the Clean Development Mechanism under the Kyoto Protocol.

Agrofuels and other types and uses of bio-energy need strong public support (including targets, subsidies and tax breaks) in order to gain market share. These incentives are being justified on the grounds that agrofuels bring climate benefits, yet far reaching social and environmental problems are already foreseen as a consequence of their increased production: deforestation and the destruction of various other ecosystems, water scarcity, land conflicts, rural impoverishment and depopulation, human rights violations, food insecurity and the further compromising of food sovereignty. Moreover, the real climate benefits of these crops are increasingly in doubt, especially when land use change and displacement are taken into account.

This paradoxical situation has led to a strong perceived need for 'sustainability' safeguards on agrofuels. The debate on the question whether, or under what conditions, any certification system can guarantee sustainable agrofuels, and can therefore legitimise EU agrofuel support, is a very important one. It urgently needs the engagement of a wide variety of civil society organisations, as the implications of its outcomes will be far reaching.

*Some key questions include: How can a strongly increased EU demand for agrofuels be sourced 'sustainably', if the EU is already an importer of large amounts of unsustainable commodity products for other uses? Will macro-impacts such as displacement be dealt with by sustainability criteria and greenhouse gas (GHG) calculations? What other hurdles need to be overcome for sustainability certification systems to be effective? Who actually decides what is sustainable, and how are conflicts of interest between social groups in producer countries dealt with? Is it a good idea to use a 'meta-standard' approach, relying on currently existing certification processes? Do the actual EU proposals for sustainability criteria adequately address both the direct and indirect impacts? How would such sustainability scheme relate to Clean Development Mechanism funding for agrofuel projects?*

Chapter 1 of this report gives an outline of the current push for agrofuels in transport through EU policy making. Chapter 2 discusses the various initiatives that have been set up to create sustainability certification systems for agrofuels (sometimes including all bio-energy). Chapter 3 describes some of the highly problematic aspects of studies on the GHG balance of agrofuels. Chapter 4 looks at the possibility that agrofuel expansion could in future be funded through the Clean Development Mechanism (CDM) of the Kyoto Protocol.

## CHAPTER 1 EU POLICY TO BOOST AGROFUELS

***Biofuels are the only known substitute for fossil fuels in transport today. They contribute to our security of energy supply, reduce greenhouse gas emissions and create jobs in rural areas.***

EU Energy Commissioner Andris Piebalgs, April 2006<sup>5</sup>

On 10 January 2007, the European Commission unveiled its long expected EU Strategic Energy Review, also termed the “energy package”.<sup>6</sup> This package contains new policy proposals regarding varying energy sources, from fossil fuels and nuclear to renewables – including agrofuels – ranging across the different energy sectors like transport, electricity, and heating and refrigeration.

These new plans aim “to improve the energy-supply security in Europe, while combating climate change and making the industry more competitive.”<sup>7</sup> But besides the fact that the climate impact of agrofuels is highly contested (see chapter 3), it is clear that security of supply is the main motivation of the Commission, which wishes to “maximise the geographical diversification of EU energy supplies to areas like Latin America and the Caribbean.”<sup>8</sup> In addition, there has been a strong lobby from the automotive industry (using agrofuels as a means of avoiding strict fuel and engine efficiency standards), agribusiness, and Europe’s large-scale farmers, who are looking for new ways to survive on the world market.

The new energy plans include measures to increase the share of ‘renewable’ energy sources considerably. By 2020, there will be a general EU-wide target of 20 per cent of all energy coming from ‘renewable’ sources, including agrofuels and bio-energy, regardless of their level of sustainability.

The previous Biofuels Directive set an indicative (as opposed to mandatory) target for agrofuels in transport of 5.75 per cent by 2010. The energy package presented in January 2007 includes a new, mandatory target of 10 per cent agrofuel use in transport by 2020.

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### EU Climate Policy

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The EU climate policy is officially aimed at limiting global temperature changes to no more than 2°C above pre-industrial levels. However, the EU target for emission cuts is linked to an aim to stabilise CO<sub>2</sub> concentrations in the atmosphere at 550 ppm, which, together with other greenhouse gases will be over 660 ppm CO<sub>2</sub> equivalent. According to the Stern Review, this makes a catastrophic temperature rise of more than 3°C more than likely, and it will probably trigger climate feedbacks which could lead to many more degrees of warming.<sup>9</sup>

At the March 2007 EU summit, the EU Heads of State agreed in principle to the 10 per cent target. They placed two important conditions on its mandatory nature, however: that agrofuels should be produced sustainably, and that 'second-generation agrofuels' should become commercially available.

Furthermore, an opinion from the European Parliament, currently being drafted by Britta Thomsen MEP (of the Party of European Socialists, PES) demands that environmental

With a significant growth in transport use expected by 2020, it is impossible to say what quantity of agrofuels will be needed to meet the EU's 10 per cent target, let alone if these agrofuels can be sourced 'sustainably'

and social issues are taken into account. But many organisations are calling on the European Parliament to abandon the target altogether, highlighting numerous recent warnings that are "all suggesting that the implementation of the mandatory biofuel target is much more likely to cause environmental and social harm, than to help the fight against global warming."<sup>10</sup>

The new Fuel Quality Directive, a draft of which was published by the European Commission around the same time as the energy package, is equally important. This proposal contains a target to reduce GHG emissions from transport fuels by 1 per cent each year from 2011 onwards. Environment Commissioner Dimas said that this policy should "open the way for a major expansion in the use of biofuels".<sup>11</sup> The two targets combined could in practice lead to well over 10 per cent agrofuel use.

Another way in which EU policy promotes the use of agrofuels is by giving subsidies to European farmers under the Common Agricultural Policy (CAP) for the production of (energy) crops. In addition, trade liberalisation could in future open the door to large scale agrofuel imports. At a high level conference in Brussels in July 2007, President Lula da Silva of Brazil urged the EU to bring down EU farm subsidies and to lower import tariffs. The Swedish government, as well as EU trade commissioner Peter Mandelson, supported his position.<sup>12</sup>

## How much agrofuel is needed and where will it be grown?

A significant overall transport growth is expected in the EU, but it is impossible to predict exactly how much transport fuel is going to be consumed in total in the EU by 2020. It is also impossible, therefore, to say what quantity of agrofuels will be needed to meet the 10 per cent target, let alone if these agrofuels can be sourced 'sustainably'. In addition, the 10 per cent target is not a volume target, but an *energy content* target.<sup>13</sup> The energy content of agrofuel is slightly less than that of fossil fuels, however, so the overall volume of agrofuels required will be *more* than 10 per cent. Lastly, it is unknown what quantity of 'second generation' agrofuels, if any, will be available by this time, and also whether they will really bring the promised climate benefits.



Biodiesel production in the EU reached a record 3.2 million tons in 2005 and was set to increase to 4.5 million tons in 2006.<sup>14</sup> According to the European Commission, in order to meet the 2010 agrofuel target without imports, the EU would need to switch an estimated 20 per cent of its almost 100 million arable hectares to the production of agrofuel crops.<sup>15</sup>

It is suggested that some part of the agrofuels requested could be grown on lands currently covered by the EU 'set-aside' policy, i.e. lands that have been deliberately taken out of production. The European Commission has proposed to reduce the rate of set-aside to zero for the 2008-9 harvest year, citing rising cereal prices and the increased demand for agrofuels as the main factors behind this decision. Organisations like Birdlife International point out that this would have disastrous consequences for biodiversity in Europe.<sup>16</sup> Input-intensive agriculture in Europe has already caused a dramatic decline in biodiversity.

**A large share of the agrofuels needed to meet the EU target will be imported from countries in the Global South**

In addition, the Directorate-General (DG) Agriculture of the European Commission expects European capacity to produce agrofuels to grow through higher productivity. This might mean more input use, exacerbate water depletion and soil erosion. These are already severe problems, especially in Southern Europe. Climate change, as illustrated by the extreme weather events of the past couple of years, may also negatively impact upon future yields in Europe.

However, it is clear that a large share of the agrofuels needed to meet the EU target will be imported from countries in the Global South. The low production costs of land and labour and climatic advantages make them strong competitors. According to the Argentinean embassy in Brussels, the European Commission's estimate is that EU production and imports will each supply about half of the 10 per cent target.<sup>19</sup> The EU's Strategic Energy Review states that imports of sugar cane, soya and palm oil will make up for what the EU is unable to produce. Apart from competitiveness, a lot will depend on subsidies for European production and import tariffs.

Some governments in the South are already preparing to increase production to meet expected increased in demand from the EU market. According to the Argentinean embassy in Brussels, the European Commission has identified Argentina as a potential agrofuels exporter, and has proposed to work together to improve distillation and refining techniques. The embassy has a detailed plan of action for Argentina to gain a share of the EU agrofuel market.<sup>17</sup>

The Indonesian NGO Sawit Watch reports that "In light of the high demand for palm oil biodiesel from European markets, the government of Indonesia and the Association of Indonesian Palm Oil Growers (GAPKI), seeking to also ensure continued supplies

for existing European food markets, have mutually agreed to allot 3 million hectares of land for oil palm plantations for biodiesel production in Indonesia.”<sup>18</sup>

Pressure is also being exerted by President Lula da Silva of Brazil, who has repeatedly toured Europe to argue that it should drop tariff barriers for agrofuels. The Malaysian Palm Oil Council (MPOC) has hired public affairs company GPlus in Brussels to engage in permanent lobbying activities. Its objective is to safeguard the potential for Malaysian energy production from palm oil, in the face of all the negative publicity this has received.

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## A brief guide to EU Agrofuel policy development

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**2003** In the first Biofuel Directive released in 2003, the European Commission adopted indicative targets of 2 per cent by 2005 and 5.75 per cent by 2010 for the use of agrofuels in transport.<sup>20</sup> In order to achieve these targets, the EC passed legislation allowing member states to implement tax incentives for agrofuels.<sup>21</sup>

**2005** It became clear that the EU would not reach its target. Only 2 out of the 21 member states for which data were available met their own targets.<sup>22</sup> It was also clear that the 2010 target would also not be met unless new measures were taken. The European Commission therefore presented a Biomass Action Plan in December 2005, which suggested that binding targets for bio-energy use would be introduced in future policy.<sup>23</sup> A binding (or mandatory) target means in practice that energy and fuel suppliers are obliged to blend or use a minimum percentage of agrofuels in their conventional fuel mix.

**2006** The European Commission published a more specific EU Strategy for Biofuels in February 2006, preparing the ground for a review of the 2003 Biofuels Directive, that would include a mandatory target for agrofuel use in the transport sector.

**January 2007** The European Commission published two important documents: the energy package, including a 10 per cent mandatory target for agrofuel use in transport by 2020, and the Fuel Quality Directive, another driver for agrofuel use.

**March 2007** The EU Council of Ministers agreed in principle with this target, on the condition that the agrofuels are produced sustainably.

**September 2007** The European Parliament voted on a resolution (the Thomsen report), demanding that binding social and environmental standards are attached to the agrofuel target.

**December 2007** An official legislative proposal for a revised Biofuels Directive is expected to be published by the European Commission.

The 2006 EU Strategy for Biofuels defined seven key policy axes, pulling together the measures the Commission will take to promote the production and use of agrofuels:

Policy Axis	Measure to be taken (examples)
1. Stimulating demand for biofuels	Revision of the 2003 Biofuels Directive, including agrofuel obligations (mandatory target)
2. Capturing environmental benefits	Ensure sustainability of agrofuel feedstock cultivation
3. Developing production and distribution of biofuels	Set up a specific group to consider agrofuels opportunities in rural development programmes; ensure no discrimination against agrofuels
4. Extending supplies of feedstock	Making sugar production for bioethanol eligible for CAP support; finance an information campaign for farmers and forest owners
5. Enhancing trade opportunities	Proposal for separate customs codes for agrofuels; pursue a balanced approach in trade talks with ethanol-producing countries; propose amendments to the “biodiesel standard”.
6. Supporting developing countries	Measures for ACP Sugar Protocol countries affected by the EU sugar reform can be used to support the development of bioethanol production; develop a coherent Biofuels Assistance Package for developing countries; examine how best to assist national and regional agrofuel platforms.
7. Research and development	Support the development of an <i>industry-led</i> European Biofuel Technology Platform; agrofuels made a high priority in the 7 <sup>th</sup> Framework Programme (biorefinery and second generation agrofuels). <sup>24</sup>

### Meeting the targets sustainably?

Can the 10 per cent target of the new Biofuels directive, or the Fuel Quality target, be met ‘sustainably’? Bearing in mind that the EU already imports large quantities of very unsustainably produced crops like soy and palm oil for food, animal feed, industrial products and other purposes? This depends on many things, not least on how ‘sustainability’ is defined. We will see that current proposals for ‘sustainability criteria’ are so weak that most, or even all, agrofuel and bio-energy production could be approved under them, regardless of its real social and environmental impacts.



## CHAPTER 2 SUSTAINABILITY CERTIFICATION OF AGROFUELS

***“At this moment, the worldwide search for safeguards is really on”***

Hermann Hatzfeldt, Chair of the “Sustainable Bioenergy – Challenges and Opportunities” Conference, Bonn, Germany, October 2006

***“The global community must as a matter of urgency work towards the development of internationally recognised standards for biomass grown to produce biofuels”***

Phil Woolas, UK Climate Change Minister, 21 September 2007<sup>25</sup>

Agrofuels need active support from government policies and public money to survive on the market, and their supposed climate benefits are the most often stated reason to justify this support. With mounting evidence and public awareness of the enormous social and environmental impacts of agrofuel crop production, and growing doubts about their real climate benefits, the search for ‘sustainability safeguards’ has become a key issue in debates on agrofuels in the EU and internationally.

“Biofuel mandates are still targeting ambitious market shares without an in-depth understanding of a sustainable production level” - OECD paper 2007

For many years, EU institutions have mentioned the need to introduce sustainability safeguards for agrofuel production. The European Commission’s Biomass Action Plan states that “the assessment and monitoring of the full environmental impact of biofuels will receive attention” in the review of the Biofuels Directive. Through a certification system, “only biofuels whose cultivation complies with minimum sustainability standards will count towards the targets”.<sup>41</sup> However, the Biofuels Progress Report, part of the Energy Package published by the EC in January this year, only mentions sustainability certification in passing as something “that needs further study”.<sup>42</sup>

But EU targets are now being set, and subsidies are being granted without addressing fundamental ‘sustainability issues’, including the indirect impacts of the push for agrofuels. The Council of Ministers is demanding that agrofuel targets be met ‘sustainably’, yet EU policy is on a collision course because these two objectives are conflicting. According to a recently published OECD paper:

The current policy response to the environmental consequences of biofuel production is to develop criteria designed to ensure a sustainable production of biofuels. However, biofuel mandates are still targeting ambitious market

shares without an in-depth understanding of a sustainable production level and from where this biofuels could be supplied. There is a serious risk that biofuel quotas for demand are higher than potential sustainable supply, creating a strong incentive to ‘cheat’ in the system.<sup>26</sup>

In addition, a number of problems have already arisen related to the failure of sustainability consultations to involve local groups in producer countries, to address the social impacts of the agrofuel expansion.

## Certification processes for agrofuels and bio-energy

There are currently several projects to develop agrofuel/biomass sustainability certification. The European Commission (EC) is working on a proposal for a revised EU Biofuels Directive, which would include ‘sustainability criteria’. The Netherlands, the UK and Germany have initiatives in this respect, in part with the aim of influencing how the EC deals with the issue. In addition, the Rapporteur for the Fuel Quality Directive in the European Parliament, Dorette Corbey (PES), has announced that she wants “scandal-free” agrofuels, and is planning to introduce sustainability criteria in the context of this Directive.

At the international level, a Round Table on Sustainable Biofuels was launched in April 2007. In addition, the G8 inspired Global Bioenergy Partnership (GBEP), hosted by the UN Food and Agriculture Organisation (FAO), may take on a role in this.

The EU-focused initiatives for agrofuel ‘sustainability’ criteria favour what is known as the ‘meta-standard approach’. This would mean that existing labels and certification initiatives like the Forest Stewardship Council (FSC), the Roundtable on Sustainable Palm Oil (RSPO) and the Round Table on Responsible Soy (RTRS), could be approved as qualifying as the ‘meta-standard’ for agrofuels. If FSC certification, for example, were accepted as meeting the requirements of the ‘meta-standard’, FSC-labelled biomass could then be approved, provided a GHG calculation were carried out.

Many questions arise about the nature and effectiveness of these schemes, however. The OECD paper comments that “enforcement and chain-of-custody control could prove to be an enormous challenge, as recent experiences with the certification of wood products has shown. ... Though theoretically possible, reliance on certification schemes to ensure the sustainable production of biofuels is not a realistic safeguard.”<sup>27</sup>

Several other certification initiatives are being developed.<sup>28</sup> These include:

- The UN-Energy, UN Biofuels Initiative (UNBI), which focuses on ‘sustainable’ production and trade.

- The International Bioenergy Platform (IBEP; FAO) is said to be assisting the development of an “international scheme for workable assurances and certification-based principles, methodologies, criteria and verifiable indicators.”
- The FAO Forestry Department and the International Energy Agency (IEA) Task 31 is working on biomass certification.
- The UN Environment Programme (UNEP) Certification of Biomass Project is being developed in cooperation with DaimlerCrysler. The core working group, including UNEP and WWF, was formed to investigate criteria and indicators to ensure sustainable biomass production.
- The International Energy Agency (IEA) Bioenergy Task 40 on International Sustainable Bioenergy Trade is investigating what is needed to create a commodity market for bioenergy.
- Various corporate labels are being promoted, such as the Essent Green Gold Label. Another example is the ‘Climate, Community & Biodiversity (CCB) Alliance’, involving Conservation International and BP, and has also developed its own standards.

Another international forum that might play a role is the International Biofuels Forum. This is a discussion platform involving some of the world’s biggest agrofuels producers and consumers: Brazil, China, India, South Africa, the United States and the EU.

With so many initiatives on the table, there are growing calls for an internationally harmonised approach. In a recent paper commissioned by WWF, the Dutch consultancy Ecofys has set out the case for “the development of an international harmonised scheme to assure the sustainability of bioenergy”.<sup>29</sup> The meta-standard approach is a central concept advanced by this paper.

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### Who is afraid of certification?

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Who in the industry really supports a robust and mandatory certification scheme for the sustainability of agrofuels? In 2006, the European Commission initiated a first public online consultation on agrofuels, including some questions on the sustainability issue.<sup>30</sup>

Biofuelwatch examined the industry responses to environmental safeguards in the consultation, and found that “Industry is nearly unanimous in their support for biofuel promotion as a way to reduce greenhouse gas emissions.... The majority of biofuel industry responses, however, reject any mandatory safeguards which would ensure that the biofuels sold in Europe will have lower greenhouse gas emissions than the petrol or diesel which they will replace.... Many responses suggest that not enough is known about life-cycle greenhouse gas emissions from biofuels, but nonetheless demand government support for rapid market expansion.”<sup>31</sup> Biofuel-

watch found that the vast majority of companies did not mention deforestation or biodiversity loss as a concern. At most, the industry just calls for delays or voluntary action only.

Some respondents from the industry stress that nothing must be done to interfere with market growth. British Sugar, for example, stated that “We fully support minimum environmental standards for biofuels in the European Union, but do not think a certificate system is the best method. In introducing these standards there is always the danger of slowing development in the market.” The Renewable Energy Association (UK) thought that minimum environmental standards are “an ill-considered approach, which... will risk undermining future investment in the European biofuels market and could blight existing investment”.

Sener Grupo de Ingeniería is of the opinion that agrofuel feedstock production would “contribute to the reduction of poverty and hungry (sic)... and this would be the best for all these countries, independent if the environmental aspects are or not satisfactory for our levels.”

Repsol YPF supported certification, but only with regard to pesticide and fertiliser use and GHG emissions.

Unilever, on the other hand, calls for a moratorium on agrofuel promotion pending a full impact assessment, with future support for sustainable agrofuels only. Unilever says that mandatory certification only works on a small-scale and cannot deal with massive market expansion. It would of course be interesting to see whether Unilever would give equally vocal support to impact assessments and mandatory certification for all commodities for food and feed, if that were ever to be proposed.

In January 2007 an Open Letter was sent to the EU from a wide range of organisations. It states that, at present, there is no credible certification process leading to strong and mandatory standards, and draws particular attention to the failure of such processes to involve affected groups in producer countries.<sup>32</sup>

In mid-2007, the European Commission published a new consultation on a “possible way forward” for safeguarding the sustainability of agrofuels, introducing criteria on only two issues: high biodiversity value areas and GHG emissions.<sup>33</sup> This sparked many responses and criticism from NGOs. The Malaysian government, on the other hand, went so far as to state that “words such as ‘environmentally-harmful’ systems [of agrofuel production] should be avoided as there are no internationally accepted standards”. The European Parliament is calling upon the Commission to design a mandatory, comprehensive certification scheme, covering issues such as biodiversity, water, rising food prices and the displacement of people.<sup>34</sup>



## Certification as a tool for 'sustainable' agrofuels

The 'sustainability' issues relating to agrofuels are usually classified according to three categories:

- 1) Greenhouse gas balance
- 2) Direct and indirect environmental impacts including: deforestation, loss of habitats, biodiversity and possibly high nature values, erosion, the introduction of chemicals to soil or water.
- 3) Direct and indirect social and economic impacts including: poverty, land conflicts, human rights violations, labour situation, food sovereignty and food security.

For each of these issues, criteria would have to be developed, possibly resulting in some kind of certification scheme. There is an important distinction to be made between *voluntary* certification initiatives, such as the FSC, which depend on conscious consumers choosing to pay more for a certified product; and *mandatory* certification, which is based on setting legally enforced environmental and social standards. Obviously, when mandatory targets are introduced to force the blending of agrofuels into transport fuels, voluntary certification would be futile as there is no real consumer choice at the petrol station.

As the debate is moving on, some key questions arise, which are briefly addressed below:

- To what extent can certification schemes effectively address the problems identified?
- Who is involved in designing the sustainability criteria?
- Are WTO rules a real barrier to sustainability certification for agrofuels or are they used as an excuse to come up with weak proposals?

### Limitations of certification

Large-scale production of agrofuels will have macro-level impacts, which cannot be addressed by applying a set of criteria to individual producers. In this respect, 'displacement' and increased food prices are key issues. Displacement in this context means that when the use of existing agricultural land is shifted to meet the new demand for agrofuels, the production for existing uses and markets will move to new areas, for example forests or areas of small scale agricultural systems.

Indirect macro-effects can also occur through price shifts on commodity markets, which then impact upon the price of land. For example, a 2006 scientific study by Morton et al shows that the rate of Amazon deforestation has a direct correlation with the world market price of soy.<sup>35</sup> Furthermore, the Indonesian government has admitted that

investment in palm oil expansion - a driving force of deforestation in south-east Asia - correlates with the price of palm oil. As corn is increasingly used for ethanol production, particularly in the US, farmers are reducing their soy production. This has increased the world market price for soy in 2007 to the point where, at the time of writing, it has almost reached its highest price in 30 years. This will drive further expansion of soy plantations in countries like Brazil, Argentina and Paraguay. A 2006 FAO report shows that the increased use of European rapeseed oil for biodiesel is one of the main factors for the rise in palm oil prices, which in turn promotes palm oil expansion.<sup>36</sup>

Every actor in this debate, including the European Commission, recognises that certification cannot address these macro-impacts. The solutions often proposed are to produce agrofuels on so-called 'marginal' or 'degraded' lands and to intensify agricultural production, rather than to engage in any serious attempts to reduce the overall consumption of these commodities.

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#### 'Marginal' land

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Some current proposals suggest that 'displacement' should be addressed by using 'marginal' lands for agrofuel production. In practice, however, such lands can still contain diverse ecosystems and form the basis of a variety of social activities. The classification of certain lands as 'marginal' or 'bare' is often determined more by political considerations than by the state of that land itself, or by whether or not it is actually unused or uninhabited. In addition, it is hard to see how EU governments would be able to direct production towards 'marginal' lands in countries like Brazil or Indonesia. The assumption that 'marginal' lands can be claimed to meet rising EU demand for agrofuels is reminiscent of an old colonialist mind-set, whereby the South is depicted as an empty space upon which the North can impose 'development' projects to serve its own needs.

There are other major obstacles to the development and implementation of effective certification schemes for biomass or agrofuels. These include:

- 1) GHG balance: Some of the current methodologies for calculating this exclude important external aspects such as land use change and/or have a very high error margin, making it very difficult to come to a realistic estimate of CO<sub>2</sub>-balance. GHG calculation methods are micro-studies and do not take into account displacement effects (see Chapter 3).
- 2) Large-scale actors are far more able to face the administrative burden related to certification than small-scale producers. In practice, the larger actors also have more power and opportunities to influence the process of setting the criteria, and a greater capacity to find and exploit loopholes in the system.

3) Producers and traders can serve the certified market and benefit from the 'green' credibility of the certification, while simultaneously continuing to engage in bad practices elsewhere.

4) The credibility of the certification depends a lot on which system is used. The most expensive option, called 'track and trace', follows a product from beginning to end. This is often complicated insofar as commodities traded between countries and companies often get mixed during transport and processed with products from elsewhere. The 'book and claim' system, on the other hand, involves tradable certificates. A company buys a quantity of certified goods and gets the credit for that, but once the goods enter the market they get mixed with all others, and could end up anywhere. Such a system is cheaper but more open to fraud.

5) The challenge of verification and monitoring is huge. One example of failed certification is the case of Essent's Green Gold label for 'green' electricity generated by using palm oil, which was backed by a multi-million euro subsidy from the Dutch government. The palm oil was found to be contributing to deforestation in Indonesia. There can also be problems involving corruption and repression, and conflicts of interest in case certifiers are paid and chosen directly by the companies whose standards they are assessing.

6) In many producer countries, human rights violations are strongly linked to companies and plantations producing soy and palm oil, which are among the potential future agrofuel feedstocks. As a result, existing 'sustainability' labels for these commodities or companies have already met with opposition from civil society.

Most of the EU-focused initiatives to develop 'sustainability certification' for agrofuels have failed to include any civil society stakeholders from the global South, let alone those groups directly affected by monoculture expansion

## Who decides what is 'sustainable'?

There is widespread acknowledgement that full stakeholder involvement is vital for any certification scheme. At one of the first broad conferences organised on bioenergy in Europe, "Sustainable Bioenergy – Challenges and Opportunities" (Bonn, Germany, 12-13 October 2006), the chairperson said in his closing remarks that "all actors must be involved in finding and designing [criteria]. If the stakeholders are not involved from the very beginning, there is no chance to reach the level of acceptance necessary to assure sustainable production and use." But questions arise as to who is included amongst the 'stakeholders'. Are local groups affected by plantations recognised as stakeholders? And, if not, can their interests be defended by a few international NGOs?

Andre Faaij, a member of the IEA Task Force on Bioenergy, and of the Dutch commission set up to develop sustainability criteria for biomass (the Cramer commission), states that "Stakeholder involvement is required for a legitimate and reliable system... While

expert judgment can flag the issues, [...] experts should not unilaterally decide which sustainability criteria to include and how to prioritise them. To a large extent, the judgment of local stakeholders is also crucial to take into account the circumstances and needs in specific situations.”<sup>37</sup> In effect, Faaij admits that leaving out those stakeholders from the Cramer Commission process was a “weakness” of the initiative.

So far, nearly all EU-focused initiatives to develop sustainability certification for biomass or agrofuels have failed to include any civil society stakeholders from producing countries in the South, let alone those groups directly affected by monoculture expansion to produce agrofuels. This failure not only damages the initiatives’ credibility, but also contributes to the lack of an important perspective on some issues. This can lead to proposals that do not include the most appropriate indicators or criteria. Lack of participation also obscures unavoidable conflicts of interest between groups in society, which will undoubtedly surface at some stage. Excluding these groups, or only involving them after the main criteria setting process has occurred, effectively leads to covering up the strongly divergent interests of the different groups.

Regarding the ‘meta-standard approach’, important lessons can be learned from existing certification initiatives in terms of ‘stakeholder’ definition and involvement, and conflicts of interest (see later in this chapter).

### **WTO rules: obstacle or excuse?**

EU trade commissioner Peter Mandelson recently warned that “sustainability criteria are crucial but should not become barriers to trade aimed at protecting European farmers.”<sup>38</sup> All three EU-based initiatives cite the WTO as a major obstacle to certification. Voluntary certification is allowed under WTO rules, but only if there is free competition among different labels, and if no measures are taken to inhibit trade in non-certified goods.<sup>39</sup> Mandatory certification (i.e. the setting social and environmental standards) would be likely to face a challenge from producer countries. The OECD paper says that “even if the certification requirements would apply to all countries and to domestic production in a similar way, the measure might still be found against by a WTO dispute panel on the grounds of having a disproportionate impact on trade.”<sup>40</sup>

However, the UK, The Netherlands and Germany are all members of the WTO and are therefore responsible for setting and changing its rules. The legal situation regarding the WTO and agrofuel certification is far from clear, and much remains up for negotiation. In the end, WTO rules do give members the right to discriminate in favour of other public policy objectives such as protection of the environment and conservation of natural resources. Yet rather than exploring these possibilities, WTO rules are now being used as an excuse for weak proposals, with any measures to bolster these made conditional upon WTO compatibility (see later in this chapter).

## The EU and 'sustainable' agrofuels

Since the European Commission published its "possible way forward" for "sustainable" agrofuels in spring 2007, it became clear that there are no serious plans for any "sustainability certification scheme".<sup>43</sup> A system is proposed to distinguish 'good' from 'bad' agrofuels, only looking at two 'sustainability issues': GHG balance and the impact on high biodiversity value areas. But several fundamental issues are excluded from such considerations, including social aspects, food sovereignty and security, land conflict, water and soil degradation. Again, the EC argues that WTO rules make it impossible to include social criteria. If that really is the case, however, then the word 'sustainable' is a misnomer.

Indirect and macro-level impacts such as displacement would be addressed only through a global monitoring and reporting system of land use change. The EC is not recommending any action to be taken when this reporting might show highly negative results.

An invitation-only stakeholder meeting about this agrofuels sustainability proposal was organised by DG Transport and Energy in May 2007, involving industry and NGOs. It was well attended by the agrofuel industry, which again confirmed their opposition to social standards in particular. NGOs, on the other hand, criticised the lack of social criteria; the lack of ambition of the proposed scheme, even in relation to the climate impacts; the failure to deal with macro-level impacts; and the fact that the monitoring of land use change would not have any implications. When asked whether the 10 per cent target would be dropped or adjusted if negative impacts were demonstrated, the Commission responded that this would not be the case, since it would create too much uncertainty for investors. So, investors' interests are served while sustainability promises remain empty.

In the mean time, the European Parliament adopted a resolution in September 2007 demanding that binding social and environmental criteria would be attached to the target, and macro-impacts would be addressed. Indeed, on 23 January the European Commission presented its proposal for a Renewables directive that will push agrofuel use, but without any intention to limit or repair the damage it will cause. Apart from the fact that certification cannot prevent any of the impacts related to the further expansion of monocultures, there are other major flaws in the proposed law:

- Member States are not allowed to set stronger or broader sustainability criteria than those the EU eventually decides upon. Ironically, the 'sustainability' article in what is supposedly an 'environmental law' takes as its legal basis the EU's 'internal market' rather than environmental rules.

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- Most environmental issues (water use, soil degradation, etc.), and all social issues (land conflicts, human rights abuses, working conditions, etc) are excluded from the proposed ‘sustainability criteria’
- The proposal excludes the implementation of greenhouse gas saving criteria until 1 April 2013 for all agrofuels produced by installations that were operational in January 2008.
- Voluntary schemes and bilateral and multilateral agreements may be taken as proof that environmental sustainability criteria have been fulfilled; but these voluntary schemes are not necessarily widely supported by civil society in producer countries, and would now be used to legitimise the expansion of plantations by certifying agrofuels and agro-energy (see the following chapters).
- Non-liquid biomass (wood, palm kernel) are excluded from criteria altogether for the next few years.
- A very low level of only 35 per cent greenhouse gas saving has been set as a minimum criterion for bioliquids and other agro-fuels.

In the mean time, many other bodies have raised doubts about criteria as an effective way of guaranteeing sustainability. The UK Parliament Environmental Audit Committee (EAC), which heard from witnesses who queried the effectiveness of international standard schemes, concluded that “biofuel sustainability standards by themselves are unlikely to be able to prevent biofuels from causing environmental damage in the UK and internationally.” The EAC called for a moratorium on current targets until a set of conditions are in place.

## EU Member State Initiatives

The Netherlands, the UK and Germany have each taken up initiatives to design sustainability criteria for agrofuels and biomass. In these three countries, the prime motive for creating criteria was the introduction of (still rather low) mandatory targets for agrofuel use in transport fuels at the national level, and/or the establishment of subsidy schemes for ‘green’ electricity.

In the Netherlands, the final report of the “Cramer Commission” was presented to the Dutch government in April 2007. The German government did not even await the results from a study it commissioned before publishing a proposal in September 2007. The UK plan is expected to be operational from April 2008.

The meta-standard approach described earlier is advocated in all proposals, on the grounds that it can avoid duplicating work.

## United Kingdom: mandatory reporting of agrofuels

The UK initiative is led by the Low Carbon Vehicle Partnership (LowCVP), whose membership consists of automotive, oil, agrofuel, biotech and consultancy companies, some universities, government bodies and a few NGOs. It was started in response to a measure known as the Renewable Transport Fuel Obligation (RTFO), which was initiated in response to the current EU indicative target of 5.75 per cent use of agrofuels in transport by 2010. Until at least 2011, the UK is not proposing certification or standards – only an obligation for companies to *report* on the sustainability of their agrofuel imports. No fuel will be banned as a result of what is reported, regardless of performance levels.

Further weaknesses of the UK scheme include the fact that:

- Monthly reports will be kept confidential, while an annual summary with aggregate information will be published.
- Companies are allowed to answer “not known” to the questions.

The UK process has involved several months of stakeholder consultation, but this has not involved any groups in Southern countries. A number of southern NGOs voiced their concern: “We feel that the targets of the RTFO are likely to impact on those whose concerns we represent, namely those of rural and indigenous communities in Africa; those communities who are typically unable to participate in these distant discussions about subjects that will dramatically affect their lives. We note with regret the failure of the RTFO consultation to involve organisations outside of the UK, in particular those representing the communities most likely to be affected by increased biofuels targets.”<sup>44</sup>

LowCVP regards “consensus key sustainability criteria” as: GHG balance, land use change, biodiversity, environmental protection and the well-being of workers. Issues related to the impact on local economies and food security are not considered, as this was seen as “paternalistic”.<sup>45</sup> To prevent displacement effects, LowCVP proposes that “bare land” (also referred to as “marginal” land) should be prioritised for agrofuel production.

British environmental organisations criticised the proposal, however, because “it could, in its present form, see businesses producing biofuels by destroying rainforests and wetlands, not only threatening endangered habitats and species but also releasing far more carbon into the atmosphere than could ever hope to be saved by replacing fossil fuels.”<sup>46</sup>

Defenders of the UK approach say that just reporting is a necessary first step to collect data, in what may eventually lead to a certification scheme. Stephen Ladyman, UK

Under the UK scheme, no fuel will be banned as a result of what is reported, regardless of performance levels. This could be the case even if a negative GHG balance is shown

Minister of State for Transport, fiercely defended the RTFO, claiming that with the new reporting mechanism “motorists will be able to see at a glance how well their fuel supplier has performed against various environmental criteria. That means they will be free to choose where they buy their fuel based on clear information.” He added that “No one wants to be tarnished by association with products with a questionable environmental impact.... As such, I believe this will be a very effective mechanism in promoting the best, most sustainable biofuels.”<sup>47</sup>

## The Dutch bow to the British

The Dutch Cramer Commission consists of 14 members, including six representatives from multinational companies (Shell, Essent, Rabobank, Elektrabel, Cefetra and Cargill), two from NGOs, and a number of academics and officials from different ministries. Jacqueline Cramer chairs the Commission. She is a former Professor at Utrecht University, and an advisory board member of Shell and WWF. Since then, she has become the new Minister of Environment, with responsibility for policy on agrofuel sustainability.

The Cramer criteria are to be applied to both subsidies for “green” electricity and the Dutch agrofuel target. The final Cramer report, covering a wide variety of issues, was presented in April 2007. Soon afterwards, however, it became clear that the Ministry had shifted course and opted largely to copy the UK approach. This means that it will expect only mandatory reporting until 2011 (both for agrofuels in transport and the use of biomass in electricity), without any sanctions in the case of “unsustainable” agrofuel or biomass use. The same characteristics of the UK reporting scheme are to apply to the Dutch one, including the option to answer “unknown” to questions on sustainability.

This approach is clearly not an effective guarantee of sustainability. It is being defended on the grounds that any companies failing to provide sufficient information in their reports would be named and shamed by NGOs. In effect, NGOs are being made responsible for the effectiveness of the reporting scheme, a task that they did not solicit. The draft guide on “Carbon and Sustainability Reporting in the Netherlands”, published in September 2007 does not propose a minimum binding GHG saving target. For soy, the Basel criteria are proposed as a qualifying system but, remarkably, the non-GMO criterion of the Basel system is excluded. Another important factor is that by-products are also largely exempted from reporting requirements (except for those pertaining to GHG balance).

The Cramer report itself was produced without consulting relevant groups in the South, where many agrofuels will be produced. The entire project has taken place at the Dutch level. There are no plans at present to correct this failure. It is said that local stakeholders will be involved in follow-up activities on how the criteria should be implemented – but



this does redress the fact that affected groups in the South were afforded no role or input in developing the criteria in the first place.

As for indirect impacts such as displacement, the Cramer report says these are “crucial”, and says that these should be dealt with through “dialogue with other governments”. The concept of a “neutral land balance” was introduced, which comes down to a combination of strong increases in agricultural productivity and the use of “marginal land” that is not now suitable for food production.

There are several grounds for criticising the report’s conclusions. These include:

- 1) GMO’s are not covered, meaning that GM agrofuels can be labelled as “sustainable” under this system.<sup>48</sup>
- 2) The certification system proposed is “book and claim”, although it is not the most reliable system.
- 3) A stakeholder dialogue with “local stakeholders” has been designed in such a way that it is the *agrofuel producers* (i.e. those with the most vested interest) who are responsible for undertaking it. In view of the unequal power relations, exploitation of workers, and human rights abuses reported at many plantations, it is hard to see how credible results could be achieved when a stakeholder dialogue is set up in this way.
- 4) The Cramer Commission proposed very inappropriate indicators for the issue of “local welfare”, such as the “direct value” created by agrofuels. A more meaningful measure would have been one based on the impact of agrofuels on rural income and migration.

Some international NGO networks like the Global Forest Coalition and the World Rainforest Movement expressed strong doubts about the effectiveness of certification schemes and criticised the lack of consultation with civil society organisations (CSOs) from the South. They have stated that

The perspectives of smallholders, local communities and indigenous peoples, often suffering the consequences of monoculture expansion, have not been heard. As past experiences with developing certification schemes have shown, local stakeholder participation, especially in the criteria setting process, is crucial. Not only for its credibility, but also for a sound analysis of the social and environmental problems related to monoculture production.<sup>49</sup>

Dutch NGOs responded to the final report with reservations, stating that the Cramer criteria “do not guarantee the sustainability of biomass” and that it does not set sufficiently ambitious climate goals for agrofuels.

## Germany's impatience

There is a clear sense of time-pressure in Germany. With the German Biofuel Quota Act coming into effect on 1 January 2007, the German Parliament had demanded minimum sustainability standards to be ready by mid-2007. Both the Agriculture and the Environment Ministries commissioned studies from different consultancies to investigate certification options. However, instead of awaiting the results of the most recent study by the Institute for Energy and Environmental Research (IFEU), the German government has already published a draft proposal, which leaves out all social issues.

The German proposal comes down to setting the following standards for agrofuels to count towards the national target:

- 1) 'Good agricultural practice' (guidelines on soil, water, etc.)
- 2) Protection of natural habitats
- 3) GHG balance, with an aim of only 20-30 per cent GHG saving for agrofuels

The study commissioned by the Environment Ministry is being carried out by the Institute for Energy and Environmental Research (IFEU), assisted by the FSC Working Group Germany and German Watch. The project is co-financed by the International Council on Clean Transportation. The project's aims are very broad: to create an overview of the existing certification systems for biomass and agrofuels, to make recommendations at an international level for a certification system, and to establish guidelines for international projects (e.g. CDM, World Bank).

The German government has already published a draft proposal, which leaves out all social issues

The IFEU study makes a minimal attempt to involve stakeholders from producer countries. It has planned two workshops, one in Latin America (to be organised by ICCT), and another in south east Asia in the autumn of 2007. There is no clarity yet as to who is participating in these workshops or what the process is, and clearly, the outcomes have not been waited on by the government.

The second German study was carried out by Meo Consulting, and focused more on the process of introducing certification.<sup>50</sup> This report looks at "existing sustainability risks", and distinguishes 'major musts', issues to be addressed first, from "minor musts". Minor musts include health and safety, use of agrochemicals, air pollution, and water use. Major musts include GHG balance, forced labour and child labour. But Meo Consulting comes to the conclusion that in establishing

criteria on child labour and forced labour, even these ‘major musts’ will “probably not be compatible with WTO rules and regulations”.

It concludes that:

- As agrofuels are a globally traded commodity, the certification system must follow a global approach on a voluntary basis.
- Generally, leakage effects are difficult to cover within a certification system. To be effective, the use of all biomass (also in the food and feed sector) and all biofuels must be covered.
- A track and trace approach would lead to a tremendous increase in costs, and is therefore not proposed. A book and claim approach is favoured.
- Ecological issues, in particular GHG emissions and land use conversion, are of central importance. Social and economic issues are secondary clauses which should be analysed based on country-specific legal, social and economic framework conditions.

The experiences of the RSP0 and RTRS show that there is political opposition to the very concept of the voluntary certification of commodities from civil society groups in producer countries

## Discussion moving ahead

At the time of writing, discussions are moving ahead quickly.

In the Netherlands, now that the implementation of these long debated criteria is being overhauled to make way for the very weak UK ‘mandatory reporting’ scheme, at least for the coming years, a lot of criticism is bound to follow. Nevertheless, in a policy letter to the Dutch Parliament in June 2007, Minister Cramer claims that “widely supported criteria” have now become available.<sup>51</sup> She defends the reporting approach by saying that it will create “transparency”. An even weaker reason is given for not penalising ‘bad’ agrofuels, namely that “the origin of commodities is not always clear”. The letter concludes by saying that the road to legally binding sustainability criteria will be long. “In the short term, sustainability policy will have to take the form of voluntary agreements with industry and producer countries”. At the same time, however, the Dutch government continues to dutifully increase the national target for agrofuel use in transport by over 1 per cent each year till 2010, and has spent millions of euros subsidising ‘green power’ from biomass, despite there being no international obligation to do so. The Dutch Parliament, however, has responded very critically to the proposals, which has led to further discussion within the responsible ministries and the possibility that this approach may yet be reconsidered.

In addition, the Dutch government plans an ‘equivalence study’ to assess which existing certification schemes would qualify as ‘equivalent’ for the mandatory reporting

requirement. The broad criteria for equivalence include the issues of reliability, societal support, and cost effectiveness. Existing initiatives like FSC, RSPO and RTRS (which has no criteria yet) have generated substantial criticism (or outright rejection, in the case of RTRS) from CSOs in producer countries, or have suffered from failing participation.

The UK Minister of Transport said in June that the UK government “aims to reward biofuels under the RTFO in accordance with the carbon savings that they offer from April 2010, provided that this is compatible with World Trade Organisation rules and EU Technical Standards requirements, and is consistent with the policy framework being developed by the European Commission as part of the review of the Biofuels Directive.”<sup>52</sup>

In addition, from 2011 the UK government aims to reward biofuels under the RTFO only if “the feedstocks from which they are produced meet appropriate sustainability standards”; again, under the same conditions as mentioned above.

### **Existing certification initiatives: ready for the agrofuel challenge?**

The meta-standard approach for sustainability criteria has gained some ground among some EU governments. These existing initiatives are projects for the voluntary certification of certain commodities, including FSC, RSPO and RTRS, but possibly many other existing labels.

However, these voluntary certification schemes have experienced numerous problems with participation failure and effectiveness. In the RSPO and the RTRS, groups affected by expansion of monocultures and small farmers are under-represented, or not even represented at all. There can be many reasons for this. Some cannot afford the time and travel, some have decided to stay outside the process, or have left after trying to take part because their issues were not addressed. Nevertheless, a paper for the IEA Bioenergy Task Force, describes the round tables as platforms “where all stakeholders in the chain are represented”.<sup>53</sup> The Swiss EPFL initiative said that the “WWF has demonstrated, by way of labels such as the Forest Stewardship Council... that the concept [of sustainability certification] is feasible and effective”.<sup>54</sup>

In many cases, a lack of resources or the fact that smallholders tend to be “very dispersed” are cited as reasons for participation failure. However, the experiences of the RSPO and RTRS show that what is at stake is not simply a problem of participation, but also political opposition to the very concept of (voluntary) certification of commodity products from large scale monocultures on the part of civil society groups in producer countries. Resistance is likely to grow if these existing certification initiatives are chosen as the means to legitimise agrofuel targets that are contributing to a major expansion of plantations.

But in addition, a new demand for agrofuels, supported by government policies, will move other production to elsewhere. The round tables and FSC were supposed to help solve some of the urgent problems related to the palm oil, soy and timber sectors. Some say that a increased demand for certified agrofuels and bio-energy will encourage more producers to 'go sustainable'. However, the displacement effects could easily outplay any such development. Indeed, increased demand and rising commodity prices might make uncertified production (with a clear competitive advantage over certified products) more attractive again. Within FSC, for example, there are serious concerns that the increased demand for timber products for energy will "endanger ecological and social values in certified forests".<sup>70</sup>

## Round Table on Sustainable Palm Oil

The support and input for RSPO by CSOs in palm oil producing countries has been limited. Only a few Asian CSOs have been involved in developing the criteria. They have managed to get some criteria included that are very meaningful in the Indonesian context, such as labour and land rights. However, the large number of Indonesian smallholders producing palm oil were not directly represented in the RSPO.

In Papua New Guinea, on the other hand, environmental organisations collectively decided to stay outside the RSPO. Alotau Environment explains that it took a year's discussion to come to this decision.

We reasoned that it was much more important for us to stay out, and criticise, than to be sucked into a series of interminable meetings, that would not achieve the cessation of oil palm expansion. ... RSPO wanted the environmental NGOs, because it would make them look good. But companies like Cargill simply cannot be trusted. They want expansion. Expansion will mean destruction of the rain forest. ... The NGOs oppose all expansion of oil palm, and that is the reason we stay out of RSPO. ... A lot of this pressure was put on the Papua New Guinea NGOs by NGOs and consultants from the EU, who offered them to get donor funding (which never materialised). These EU people had consultancies from the RSPO to get the Papua New Guinea NGOs to join RSPO.<sup>55</sup>

In Indonesia, according to the RSPO around 33 per cent of palm oil is produced by smallholders.<sup>56</sup> Smallholders face special difficulties, mainly stemming from their dependence on large oil palm plantations for loans, use of machines, and the processing the harvested fruits. Sawit Watch therefore urged the RSPO members to set up a taskforce

**Wilmar Group, the biggest palm oil trading company in the world and a member of the RSPO, routinely contravenes RSPO criteria and its own published standards in Sambas District, Indonesia. These contraventions include the illegal acquisition of land, land-clearance through fire (illegal under Indonesian law), deforestation, failure to protect biodiversity**

on smallholders, with the objective of ensuring their effective participation and ability to make suggestions to revise RSPO standards and guidance to suit their needs.

This taskforce produced the “Ghosts on our own Land” report, which gives a grim account of how approximately four million Indonesian smallholders came to be palm oil producers, and what impact it has had on their lives. Sawit Watch concludes that an important lesson from this process is that

adequately resourced mechanisms must be established for the direct participation of smallholders and other affected peoples in the next stages of RSPO’s work: in reviewing the standard to ensure it suits smallholder realities; in developing procedures for the verification and compliance; and in national interpretations.<sup>57</sup>

In the meantime, several incidents have occurred involving companies that are members of RSPO. A recent study by Milieudefensie, Lembaga Gemawan and Kontak Rakyat Borneo shows that the Wilmar Group, the biggest palm oil trading

company in the world and a member of the RSPO, routinely contravenes RSPO criteria and their own published standards in Sambas District, Indonesia, and probably elsewhere.<sup>58</sup> Its standards violations include the illegal acquisition of land, land-clearance through fire (illegal under Indonesian law), deforestation and failure to protect biodiversity.

The key question, of course, is how the RSPO responds in these cases. A case where the RSPO was explicitly asked, but failed, to take action was the one with Musim Mas grossly violating trade union rights, also involving Unilever as a buyer of Musim Mas palm oil. Unilever and Musim Mas are both RSPO members.

Musim Mas systematically refused to negotiate with its workers on the implementation of the minimum legal standards for plantation workers required under Indonesian law. Instead, in December 2005 around 1000 union workers were sacked or did not get their contracts renewed, and around 700 of them and their families were evicted from

their plantation dwellings. According to the Unilever European Works Council (UEWC) and FNV Bondgenoten, a major Dutch trade union, this issue was ignored by the RSPO. Since the Dutch government financially supports the RSPO, FNV Bondgenoten wrote to the government: “As yet, the RSPO is ignoring the issue, thereby putting its credibility at stake.... The FNV is of the opinion that without respect for trade union human rights, it is impossible for the Netherlands to remain involved in the WSSD partnership with the Indonesian government in the palm oil sector.” Nothing has happened in this respect.<sup>59</sup>

With around 95 per cent of Argentinian soy composed of Roundup Ready soy, GMOs will be a major issue in the RTRS. Roundup Ready soy producers are in the RTRS Organising Committee and have a huge stake in getting GMOs accepted under a “responsible” certification scheme



Protest against RTRS conference in Paraguay. August 2006  
Photo: An Maeyens

## The Round Table on Responsible Soy (RTRS)

The first Round Table on Responsible Soy was held in Foz de Iguazu, Brazil, in March 2005 and triggered a gathering of hundreds of activists from Argentina, Brazil, Paraguay and Uruguay, who opposed the very notion of "responsible" or "sustainable" soy. The second conference was held in Asunción, the capital of Paraguay, a country where soy expansion is proceeding hand in hand with expulsion of rural people, human rights violations and health crises resulting from agrochemical use.

Paraguayan small farmers' movements, trade unions and NGOs collectively rejected the RTRS and organised demonstrations outside the luxurious Golf and Yacht Club in Asunción. In a statement, they wrote:

Who will take responsibility for the environmental pollution caused by approximately 20 million litres of chemicals dumped on Paraguay this year? The destruction of streams, rivers, springs and wetlands? The eviction of almost a hundred thousand small farmers from their homes and fields? The assassination of more than one hundred peasant leaders? The forced relocation and ethnocide of Indigenous Peoples and communities? The charges pressed against more than 2,000 small farmers for their legitimate resistance to this predatory system? Large scale soy monocultures are NOT possible without this litany of adverse impacts.<sup>60</sup>

There has not been an official response from the RTRS Organising Committee to the protests, but internally it was suggested that the protesters' position should be respected, especially since "the RTRS and the action group were all on the 'same page'... the problem was greatly reduced if the RTRS did not go against the action group."<sup>61</sup>

The reason that the WWF gave for the complete absence of important stakeholder groups like small producers and indigenous peoples at the second RTRS "multi-stakeholder forum" was that "Maybe we did not do our homework. We also have limited resources". It is hard to see lack of funding as a significant problem, however, when the welcoming cocktail party of the conference cost \$1000, ten times the "reduced fee" for the poorest stakeholders (\$100).<sup>62</sup> This is an enormous expense for a Paraguayan peasant organisation should they have wished to participate. On the contrary, Christopher Wells from ABN AMRO regards the main strength of RTRS as its "commitment to broad stakeholder dialogue all along the value chain – from small farmers to consumers and the NGOs.... It is also our biggest challenge. It takes time to get a large group of people on board."<sup>63</sup>

FETRAF, a Brazilian family farmer's organisation that participated in the first year, left the Organising Committee because its concerns, such as on GMOs, were not addressed. GMOs will be a major issue in the RTRS since, for example, soy from Argentina is around 95 per cent RoundupReady GMO soy. The Argentinean low-tillage farmers (i.e. large scale RoundupReady soy producers) are in the RTRS Organising Committee, and have a huge stake in getting GMOs accepted under a "responsible" certification scheme.

The RTRS will develop criteria over the next two years, but for now it is difficult to grasp just how what ends up classified as "responsible" soy can be defended to consumers in view of the opposition and non-participation of civil society groups in the making of these criteria.

## Forest Stewardship Council (FSC)

In the global South, only a few per cent of the forests are FSC certified. There has been a lot of criticism on the fact that most FSC certified wood originates from industrial tree plantations, which are clearly not "sustainably managed forests". World Rainforest Movement (WRM) have found that, on many occasions, FSC was certifying the same plantations that local peoples and local NGOs were fighting against because of their negative social and environmental impacts. "This weakens those local struggles and also weakens the credibility of the FSC."<sup>64</sup> According to WRM, certification, has functioned as a "greenwashing" tool for socially and environmentally destructive plantations.<sup>65</sup>

FSC is now becoming involved in the certification debate related to agrofuels, since forests are already a source for energy for power generation and, in future, may also be a source for "second-generation", cellulose-based agrofuels. Timberwatch South Africa



points out that the certification system used by the FSC has not been able to resolve the “fundamental weaknesses that are inherent to the large-scale industrial production of timber” and, if applied to agrofuels, would likely produce the same results.<sup>69</sup>

### Better Sugar Cane?

Another problem of the ‘meta-standard’ approach is that no certification initiatives yet exist for many potential energy crops. Sugar cane is probably the leading agrofuel source, but no certification yet exists. The Better Sugarcane Initiative (BSI) is sometimes presented as a platform through which criteria could be developed. Its current membership would have to be radically broadened, however, since none of the current members is closely connected to those groups most suffering from the harsh conditions under which sugar is produced; those displaced by sugar cane production; or those living near plantations and suffering from pollution.<sup>71</sup> From the BSI website, it is not clear whether “members and supporters” have signed up as individuals or representing their company or organisation. Companies that are involved through members include Coca-Cola and Cadbury; NGOs involved in that way are WWF and Ethical Sugar.

FSC certification has come in for heavy criticism on a number of occasions. One controversial case is that of pulp and paper company Sappi’s plantations in Swaziland, which were FSC-certified by the Soil Association’s Woodmark in 2006 despite many irregularities and great damage to biodiversity and water systems by the pine plantations.<sup>66</sup> Other controversial cases include the certification of activities by NORFOR, a subsidiary of Spanish pulp and paper company ENCE; Smartwood, a company accused of certifying illegal timber production in Laos; and Pizano S.A. and Smurfitcartón de Colombia have also attracted criticism.<sup>67</sup> In July 2007, the Norwegian Government announced a ban on all uses of tropical wood in public buildings, because “today there is no international or national certification that can guarantee in a reliable manner that imported wood is legally and sustainably logged”, including FSC.<sup>68</sup>

Given its very narrow support base, it is unclear why the BSI is being looked at as a platform by ‘meta-standard’ advocates, including the UK, Netherlands and German government initiatives.

### Towards an International ‘Meta Standard’ approach?

On 17 April 2007, a Round Table on Sustainable Biofuels (RSB) was launched, initiated by the EPFL, an energy institute of Lausanne University, Switzerland. It has the ambitious goal of developing a ‘sustainable biofuel’ standard by mid-2008. The process

of its creation should be a 'multi-stakeholder' one, "involving public, private and NGO partners to lend legitimacy to the results and to ensure that the standard is accepted internationally. The standard should be generic, simple and apolitical." According to WWF, EPFL's role should be to unite "important market players of main producing and consuming countries; NGOs and institutes; leaders of existing bioenergy initiatives". Its role should also be to develop a global certification system and "sell" that system.<sup>72</sup>

Claude Martin, former Director-General of WWF International and Chair of the Roundtable's Steering Board said at the launch: "Companies and farmers want global rules that they can follow. The Roundtable will bring together all of these actors to start writing these rules together, to ensure that biofuels deliver on their promise of sustainability."<sup>73</sup> However, this begs the question as to precisely which actors should be involved.

The first stakeholder meeting held in November 2006 was largely attended by industry, some international NGOs and academics. The participants' list at its April 2007 launch included oil majors such as Shell, Petrobras and BP, some international NGOs (with the World Economic Forum being classified as an NGO) and institutions, including the Dutch Ministry of Environment. Only one Southern Civil Society Organisation (CSO), the Mali Folke Center was present. These representatives form the RSB Steering Board.

It remains to be seen how civil society representation from producer countries will develop in this new round table. Various working groups have been established to work on draft principles and criteria in different fields. It is not clear how outreach is being done to engage which stakeholders. The Environment Working Group has already published a set of draft principles, which are now online for comments.<sup>74</sup>

This Round Table reflects the often expressed wish for an internationally harmonised approach, said to be needed to prevent WTO conflicts.

A recently published paper by Dutch consultancy Ecofys, commissioned by WWF, gives a good reflection of the discourse now taking place at the level of EU governments and other actors trying to establish criteria (UK, The Netherlands and Germany). The meta-standard approach is a key concept of the paper.<sup>75</sup> The Ecofys paper also largely repeats the vision described earlier, on how displacement can be addressed by a combination of using 'marginal' lands for agrofuel or biomass production, intensification of production. Also the use of 'waste' organic material is mentioned. But again, there is no mention of the possibility to aim at reducing consumption of potential agrofuel feedstock in other sectors (i.e. better and less use of paper, combating factory farming, etc.).

As for stakeholder participation, the Ecofys paper refers to WTO, ISO and ISEAL codes of good practice for the development of standards, which stress the importance of, among other things, "pro-active stakeholder identification and inclusion". It says: "The

credibility of a Meta-standard thereby at least partly depends on the credibility of the standard developing process of the standards it works with.” However, the paper does not raise the issue of credibility when it comes to the question of how existing standards should be accredited.

## **Unanswered questions and unheard voices**

As we have seen throughout this chapter, while the debate on agrofuel certification is wide ranging and involves numerous stakeholders, it still excludes many actors, especially groups affected by agrofuel plantations in the global South.

Many uncertainties remain, but there is widespread agreement that no set of sustainability criteria can deal with the indirect impacts of the increased production of agrofuels and bio-energy crops. The solutions that are currently being discussed, such as the use of ‘marginal’ lands, raise new dilemmas. Other possible solutions, such as efforts to reduce the consumption of the relevant crops across various sectors, are not yet being considered by policy makers.

Plans to accredit existing certification schemes as a means to certify agrofuels and biomass should be assessed in relation to their current performance, including levels of civil society support and questions of reliability.

The current proposals from the European Commission and EU member states present inadequate solutions to these pressing problems. At present, it seems that the main function of the ‘sustainability schemes’ currently under discussion will be to add a veneer of legitimacy to public support measures (targets, tax breaks or subsidies) aimed at expanding agrofuel and bio-energy production. These measures fall a long way short of providing adequate safeguards against the negative consequences that could follow such an expansion.

## CHAPTER 3 AGROFUELS IN A CHANGING CLIMATE

Climate change abatement is claimed to be one of the principle motivations behind the expansion of agrofuel production. The calculation of greenhouse gas emissions (GHG) is therefore one of the key benchmarks against which the ‘sustainability’ of agrofuels will be judged. The existing methods used in these calculations omit several important inputs from across the production chain, however, and fail to take account of indirect macro-level impacts such as displacement and the role of agrofuels in promoting land use change.

As a result, there are now growing calls for a standard international methodology to calculate GHG levels associated with the shift to agrofuel production. However, there is still no conclusive evidence that an increase in the use of agrofuels in transport will actually contribute to a substantial GHG reduction if produced by large-scale monoculture practices. In fact, with overall fuel use in transport still increasing, the expansion of agrofuels could merely supplement rather than replace existing fossil fuels. A number of recent studies have suggested that once land use changes, agricultural intensification and the role of agrofuel expansion in driving deforestation and peat drainage are taken into account, the net effect of agrofuel production could actually accelerate climate change.<sup>76</sup>

The existing methods used to calculate agrofuel “sustainability” fail to take account the role of agrofuels in promoting land use change

### Greenhouse Gases

Agriculture and deforestation account for one third of GHG emissions according to the 2006 Stern Report.<sup>77</sup> Expansion of cultivated land onto pastures and other ecosystems releases GHGs into the atmosphere by discharging large amounts of carbon dioxide (CO<sub>2</sub>) and other GHGs from the soil.<sup>78</sup> Studies often do not factor in the additional GHGs including nitrous oxide created by the (over)use of agrochemical fertilisers and also omit the CO<sub>2</sub> emissions from land use changes, such as deforestation and ploughing, and methane (CH<sub>4</sub>) from the breakdown of plant matter.

Overuse of agrototoxic chemicals also contributes to climate change by releasing chemicals into the atmosphere. Nitrous oxide (N<sub>2</sub>O) is 296 times more potent than CO<sub>2</sub> – even small amounts can have a huge impact. Large-scale monocultures require nitrogen input because lands are often overused. Agrochemicals play a major role in releasing N<sub>2</sub>O into the atmosphere from aerial fumigations and through the regular use of chemical fertilisers and other agrototoxic substances.

A recent study by Nobel Prize winner Paul Crutzen et al. examined nitrous oxide emissions from agricultural fertilisers for agrofuel crops, including rapeseed and maize. The study concluded: “We have also shown that the replacement of fossil fuels by biofuels may not bring the intended climate cooling due to the accompanying emissions of N<sub>2</sub>O.... and we have shown that, depending on N content, the use of several agricultural crops for energy production can readily lead to N<sub>2</sub>O emissions large enough to cause climate warming instead of cooling by “saved fossil CO<sub>2</sub>”.”<sup>79</sup>

Large-scale monocultures require nitrogen input because lands are often overused. Agrochemicals play a major role in releasing N<sub>2</sub>O into the atmosphere – a gas that is 296 times more potent than CO<sub>2</sub>

## Land use and land use change

Land use and land use change is one of the most debated and significant aspects of GHG life-cycle assessment calculations. Direct land use change such as ecosystem destruction, deforestation, and soil organic carbon losses have often been overlooked, and the few calculations of emissions from agrofuel production that do include these factors have produce highly varying results due to different approaches.<sup>80</sup>

Digging in the earth unavoidably releases CO<sub>2</sub>, especially in areas with high density ground matter, like old growth forests or peatlands, which hold high levels of CO<sub>2</sub> locked up in the Earth’s surface. Yet these soil organic carbon losses are ignored in virtually all GHG life-cycle assessments, even though the CO<sub>2</sub> released can be substantial. Tad Patzek, a geoengineer at UC Berkley, warns that agrofuels will require intensive “mining” of the biosphere, in which ecosystems, including soils, continue to be stripped of their organic materials, which will have to be continuously replaced by fossil fuel-based fertilisers to prevent or even delay agricultural collapse.<sup>81</sup>

Another study, by Renton Righelato and Dominick Spracklen, finds that meeting the EU and US agrofuel targets will require the clearance of natural forests and grasslands, and that such “clearance results in the rapid oxidation of carbon stores in the vegetation and soil, creating a large up-front emissions cost that would, in all cases examined here, outweigh the avoided emissions.”<sup>82</sup> In other words, these targets are promoting environmentally damaging practices that will further exacerbate climate change. Righelato and Spracklen argue that ecological restoration, rather than land conversion for agrofuels, would offer far greater potential for reducing global carbon emissions.

One European study, commissioned by the EC from CONCAWE (Concawe Ad-hoc Group on Alternative Fuels) suggests that scientific uncertainties make it impossible to say whether greenhouse gas savings from rapeseed methyl ester (REM) are 7 per cent or 58 per cent.<sup>83</sup> Neither of those figures includes organic soil carbon losses. Nor do the studies consider the indirect impacts of greater use of REM in Europe in

pushing up vegetable oil prices, and in particular palm oil prices, globally and thus triggering indirect impacts such as further palm oil expansion, which is linked to deforestation in countries like Indonesia and Colombia.

The CONCAWE study stated that “CO<sub>2</sub> emissions arising from changes in land use can be significant for long periods of time and should also be taken into account.”<sup>84</sup> The study makes clear that land conversion from natural vegetation to cropland for agrofuel production would emit more CO<sub>2</sub> from the soil than it would generate in emissions savings, with payback times set anywhere from 50 years to centuries.

One of the few peer-reviewed scientific studies, which looked at the net energy of ethanol, was carried out by Alexander Farrell et al. at the University of California, Berkeley. Its results were published in the journal *Science*.<sup>85</sup> The team reviewed six different studies of corn ethanol production, all of which used different parameters with different results. The study suggests a 13 per cent emission reduction can be achieved in comparison with burning petroleum, but only when soil and land conversion is ignored. The study was criticised on these grounds in a letter published in *Science*, to which Farrell and his colleagues responded by stating that “Including incommensurable quantities such as soil erosion and climate change into a single metric requires an arbitrary determination of their relative value.”<sup>86</sup>

A recent report published by The International Forum on Globalisation and the Institute for Policy Studies addresses these concerns, stating that “In the case of corn ethanol, the studies which conclude there is a positive net energy return generally overlook some energy inputs associated with US corn production, including farm machinery, machinery for processing the corn into ethanol, and the use of hybrid corn. Or they only include low estimates for energy costs associated with the use of fertilisers, insecticides and herbicides. These studies also ignore the environmental costs associated with corn production and the energy costs of environmental restoration.”<sup>87</sup>

Land use and land use change are important factors when looking at GHG balances from agrofuel production. Many factors are excluded even in the most comprehensive analyses. When soil organic carbon losses and climate change are ignored in even peer-reviewed studies, this further undermines their value as a standard for “sustainability”.

## Chain of Production

Agrofuel GHG studies have different methods of calculating GHG emissions throughout the chain of production. There are varying methodologies concerning which data to collect and how to collect it. Tracking the agrofuel product from origin to end use can be difficult, sometimes impossible. The most widely used method is

to contract an outside party to calculate and verify emissions levels. This is similar to the controversial method used by the Forest Stewardship Council (FSC) to label “sustainably produced” wood. The outside party makes calculations without looking at the production chain, and checks only if each company has calculated its GHG data correctly.

One factor that discredits this approach is that it can overlook vital information on the earlier stages of production such as seed production and transport, giving a false picture as regards the whole production chain. Another weakness is its susceptibility to falsified data, which is a particular problem when companies are provided with the incentive of a green sustainability label that could guarantee a higher price for the product or help them to secure outside financing (see Chapter 4).

An alternative method involves calculations being tallied up by each individual producer throughout the stages of production. Complications arise, though, when it comes to transmitting this carbon data through the whole production chain. This approach also fails to tackle the problem that incentives to falsify or exaggerate data remain.

Another hurdle involves a lack of data, or the possibility of a company having already sold the product before collecting data and thus not being able to track it. Often, the added bureaucracy makes it more difficult for small producers to attain certification or be given a fair price. Instead, it is far more likely that the small producer would sell to a larger company with the capacity to deal with the added bureaucracy. The Netherlands and the UK have set up a preset value calculator until 2011 for companies that cannot produce their own data, in an attempt to further standardise agrofuel products that are so diverse in region, ecosystem and scope.<sup>88</sup>

Land conversion from natural vegetation to cropland for agrofuel production would emit more CO<sub>2</sub> from the soil than the equivalent emissions savings, according to one EU study

## Animal feed

Most of the studies that report a positive GHG balance do so because they calculate an agrofuel by-product (or co-products). In other words, they calculate how much land would need to be planted for the separate production of what are now considered by-products, which is known as substitution.

The rationale behind substitution is that agrofuel production will enable “double production” in one land area. For example, after the agrofuel primary material has been crushed in oil production, the left over matter can then be used as a component in animal feed. The assumption is made, for example, that less rapeseed will be grown for animal feed in another location. Similar assumptions are made in relation

to the production of glycerine as a by-product of agrofuel production. Including by-products in a life-cycle assessment study is often a major factor contributing to a positive GHG balance. This further complicates the GHG balance calculation, however.

## The Power to Review

Very few life-cycle greenhouse gas assessments are peer reviewed. There are currently no peer reviewed life-cycle greenhouse gas studies for biodiesel from palm oil, jatropha or soya, and peer reviewed studies on sugar cane ethanol are limited to those looking at energy gains and fossil fuel displacement, rather than total greenhouse gas balances. Isaias Macedo et al. studied the impact upon emissions of sugar cane for ethanol production in Brazil.<sup>89</sup> However, this study excluded deforestation and land use change, despite the fact that sugar cane expansion is linked to land conversion in the Cerrado, the Atlantic Forest and the Pantanal.

Neste Oil published a report on life-cycle GHG savings from its NExBTL biodiesel from rapeseed and palm oil.<sup>90</sup> The study, which was carried out by the German Institute for Energy and Environmental Research (IFEU), concluded that the best GHG balance came from converting natural rainforest to palm oil for biodiesel production. Biofuelwatch spoke to the IFEU team responsible for the study, however, and was advised verbally that the result was derived by excluding soil carbon emissions, all emissions linked to peat destruction, all emissions linked to forest fires, and dividing deforestation emissions by 100 (i.e. spreading them over a century), even though the maximum life-time of an oil palm plantation is around 25 years. Calculations for N<sub>2</sub>O emissions ignored the IPCC observation, contained in its Third Assessment report, that the application of nitrate fertilisers to one hectare of tropical and phosphorous-limited soil resulted in N<sub>2</sub>O emissions 10 to 100 times higher than those from applying the same amount of fertiliser to a hectare of temperate soils.<sup>91</sup>

Some studies focus on macro figures around energy consumption and future land use predictions. For example, a Delft University of Technology study on land availability, commissioned by Unilever, looked at current energy use and stated that “The worldwide prediction for energy use in 2020 is about 600EJ/yr. Of this, around 105 EJ is oil for transport use. Producing 20 per cent of the total energy (120 EJ) from biomass would require 0.5 to 1 billion hectares for biomass cultivation. For comparison, the world agricultural land is now about 1.5 billion hectares for direct agriculture and 3.5 billion hectares for cattle grazing land.”<sup>92</sup>



## Remaining Questions

Non-peer reviewed research sets a precedent for GHG life-cycle assessments to continue without vital feedback from the scientific community. This research should be treated with caution. Not only does it place undue power in the hands of a few experts, but research commissioned by the agrofuels industry often sets the terms of reference very narrowly and may exclude key variables. If governments introduce sustainability standards based on life-cycle greenhouse gas assessment, it is crucial that all factors described are taken into account and that it is reliant upon independent, peer-reviewed research.

Many scientists remain sceptical about GHG calculation methodologies due to the lack of controls and vital factors being left out of the calculations. David Pimentel, a professor at Cornell University, is part of the scientific community critical of agrofuel expansion. He stated in an interview that “Pro-ethanol people make it out to be positive by omitting many of the inputs that go into corn production. For example, they omit the farm labor – I’m not talking about the farm family, I’m talking about the farm labor. They omit the farm machinery. They omit the energy to produce the hybrid corn. They omit the irrigation. I could go on and on. Anyway, if I did all of those manipulations, I could also achieve a positive return.”<sup>93</sup>

**Many scientists remain sceptical about GHG calculation methodologies due to the lack of controls and vital factors being left out of the calculations**

Climate change should not be used to justify agrofuel expansion. Current studies fail to take into account many parameters that affect the climate. Even the most comprehensive and critical life-cycle assessments do not take full account of displacement effects, which are a crucial part of understanding the contribution of large-scale monocultures to climate change.

## CHAPTER 4 CARBON FUNDING - FINANCIAL FERTILISER FOR AGROFUELS

Agrofuels need active public policy backing in order to survive in the market, and sustainability certification is needed to legitimise that support. So far, this backing for agrofuels has come from national governments and the EU, but in future an important boost could be given to agrofuel production through carbon funding mechanisms, including the Clean Development Mechanism (CDM) of the Kyoto Protocol.

There is real potential for funding through carbon finance mechanisms to boost the agrofuels market. A viewpoint from *Point Carbon CDM & JI Monitor*, which analyses trends in the carbon market, makes reference to “studies [that] estimate that the output of bioethanol and biodiesel could rise up to 120 and 24 billion litres respectively in 2020 if instruments such as the CDM support the implementation of biofuel markets in developing countries.”<sup>94</sup>

Under the Kyoto Protocol, signatory countries have agreed to reduce their levels of greenhouse gas emissions to below 1990 levels by the end of 2012.<sup>95</sup> At an earlier stage in the negotiation of the Protocol, these emissions cuts were envisaged as taking place domestically. Under the influence of the US delegation backed up by intensive corporate lobbying, however, a host of “flexible mechanisms” were introduced that allowed countries to avoid making reductions at source.

There is real potential for funding through carbon finance mechanisms to boost the agrofuels market

The CDM is one of these flexible mechanisms, and the United Framework Convention on Climate Change (UNFCCC) website gives a simple description: “Industrialised countries pay for projects that cut or avoid emissions in poorer nations – and are awarded credits that can be applied to meeting their own emissions targets. The recipient countries benefit from free infusions of advanced technology that allow their factories or electrical generating plants to operate more efficiently – and hence at lower costs and higher profits. And the atmosphere benefits because future emissions are lower than they would have been otherwise.”<sup>96</sup>

So far, no agrofuels projects have been approved by the CDM board, but several applications are pending. The only agrofuels project that has passed the first of several registration steps in the CDM process to generate “carbon credits” (the certified emissions reductions) has been restricted to production from waste cooking oil. But the CDM is already providing subsidies to the agrofuel industry. In Riau, Indonesia, PT Murini Samsam, a wholly owned subsidiary of the Wilmar Group, received US\$8 million in

CDM funding to expand its crude palm oil refinery. The Wilmar group is one of the world's largest producers of palm biodiesel.

Other more potentially damaging projects are pending, including a Brazilian project involving soy production and one from India, which involves importing palm oil from Malaysia. If either of these two projects were to be passed to the next stage, it could set an important precedent for future agrofuel financing.

There are a number of outstanding issues relating to the methodology of the projects that have yet to be resolved, which is a source of frustration to those involved in the export of agrofuels. President Luiz Inacio Lula da Silva of Brazil criticised the Kyoto Protocol for not providing funding for agrofuel projects, commenting that "No country is revolutionizing its energy matrix as we are... The so-called carbon credits they invented - so far, we haven't seen a cent of that."<sup>97</sup>

It is precisely the methodology involved in calculating how much "climate benefit" a particular CDM project has generated that has come under sustained criticism. This concern is equally relevant when it comes to support for agrofuel projects. In addition, there has been a great deal of criticism regarding the supposed "sustainable development" component of the CDM, and this too would be relevant to agrofuel projects.

It is precisely the methodology involved in calculating how much "climate benefit" a particular CDM project has generated that has come under sustained criticism

## Methodologies to calculate CO2 reduction

The Executive Board that governs the deployment of the CDM has identified several critical issues that need to be resolved before projects can be approved, some of which are the same as those described in chapter 3. These are:

- 1) 'Double counting', which is the possibility that both producers and consumers could claim emission reductions for the same product. This is already a problem in relation to CDM-approved bio-energy projects, where both energy producers and the companies using this energy are in a position to claim credits for emissions reductions.<sup>98</sup> The same ambiguities occur in agrofuel projects, with an additional stumbling block arising because liquid fuels are nearly impossible to trace effectively once they are mixed.
- 2) The uncertainty about GHG emissions in the agricultural processes involved in growing agrofuels would result in a wide error margin when quantifying emissions reductions.
- 3) Displacement or 'leakage' – the UNFCCC term for the indirect impacts as discussed above – are also acknowledged to be significant issues.

The credits that a CDM project generates are calculated by subtracting the emissions of the scenario in which the project exists from the emissions expected if it doesn't. This last scenario represents the "baseline". The quantity of emissions that are supposedly saved by the project is used to calculate the amount of "offsets credits" available for sale to a company in the North.

The baseline has to be accurately determined in order for this system to operate. Without an accurate baseline, sellers would not know how many emissions they would actually be saving and thus how many carbon credits they were actually able to sell.

For example, a factory can apply for carbon funding to implement technology that destroys a greenhouse gas that it emits as part of its industrial process. The baseline is calculated as the amount of GHG emissions that the factory would be responsible for in future if it did not implement this technology. If that factory would have been responsible for 100 units of GHG emissions without the switch to the cleaner technology, and were to produce 90 units after the switch, it would therefore have 10 units worth of carbon credits to sell.

The assessment by experts and verifiers of the hypothetical baseline scenario without the project is, at best, informed guesswork. Many without-project scenarios are always possible. As Larry Lohmann points out in his book *Carbon Trading*, "The choice of which one [of these scenarios is] to be used in calculating carbon credits is a matter of political decision rather than economic or technical prediction."<sup>99</sup> In all instances, there is a clear incentive for parties to exaggerate how bad the situation would have been in the absence of the project, as this lower baseline would result in an even greater quantity of carbon credits being generated.

The PT Murini Samsam palm oil refinery is a good example of how this works. The project received credits because the installation of a biomass condensing steam turbine running on palm kernel shells was adjudged to be of environmental benefit compared to an alternative scenario in which a diesel generator would have been used. However, the project validation report acknowledges that the use of palm kernel shell is "the cheapest fuel available for palm oil mills."<sup>100</sup> Interviews conducted at the site, furthermore, made clear that the installation of the turbine were part of routine expansion plans that were in place before the grant of CDM funding. In other words, the CDM funding was a straightforward subsidy for a refinery expansion that would have happened anyway.

This case also provides a clear illustration as to how CDM assessments, in taking a narrowly technocratic definition of the environmental impacts of the projects funded, can miss the larger picture altogether. In the case of PT Murini Samsam, the factory is supplied by both smallholdings and plantations. The former mainly rest on recently defor-

ested land within peatland conservation areas – an incredibly rich store of carbon. The company’s own plantations, which also rest on peatland but were legally deforested, are among the many fire ‘hotspots’ that the Wilmar Group is responsible for. These also contribute hugely to emissions, yet such factors were not taken account of when the CDM Executive Board validated the project.<sup>101</sup>

This illustrates the more general danger that, in the case of agrofuels, the uncertainties regarding land use changes and changes in agricultural process would not be addressed in calculating the baseline scenario. In all these calculations, there is an incentive to exaggerate the negative climate impacts that would have happened without the project, as this would generate more carbon credits.

### Agrofuels and CDM: drivers of rural development?

There is a widely held assumption that agrofuels could assist rural development. Both UN-Energy and the EU assert that small and medium enterprises could benefit and jobs be created in producer countries.<sup>102</sup> Whether such development will actually happen, however, strongly depends on which type of agrofuel development will be promoted, who will control it, and also on the scale of agrofuel development.

It is suggested that the use of agrofuels in the CDM could fortify the developmental aspects of the mechanism. A study put out by the Energy Research Centre of the Netherlands, for example, suggests that “biofuel projects may have clear co-benefits in terms of energy security of supply, employment, natural resources and possibly air pollution. Therefore biofuel CDM project [sic] have the potential to strengthen the sustainable development goal of the CDM, which is currently under-achieved.”<sup>103</sup>

There are a number of reasons why agrofuel CDM projects may not provide “development” for local communities, however. Firstly, the structure of the CDM is such that it is usually an option reserved for large companies who can provide the capital necessary not only to implement the project, but also to go through the long process of accreditation and certification, with all the attendant expenses of carbon consultants, third party verifiers, ongoing project monitoring and so forth. Larry Lohmann argues that this “reinforces a system in which, ironically, the main entities recognised as being capable of making ‘emissions reductions’ are the corporations most committed to a fossil-fuel burning future... while indigenous communities, environmental movements and ordinary people acting more constructively to tackle climate change are tacitly excluded, their creativity unrecognised, and their claims suppressed.”<sup>104</sup> In the context of agrofuels, it would seem highly unlikely that smallholders would be in any position to

In a number of instances projects have been funded that have been the site of intensive resistance by local people because of the negative impact on their lives

benefit from carbon funding, with money instead flowing to the big corporations who possessed the capital and capacity to enter into the CDM process.

Secondly, in a number of instances projects have been funded that have been the site of intensive resistance by local people because of the negative impact on their lives. In 2005, about 10,000 people from social movements, community groups and civil society organisations mobilised in Chhattisgarh, India, to protest at the environmental public hearing held for the expansion of Jindal Steel and Power Limited (JSPL) sponge iron plants in the district.<sup>105</sup> The production of sponge iron (an impure form of the metal) is notoriously dirty, and the companies involved have been accused of land-grabbing, as well as causing intensive air, soil and water pollution.

JSPL runs the largest sponge-iron factory in the world, which is spread over 320 hectares on what used to be the thriving, agricultural village of Patrapali. This plant alone has four separate CDM projects. The inhabitants of three surrounding villages are resisting a proposed 20-billion-rupee (about 400,000 euros) expansion that would engulf them.<sup>106</sup> The CDM is not only providing financial assistance to JSPL in making this expansion, but also providing them with green credibility by placing the company at the forefront of the emerging carbon market. Important lessons are to be learned from this experience, if the CDM is to avoid becoming simply another means of providing assistance to large-scale agrofuel plantations, imposed without benefit to local communities and without their consent.

## CONCLUSION AN UNSUSTAINABLE PATH

There are strong concerns about the negative social and environmental implications of the large scale production of agrofuels and bio-energy. However, in many parts of the world agrofuels are promoted with strong government support measures such as targets, tax breaks and subsidies. The EU is planning to introduce a 10 per cent (energy content) agrofuel target for the transport sector by 2020. Establishing sustainability criteria to justify this policy has become a key issue in the international debate on agrofuels and bioenergy, and discussions on the topic are moving ahead at a swift pace.

It remains unclear what volume of agrofuels is needed to meet the EU's 10 per cent target, and what proportion of this will be imported from the South. Europe already imports large amounts of unsustainable commodities like soya, palm oil and sugar cane for food, animal feed and industrial uses.

While EU policies are proposed to further encourage agrofuel use, the Council of Ministers is demanding that agrofuel targets be met 'sustainably'. EU policy is on a collision course because these two objectives are conflicting. The expansion of industrial monocultures needed to meet the target will not produce "sustainable" agrofuels.

Instead, far-reaching, negative direct and indirect impacts can be anticipated in terms of biodiversity, GHG emissions, water and soil quality, food security and sovereignty, land rights and so on. Certification systems and sustainability criteria cannot deal with indirect or macro-level impacts of agrofuel production, such as displacement. EU and US agrofuel targets and incentives are already fueling increases in the global prices of several crops, indirectly encouraging expansion.

Furthermore, sustainability criteria are now being discussed without input from those most affected by the expansion of monoculture plantations. An important consequence of this failure is that important issues are ignored and inappropriate indicators are chosen.

There are other problems, including reliability, monitoring and compliance, that are common in current certification schemes. Several important considerations are commonly left out of current proposals, such as the use of GMOs, agricultural biodiversity, and rural depopulation and impoverishment. Large producers are typically at an advantage in coping with the bureaucracy related to certification, which can place a heavy burden on small producers.

## Unsustainable solutions

The proposals currently on the table are disillusioning, to say the least.

The European Commission is considering the introduction of criteria for only two 'sustainability issues': greenhouse gas balance and 'high biodiversity value' areas. This approach ignores all other social and environmental concerns, as well as the displacement impacts of agrofuels.

The UK and The Netherlands have settled for a weak system of mandatory reporting until at least 2011. Even the most unsustainable agrofuels for transport, and in the Dutch case unsustainable biomass for electricity generation, will be promoted by all of the available support measures including targets, tax breaks and subsidies.

It is often suggested that displacement can be avoided by making sure that agrofuels are grown on 'marginal' or 'degraded' lands, yet these often have existing social and environmental functions and values. None of the current plans include measures to encourage or legislate for a strong decrease in consumption for other uses (animal feed, paper) as a condition for the expansion of agrofuels.

The WTO is said to be a barrier to strong, mandatory sustainability safeguards – despite the role played by the EU in creating its rules.

## Meta-standard approach

The UK and The Netherlands appear to support a 'meta-standard approach' for the longer term, which would accredit existing certification schemes like FSC, RSPO and RTRS to certify agrofuels or bio-energy. This could mean that any product certified under these labels would automatically be approved, with an additional GHG calculation being made.

Unanswered questions remain about these existing schemes, however. There is criticism of the fact that FSC certifies tree plantations that local communities oppose, for example. Other schemes (like the RTRS) also face civil society opposition, while many lack civil society participation from groups in the global South. Will there be criteria for 'public support' of existing schemes in order for them to be accredited as part of the meta- standard scheme?

Moreover, the rapidly expanding demand for agrofuels and bio-energy directly undermines the stated objectives of these existing schemes, because it is resulting in the displacement of unsustainable production. Existing certification schemes should therefore consider the implications of offering their services in support of a standard that is designed to meet the increased demand for agrofuels and bio-energy.



## GHG calculation methods

Attempts to calculate the greenhouse gas balance of energy crops face similar problems to those described above. GHG calculation methods (Net Energy or Life-cycle assessments, also called ‘Well to Wheel’ studies) of energy crops cannot take into account indirect impacts caused by displacement.

Existing studies fail to consider a number of important parameters, including emissions produced from land use changes (like deforestation) and soil carbon losses. Some of the studies produce results with very large error margins, making certification on the basis of these findings problematic.

Most of the current studies of the GHG balance of energy crops are non-peer reviewed, and increasingly these studies are company-sponsored. Many inputs are left out of the calculations. The methodologies used vary widely, making it hard to compare the results.

## Clean Development Mechanism

Current attempts to include agrofuel production within the framework of the Kyoto Protocol through the use of the Clean Development Mechanism have the potential to provide a substantial financial boost to the expansion of agrofuel plantations.

There are a number of broad problems with the CDM that could be magnified were agrofuels to become eligible for support from this scheme. Several CDM projects have already been implemented without the consent of local communities. On the whole, the projects have tended to benefit larger corporations rather than smaller projects.

CDM projects also face uncertainties in the calculation of GHG balance. Calculation methods vary, and the Mechanism itself provides a financial incentive to exaggerate the ‘baseline’ of existing pollution in order to maximise the number of ‘carbon credits’ generated by such projects.

## Change of course

The rush to agrofuels and bio-energy looks set to fuel a massive expansion in monoculture plantations, a process that is being accelerated by EU agrofuel targets and subsidies. Large-scale production of this sort comes at the expense of the environment, communities and the global climate commons.

Growing awareness among the media and wider public is rightly endangering support for the current EU policies. Instead of providing incentives for the unsustainable

expansion of agrofuels, action should be taken at source to transform existing transport schemes and city planning, reduce the use of energy and other resources, and take responsibility for Europe's historical ecological and social debt.

## REFERENCES

- <sup>1</sup> In this report, liquid fuels produced from agricultural matter are referred to as ‘agrofuels’, not ‘biofuels’. The term ‘biofuels’ implies inherent environmental advantages, which is in stark contrast with the large-scale monoculture plantations where they usually come from. This distinction between ‘agrofuels’ and ‘biofuels’ was put forward by Via Campesina, the international peasant farmers’ movement, in early 2007.
- <sup>2</sup> See for example “Carbon Mitigation by Biofuels or by Saving and Restoring Forests?”, Renton Righelato and Dominick V. Spracklen, *Science* 17 August 2007, p.902
- <sup>3</sup> In this report, we focus on policy made to promote the use of agrofuels in transport. However, the arguments apply equally to the promotion of biomass for other purposes, such as electricity generation.
- <sup>4</sup> This means, obliging fuel companies to mix a certain percentage agrofuels into their conventional fuel mix.
- <sup>5</sup> “Lidstaten moeten richtlijn biobrandstoffen implementeren”, EU press room, 4 April 2006, <http://www.europa-nu.nl/9353000/1/j9vvh6nf08temv0/vh9hjlrvgdvu?ctx=vgaxlcr1jzki>
- <sup>6</sup> “Energy for a Changing World”, European Commission, January 2007, [http://ec.europa.eu/energy/energy\\_policy/annexes\\_en.htm](http://ec.europa.eu/energy/energy_policy/annexes_en.htm)
- <sup>7</sup> “New EU energy plan - more security, less pollution”, European Commission, 10 February 2007, [http://www.ec.europa.eu/news/energy/070110\\_1\\_en.htm](http://www.ec.europa.eu/news/energy/070110_1_en.htm)
- <sup>8</sup> “An Energy Policy for Europe”, European Commission, January 2007, [http://ec.europa.eu/energy/energy\\_policy/doc/01\\_energy\\_policy\\_for\\_europe\\_en.pdf](http://ec.europa.eu/energy/energy_policy/doc/01_energy_policy_for_europe_en.pdf)
- <sup>9</sup> “Giving Up On Two Degrees”, George Monbiot, 1 May 2007  
<http://www.monbiot.com/archives/2007/05/01/1058/>
- <sup>10</sup> “The EU Biofuel target, great risks for little gain”, letter to Members of European Parliament, Birdlife International et al, September 2007
- <sup>11</sup> “EU aims at oil firms on way to low carbon future”, Euractiv, February 2007, <http://www.euractiv.com/en/energy/eu-aims-oil-firms-way-low-carbon-future/article-161368>
- <sup>12</sup> “Sweden calls for the creation of a ‘biopact’ with the south”, Biopact, July 2007, <http://biopact.com/2007/07/sweden-calls-for-creation-of-biopact.html>
- <sup>13</sup> “Biofuel issues in the new legislation on the promotion of renewable energy”, Public consultation exercise, European Commission, April 2007, [http://ec.europa.eu/energy/res/consultation/doc/2007\\_06\\_04\\_biofuels/2007\\_06\\_04\\_public\\_consultation\\_biofuels\\_en.pdf](http://ec.europa.eu/energy/res/consultation/doc/2007_06_04_biofuels/2007_06_04_public_consultation_biofuels_en.pdf)

- <sup>14</sup> “Biomass Availability in Europe”, A. Nikolaou, M. Remrova, I. Jeliakov, Dec 2003, [http://ec.europa.eu/energy/res/sectors/doc/bioenergy/cres\\_final\\_report\\_annex.pdf](http://ec.europa.eu/energy/res/sectors/doc/bioenergy/cres_final_report_annex.pdf)
- <sup>15</sup> Idem
- <sup>16</sup> “Don’t set aside set-aside: Europe’s nature under further threat as Commission decides to reduce set-aside to 0%” BirdLife International, 14 September 2007 <http://www.birdlife.org/news/news/2007/09/set-aside.html>
- <sup>17</sup> “Desarrollo del Mercado de Biocombustibles en la UE: Biodiesel”, Secretaría de Agricultura, Ganadería, Pesca y Alimentos, Argentina Embassy to the EU, Agriculture Department, August 2006
- <sup>18</sup> “Palm oil for Biofuels increases Social Conflicts and Undermines Land Reform in Indonesia”, Sawit Watch, 23 January 2007 [http://www.wrm.org.uy/subjects/biofuels/Palm\\_Oil\\_Letter\\_EU.html](http://www.wrm.org.uy/subjects/biofuels/Palm_Oil_Letter_EU.html)
- <sup>19</sup> See note 17.
- <sup>20</sup> Directive 2003/30/EC on the promotion of the use of biofuels or other renewable fuels for transport, [http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l\\_123/l\\_12320030517en00420046.pdf](http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l_123/l_12320030517en00420046.pdf)
- <sup>21</sup> “Farm commissioner pushes case for biofuels”, *EurActiv news & Policy Positions*, 24 March 2006 <http://www.euractiv.com/en/energy/farm-commissioner-pushes-case-biofuels/article-152350>
- <sup>22</sup> Biofuels Progress Report, COM(2006) 845, European Commission, January 2007, [http://eur-lex.europa.eu/LexUriServ/site/en/com/2006/com2006\\_0845en01.pdf](http://eur-lex.europa.eu/LexUriServ/site/en/com/2006/com2006_0845en01.pdf)
- <sup>23</sup> Biomass Action Plan, COM (2005)628, European Commission, December 2005, [http://ec.europa.eu/energy/res/biomass\\_action\\_plan/doc/2005\\_12\\_07\\_comm\\_biomass\\_action\\_plan\\_en.pdf](http://ec.europa.eu/energy/res/biomass_action_plan/doc/2005_12_07_comm_biomass_action_plan_en.pdf)
- <sup>24</sup> See also “The EU’s Agrofuel Folly: policy capture by corporate interests”, Corporate Europe Observatory, June 2007, [www.corporateeurope.org](http://www.corporateeurope.org)
- <sup>25</sup> “UK sees biofuel dangers, need for global standards”, September 21, 2007, [http://www.checkbiotech.org/green\\_News\\_Biofuels.aspx?Name=biofuels&infoId=15704](http://www.checkbiotech.org/green_News_Biofuels.aspx?Name=biofuels&infoId=15704)
- <sup>26</sup> “Biofuels: Is the cure worse than the disease?”, Discussion paper for the OECD Round Table on Sustainable Development, September 2007, <http://www.oecd.org/dataoecd/33/41/39276978.pdf>
- <sup>27</sup> Idem
- <sup>28</sup> “Overview of recent developments in sustainable biomass certification”, Faaij et al, <http://www.bioenergytrade.org/t40reportspapers/00000098a10e0a005/index.html>
- <sup>29</sup> “Towards a harmonised sustainable biomass certification scheme”, Ecofys, June 2007
- <sup>30</sup> For full details of the 2006 consultation and the responses, see: [http://ec.europa.eu/energy/res/legislation/biofuels\\_consultation\\_en.htm](http://ec.europa.eu/energy/res/legislation/biofuels_consultation_en.htm)

- <sup>31</sup> “How biofuel companies are lobbying against basic environmental safeguards”, Biofuelwatch, September 2006, <http://www.biofuelwatch.org.uk/biofuelindustryresponses%5B1%5D.pdf>
- <sup>32</sup> Open Letter: “We call on the EU to abandon targets for biofuel use in Europe”, January 2007, <http://www.biofuelwatch.org.uk/2007Jan31-openletterbiofuels.pdf>
- <sup>33</sup> Public consultation: “Biofuel issues in the new legislation on the promotion of renewable energy”, July 2007, [http://ec.europa.eu/energy/res/consultation/biofuels\\_en.htm#stakeholders](http://ec.europa.eu/energy/res/consultation/biofuels_en.htm#stakeholders)
- <sup>34</sup> “A Roadmap for Renewable Energy in Europe” Thomsen report, Draft EP resolution (2007/2090(INI))
- <sup>35</sup> “Cropland expansion changes deforestation dynamics in the southern Brazilian Amazon”, Douglas Morton et al, September 2006, <http://www.pnas.org/cgi/content/abstract/0606377103v1?ck=nck>
- <sup>36</sup> “Biofuels and Commodity Markets – Palm Oil Focus”, P Thoenes, Food and Agriculture Organisation, 2006, [http://www.fao.org/es/ESC/common/ecg/110542\\_en\\_full\\_paper\\_English.pdf](http://www.fao.org/es/ESC/common/ecg/110542_en_full_paper_English.pdf)
- <sup>37</sup> Overview of recent developments in sustainable biomass certification, Faaij et al., 2006 <http://www.bioenergytrade.org/downloads/ieatask40certificationpaperdraftforcomments22.pdf>
- <sup>38</sup> “Sweden calls for the creation of a ‘biopact’ with the south”, *Biopact*, July 2007, <http://biopact.com/2007/07/sweden-calls-for-creation-of-biopact.html>
- <sup>39</sup> “Where the Trees are a Desert”, Klemens Laschefski, FASE/TNI, November 2003, [www.tni.org/reports/ctw/trees.pdf](http://www.tni.org/reports/ctw/trees.pdf)
- <sup>40</sup> “Biofuels: Is the cure worse than the disease?”, Discussion paper for the OECD Round Table on Sustainable Development, September 2007, <http://www.oecd.org/dataoecd/33/41/39276978.pdf>
- <sup>41</sup> Biomass Action Plan, COM (2005)628, European Commission, December 2005, [http://ec.europa.eu/energy/res/biomass\\_action\\_plan/doc/2005\\_12\\_07\\_comm\\_biomass\\_action\\_plan\\_en.pdf](http://ec.europa.eu/energy/res/biomass_action_plan/doc/2005_12_07_comm_biomass_action_plan_en.pdf)
- <sup>42</sup> Biofuels Progress Report, COM(2006) 845, European Commission, January 2007, [http://eur-lex.europa.eu/LexUriServ/site/en/com/2006/com2006\\_0845en01.pdf](http://eur-lex.europa.eu/LexUriServ/site/en/com/2006/com2006_0845en01.pdf)
- <sup>43</sup> Responses to public consultation “Biofuel issues in the new legislation on the promotion of renewable energy”, 2007, [http://ec.europa.eu/energy/res/consultation/biofuels\\_en.htm](http://ec.europa.eu/energy/res/consultation/biofuels_en.htm)
- <sup>44</sup> Response by five African NGOs to UK biofuel (RTFO) consultation, May 2007 <http://tech.groups.yahoo.com/group/biofuelwatch/message/599>
- <sup>45</sup> Jacqueline Cramer, at consultation meeting with NGOs in Utrecht, February 2007
- <sup>46</sup> “Green fuels could be bad for the environment”, joint press release, Friends of the

Earth (England, Wales and Northern Ireland) et al, April 10 2007, [http://www.foe.co.uk/resource/press\\_releases/green\\_fuels\\_could\\_be\\_bad\\_f\\_10042007.html](http://www.foe.co.uk/resource/press_releases/green_fuels_could_be_bad_f_10042007.html)

<sup>47</sup> “Biofuels make sense but only if they are sustainable”, Stephen Ladyman, 18 April 2007, <http://www.biofuelreview.com/content/view/918/>

<sup>48</sup> The Round Table on Sustainable Palm Oil also ignores the issue of GMOs and it is likely that the Round Table on Responsible Soy will do the same. FSC, on the other hand, excludes GM trees from certification.

<sup>49</sup> “International NGOs: Dutch report on Biomass Sustainability Criteria lacks vision from the South”, GFC, WRM, GRR, CEO and the Latin American Network against Monoculture Tree Plantations, 27 April 2007, <http://www.regenwald.org/international/englisch/news.php?id=664>

<sup>50</sup> Presentation: “Certification system for the sustainable production of biofuels”, Meo Consulting, May 2007

<sup>51</sup> Policy letter, Dutch Environment Minister Cramer, June 2007, <http://www.mvo.nl/biobrandstoffEN/download/070614%20Beleidsbrief%20Duurzame%20Biomassa.pdf>

<sup>52</sup> Statement by Douglas Alexander, Minister of Transport, 21 June 2007, [www.dft.gov.uk/press/speechesstatements/statements/rtfostatement](http://www.dft.gov.uk/press/speechesstatements/statements/rtfostatement)

<sup>53</sup> “Overview of recent developments in sustainable biomass certification”, Faaij et al, <http://www.bioenergytrade.org/t40reportspapers/00000098a10e0a005/index.html>

<sup>54</sup> White Paper, “Sustainable Biofuels Program, The need for biofuel certification/labelling”, EPFL, [http://cgse.epfl.ch/webdav/site/cgse/shared/Biofuels/White%20Paper\\_ForWebsite.pdf](http://cgse.epfl.ch/webdav/site/cgse/shared/Biofuels/White%20Paper_ForWebsite.pdf)

<sup>55</sup> Personal communication, Alotau Environment, December 2006

<sup>56</sup> “Towards better practice in smallholder palmoil production”, IIED, July 2006, p.3, [www.rspo.org](http://www.rspo.org)

<sup>57</sup> “Ghosts on our Own Land: Indonesian Oil Palm Smallholders and the Roundtable on Sustainable Palm Oil”, Sawit Watch and Forest People’s Programme, 2006, [http://www.forestpeoples.org/documents/prv\\_sector/oil\\_palm/ghosts\\_on\\_our\\_own\\_land\\_txt\\_06\\_eng.pdf](http://www.forestpeoples.org/documents/prv_sector/oil_palm/ghosts_on_our_own_land_txt_06_eng.pdf)

<sup>58</sup> “Policy, Practice, Pride and Prejudice”, Friends of the Earth Netherlands, Lembaga Gemawan and Kontak Rakyat Borneo, July 2007, <http://www.milieudefensie.nl/globalisering/publicaties/rapporten/policy-practice-pride-and-prejudice.pdf>

<sup>59</sup> The sacked and evicted workers eventually felt forced to accept some money and leave. The conviction and sentencing of these five union officers is still under investigation by Amnesty International.

<sup>60</sup> “The Development Model for Soy in Paraguay- Irresponsible, Unsustainable and Anti-Democratic”, statement by Paraguayan CSO’s and movements, August 2006, <http://www.wervel.be/content/view/663/310/>

- <sup>61</sup> Minutes of meeting of the RTRS Organising Committee, 30 August 2006, [www.responsiblesoy.org](http://www.responsiblesoy.org)
- <sup>62</sup> Minutes of meeting of the RTRS Organising Committee, 1 September 2006, [www.responsiblesoy.org](http://www.responsiblesoy.org)
- <sup>63</sup> Forest Conversion newsletter, WWF, March 2007
- <sup>64</sup> Ricardo Carrere, <http://www.fsc.org/plantations/docs/Bonn%20Meeting%20Presentations%20and%20Resources/Presentations/Presentation%20Carrere.pdf>
- <sup>65</sup> “Greenwash, Critical analysis of FSC certification of industrial tree monocultures in Uruguay”, Ricardo Carrere, April 2006, <http://www.wrm.org.uy/countries/Uruguay/text.pdf>
- <sup>66</sup> World Rainforest Movement Bulletin March 2007, [www.wrm.org.uy](http://www.wrm.org.uy)
- <sup>67</sup> For more details of these cases, see World Rainforest Movement Bulletin September 2006 and April 2007, [www.wrm.org.uy](http://www.wrm.org.uy); and “El flujo del aceite de palma Colombia - Belgica/Europa, Acercamiento desde una perspectiva de derechos humanos”, HREV para la Coordinated Belge pour la Colombie, November 2006
- <sup>68</sup> Press release, Danish Rainforest Foundation, 28 June 2007, <http://www.rainforest.no/html/481.htm>
- <sup>69</sup> “Life as a commerce campaign – The social impacts of certified timber plantations in South Africa”, by Wally Menne, Timberwatch South Africa / Global Forest Coalition, June 2007
- <sup>70</sup> Presentation by dr Uwe Sayer, FSC Working Group Germany, Berlin, 23 February 2007
- <sup>71</sup> See [www.bettersugarcane.org](http://www.bettersugarcane.org)
- <sup>72</sup> WWF presentation to EPFL pre-Round Table meeting, 28 November 2006, [http://cgse.epfl.ch/webdav/site/cgse/shared/WWF%20BioFuels\\_EPFL\\_28Nov06.pdf](http://cgse.epfl.ch/webdav/site/cgse/shared/WWF%20BioFuels_EPFL_28Nov06.pdf)
- <sup>73</sup> “EPFL announces global alliance to ensure biofuels’ sustainability”, EPFL, April 2007, <http://actualites.epfl.ch/presseinfo-com?id=438>
- <sup>74</sup> Draft environmental principles, Round Table on Sustainable Biofuels, [http://www.bioenergywiki.net/index.php/Draft\\_Principles](http://www.bioenergywiki.net/index.php/Draft_Principles)
- <sup>75</sup> “Towards a harmonised sustainable biomass certification scheme”, Ecofys, June 2007
- <sup>76</sup> “Carbon mitigation by biofuels or by saving and restoring forests?” R. Righelato and D.V. Spracklen, *Science*, Vol. 317. no. 5840, 17 August 2007, p.902
- <sup>77</sup> “Stern Review: The Economics of Climate Change”, Nicolas Stern, Cabinet Office HM Treasury, October 2006.
- <sup>78</sup> The UNFCCC recognises five key greenhouse gases as the major cause of climate change. They are carbon dioxide (CO<sub>2</sub>), methane(CH<sub>4</sub>), nitrous oxide(N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>)

- <sup>79</sup> “N<sub>2</sub>O release from agro-biofuel production negates global warming reduction by replacing fossil fuels”, P. J. Crutzen, A. R. Mosier, K. A. Smith, and W. Winiwarter, *Atmos. Chem. Phys. Discuss.* 7, 11191–11205, 1 August 2007.
- <sup>80</sup> “How meaningful are ‘greenhouse gas standards’ for biofuels in a global market?” Almuth Ernsting, Publication pending. September 2007. [www.biofuelwatch.org.uk](http://www.biofuelwatch.org.uk)
- <sup>81</sup> “First Comment on the UCB–UIUC Proposal to BP”, Tad Patzek, March 2007, <http://www.stopbp-berkeley.org/CellulosicBiofuels.pdf>
- <sup>82</sup> “Carbon Mitigation by Biofuels or by Saving and Restoring Forests”, Renton Righelato and Dominick Spracklen, *Science*, Vol 316 no. 5840, 17 August 2007, p.902
- <sup>83</sup> [http://www.senternovem.nl/mmfiles/26601\\_tcm24-124161.pdf](http://www.senternovem.nl/mmfiles/26601_tcm24-124161.pdf)
- <sup>84</sup> [http://www.senternovem.nl/mmfiles/26601\\_tcm24-124161.pdf](http://www.senternovem.nl/mmfiles/26601_tcm24-124161.pdf)
- <sup>85</sup> “Ethanol Can Contribute to Energy and Environmental Goals”, A. E. Farrell, R. J. Plevin, B. T. Turner, A. D. Jones, M. O’Hare, D.M. Kammen, Vol. 311, *Science*, 27 January 2006, p. 56  
<http://rael.berkeley.edu/EBAMM/FarrellEthanolScience012706.pdf>
- <sup>86</sup> Letter: “Energy Returns on Ethanol Production”, Cutler J Cleveland et al, *Science*, Vol. 312 No. 5781, 23 June 2006, p.1746
- <sup>87</sup> “The False Promise of Biofuels”, Jack Santa Barbara. Special report from The International Forum on Globalisation and the Institute for Policy Studies. September 2007.
- <sup>88</sup> “Towards a Harmonised Sustainable Biomass Certification Scheme”, ECOFYS report, June 2007.
- <sup>89</sup> “Greenhouse Gas Emissions and Avoided Emissions in the Production and Utilization of Sugar Cane, Sugar and Ethanol in Brazil”, Macedo, Copersucar Technological Centre, 1990-1994. [http://ftp.mct.gov.br/clima/ingles/comunic\\_old/coperal.htm](http://ftp.mct.gov.br/clima/ingles/comunic_old/coperal.htm)
- <sup>90</sup> “An Assessment of Energy and Greenhouse Gases of NExBTL”, Final Report, Prepared by The Institute for Energy and Environmental Research Heidelberg GmbH. June 2006.
- <sup>91</sup> [www.biofuelwatch.org.uk](http://www.biofuelwatch.org.uk)
- <sup>92</sup> “Biofuels and their global influence on agriculture and the food market”, DRAFT November 2006. This includes reviews of various land availability studies.
- <sup>93</sup> <http://www.grist.org/news/maindish/2006/12/08/philpott/>
- <sup>94</sup> “Viewpoint: Closer cooperation needed on biofuels for CDM”, C Plochl, *Point Carbon CDM/JI Monitor*, 18 October 2006
- <sup>95</sup> Apart from Russia, which must bring its emissions to 1990 levels.
- <sup>96</sup> UNFCCC website, visited 1/5/07, [http://unfccc.int/kyoto\\_protocol/background/items/2881.php](http://unfccc.int/kyoto_protocol/background/items/2881.php)



- <sup>97</sup> “Biofuels Could Earn Carbon Credits Before 2012 –UN”, G Wynn, *Reuters*, 9 February 2007
- <sup>98</sup> “Options for reducing the risk of double counting in CDM projects”, World Bank Carbon Finance Unit, 4 October 2006, [http://carbonfinance.org/docs/Double\\_Counting\\_EB\\_call\\_for\\_input.pdf](http://carbonfinance.org/docs/Double_Counting_EB_call_for_input.pdf). Current options to tackle double counting stress the need to improve administrative procedures, but do not tackle the wider problem that the CDM creates lucrative incentives to circumvent such measures.
- <sup>99</sup> *Carbon Trading: A Critical Conversation on Climate Change, Privatisation and Power*, L Lohmann, Development Dialogue no.48, September 2006
- <sup>100</sup> “Validation of the Small Scale CDM Project: 9,7 MWe Condensing Steam. Report No. 680034, Revision 02” 26 April 2006, <http://cdm.unfccc.int/Projects/DB/TUEV-SUED1146227145.68>. Site interviews by authors, December 2007.
- <sup>101</sup> Site interviews by authors, December 2007. For data on fires, see Eyes on the Forest, “Forest Fire Hotspots 2005”, [www.eyesontheforest.or.id/eofnew/eof\\_hotspots\\_Aug222005.pdf](http://www.eyesontheforest.or.id/eofnew/eof_hotspots_Aug222005.pdf)
- <sup>102</sup> “Sustainable Bioenergy: A Framework for Decision Makers”, UN-Energy, April 2007.
- <sup>103</sup> “CDM and biofuels: Can the CDM assist biofuel production and deployment?”, S Bakker, Energy Research Centre of the Netherlands, October 2006
- <sup>104</sup> *Carbon Trading: A Critical Conversation on Climate Change, Privatisation and Power*, L Lohmann, Development Dialogue no.48, September 2006, p172-173
- <sup>105</sup> Mines and Communities website, <http://www.minesandcommunities.org/Action/press728.htm>
- <sup>106</sup> *Carbon Trading: A Critical Conversation on Climate Change, Privatisation and Power*, L Lohmann, Development Dialogue no.48, September 2006, p254-271

## Recent Publications:

“Agrofuels: Towards a reality check in nine key areas”, CEO, GRR, TNI et al. June 2007

“The EU’s agrofuel folly: policy capture by corporate interests”, Corporate Europe Observatory (CEO), Briefing paper, June 2007

“Unsustainable proposal: The production of raw materials for future biofuel processing plants in entre ríos”, Grupo de Reflexion Rural Argentina, June 2007

“The Carbon Neutral Myth”, TNI Carbon Trade Watch, February 2007

## Further Reading:

The Seedling Agrofuels Special Issue, July 2007

World Rainforest Movement (WRM), Bulletin, 112, special issue on biofuels, November 2006.

“False Promise of Agrofuels”, Report, IPS and IFG, September 2007

“Agrofuels in Africa” African Biodiversity Network, June 2007

“Agribusinesses and biofuels: an explosive mixture”, FBOMS, Rio de Janeiro, 2006

“De-polluting Doubts: Territorial Impacts of the Expansion of Energy Monocultures in Brazil”, Wendell Ficher Teixeira Assis and Marcos Cristiano Zucarelli, FBOMS, February 2007

“Biofuels for Transportation: Global Potential and Implications for Sustainable Agriculture and Energy in the 21st Century”, Worldwatch Institute, 2007

“A Blueprint for Green Energy in the Americas”, Garten Rothkopf, Inter-American Development Bank, 2007

“How Biofuels Could Starve the Poor”, C. Ford Runge and Benjamin Senauer, Foreign Affairs, May–June 2007

“The Corporate Climate Coup”, David Noble, ZNet, 8 May 2007

## Websites:

[www.biofuelwatch.co.uk](http://www.biofuelwatch.co.uk)

## **Transnational Institute and Carbon Trade Watch**

Founded in 1974, TNI is an international network of activist scholars committed to critical analyses of the global problems of today and tomorrow. It aims to provide intellectual support to grassroots movements concerned to steer the world in a democratic, equitable and environmentally sustainable direction. The Environmental Justice project aims to unveil existing injustice issues of land use and conflict, pollution, water issues, deforestation and agriculture, through in-depth research, multi-media, linking issues, education and the promotion of transnational solidarity. Carbon Trade Watch is part of the Environmental Justice project of TNI and promotes a critical analysis of the use of market-based mechanisms as a means of dealing with climate change, from both perspectives of their impacts on local communities and their lack of effectiveness.

[www.carbontradewatch.org](http://www.carbontradewatch.org)

[www.tni.org](http://www.tni.org)

## **Corporate Europe Observatory**

CEO is a European-based research and campaign group targeting the threats to democracy, equity, social justice and the environment posed by the economic and political power of corporations and their lobby groups. CEO organises guided tours around the EU lobbying quarter, and co-organises the yearly EU Worst Lobbying Awards. CEO is part of the ALTER-EU coalition on lobbying transparency, and runs campaigns against water privatisation and the EU agrofuel policy.

[www.corporateeurope.org](http://www.corporateeurope.org)

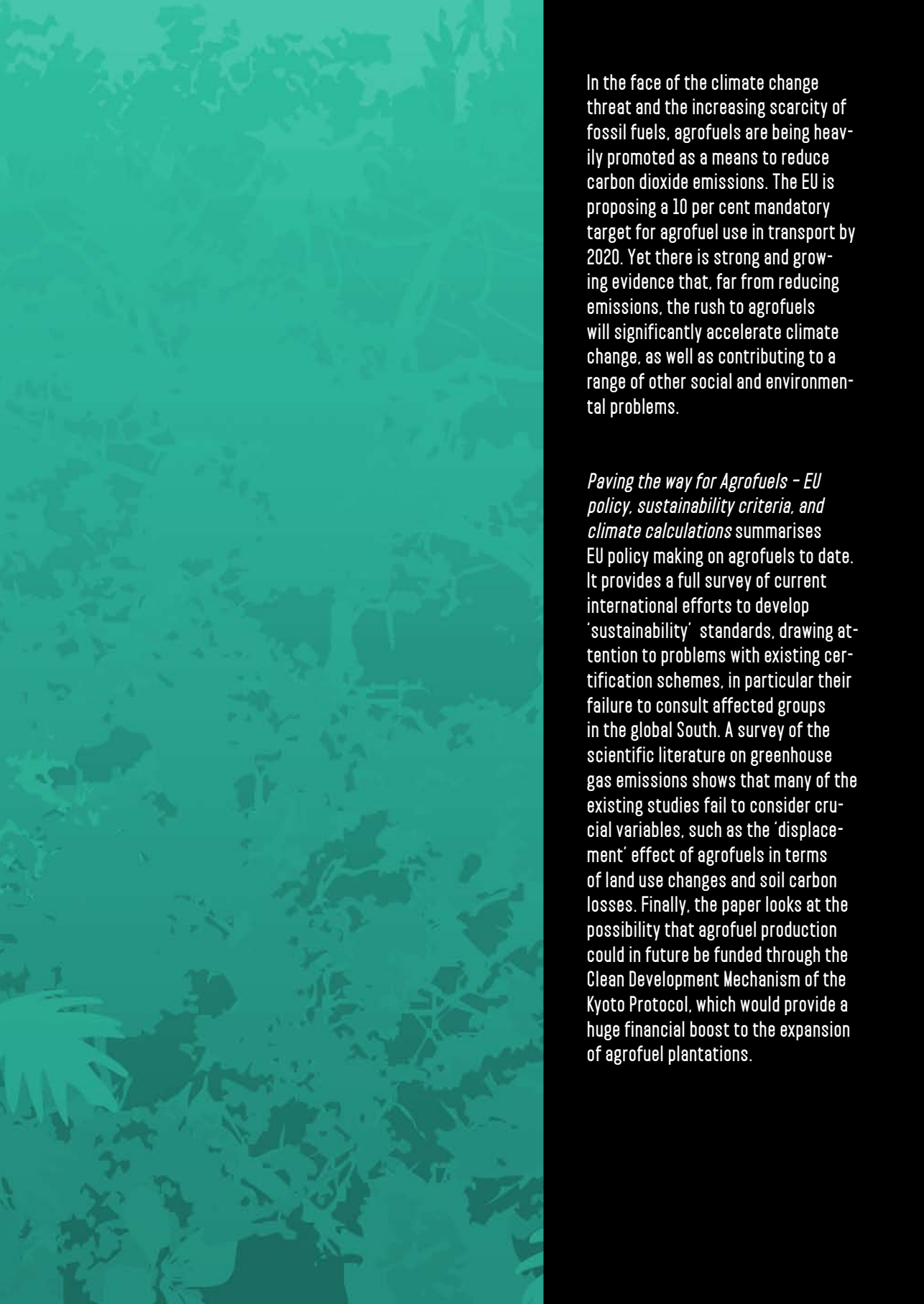
[www.worstlobby.eu](http://www.worstlobby.eu)

[www.lasojamata.org](http://www.lasojamata.org)

## **Grupo de Reflexión Rural**

Grupo de Reflexión Rural began in the mid-90's as an affinity group and a space for dialogue and multidisciplinary debate about the impacts of global capitalism in our societies. Rising from ecological and resistance perspectives, GRR continues to be relentlessly critical of the biotechnological agrarian model based on commodity exports like genetic soya and corn.

[www.grr.org.ar](http://www.grr.org.ar)



In the face of the climate change threat and the increasing scarcity of fossil fuels, agrofuels are being heavily promoted as a means to reduce carbon dioxide emissions. The EU is proposing a 10 per cent mandatory target for agrofuel use in transport by 2020. Yet there is strong and growing evidence that, far from reducing emissions, the rush to agrofuels will significantly accelerate climate change, as well as contributing to a range of other social and environmental problems.

*Paving the way for Agrofuels - EU policy, sustainability criteria, and climate calculations* summarises EU policy making on agrofuels to date. It provides a full survey of current international efforts to develop 'sustainability' standards, drawing attention to problems with existing certification schemes, in particular their failure to consult affected groups in the global South. A survey of the scientific literature on greenhouse gas emissions shows that many of the existing studies fail to consider crucial variables, such as the 'displacement' effect of agrofuels in terms of land use changes and soil carbon losses. Finally, the paper looks at the possibility that agrofuel production could in future be funded through the Clean Development Mechanism of the Kyoto Protocol, which would provide a huge financial boost to the expansion of agrofuel plantations.