The Social Dimension of EU Biofuel Policy

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Further information is available free of charge at the website www.biofuel-socialfuel.de

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Introduction

Since the adoption of the Biofuels Directive in 2003, biofuels have played a major role in European energy and climate policies. The Biofuels Directive set an indicative target for 2 percent of transport fuels to be made up of biofuels by the end of 2005 and 5.75 percent by the end of 2010.

The main objectives of European bioenergy policy have always been to reduce greenhouse gas emissions, to reduce the dependence on imported fossil fuels, and to diversify sources of energy supply. However, bioenergy policies were also directed towards generating employment in agricultural and rural areas and promoting innovation and technological development (Schlegel and Kraemer 2007). As a result of subsequent biofuels promoting policies, such as the Biomass Action Plan in 2005 and the Strategy for Biofuels in 2006, many Member States introduced blending rates for biofuels in conventional fuels, established tax exemptions, and funded research programs to further improve biomass production and biofuel technologies.

The most important EU biofuel policy - the Renewable Energy Directive (RED) - was adopted in 2009, setting legally-binding targets for the use of renewable energies. It specifies that by 2020, the EU as a whole must ensure that 20 percent of total energy consumption will be derived from renewable sources. It specifically promotes the use of renewable energy in the transport sector, requiring that 10 percent of all transport fuels be delivered from renewable sources by 2020 in all Member States. Furthermore, liquid biofuels counting towards this target have to fulfill certain sustainability criteria.

Together with incentives and political support measures in other countries, especially in the US and in Brazil, the EU policy has led to an enormous expansion of biofuels production in recent years. In 2010, an unprecedented 105 billion liters of biofuels were produced worldwide. This constituted a 17 percent increase in biofuel production between 2009 and 2010 (Shrank et

al. 2011). At the same time, negative side effects of the increased biomass production for bioenergy became more visible, and a controversial debate among scientists, policy makers, non-governmental organizations (NGOs), and industry emerged around the environmental and social impacts of growing energy crops. The discussion in the EU primarily centered on the environmental aspects of biofuels production such as greenhouse gas (GHG) emissions, impacts on biodiversity, and increased water consumption (see Marshall et al. 2011). In recent years, though, increasing attention has been given to social implications of further biofuel expansion, especially in developing countries. Since 2008, this debate was additionally fuelled by the accelerated rush for land in order to grow energy crops for export, particularly in countries that face a high level of food insecurity such as Ethiopia, Mozambique or Laos.

This Brief was produced in the context of the "Biofuels as Social Fuels?"-project, which was funded by the German Ministry on Research and Education (BMBF) and aimed to highlight the social dimensions and the social impacts of the EU biofuel policy. It provides a discussion about the main policy drivers of the biofuel expansion, the impacts of this expansion, and the extent to which social aspects are already addressed in current EU policies. More specifically, it examines how far social requirements are implemented and where there are gaps in ensuring a sustainable biofuel production. Further, it explores possible ways to enhance, reshape, or extend existing policies in order to fill these gaps.

Although the Brief focuses on biofuels, many aspects are discussed in the wider context of bioenergy, since most of the social and environmental implications associated with biofuels are also associated with an increased production of biomass that is needed for the production of electricity and heat and for non-energy purposes like the production of food, feed, and fiber.

Social impacts of bioenergy development

This section provides a brief overview of the main impacts of the further expansion of biofuel production from a social perspective. It mainly draws on the most intensively discussed issues in science and the media, but it does not provide a detailed assessment of this background.

Although usually not considered as a social impact, the issue of indirect land-use change is briefly introduced in this section, since it dominates the current debate on the sustainability of biofuels and also has a social dimension.

Food versus fuel, food price volatility

First-generation biofuel energy crops are likely to compete with food crops for land and increase their overall price on international markets. Olivier de Schutter, the UN rapporteur on the right to food, has emphasized that competition between biofuel crops and food crops could lead to greater food insecurity (de Shutter 2010). Biofuel production boosts food prices by increasing the demand for agricultural commodities in general, especially for crops that can be used for food or fuel, e.g., corn, rapeseed, sugarcane, palm oil, etc.. In many areas, the production of biofuels has had an inflating effect on land prices, which has resulted in higher production costs for food and feed. The relationship between food and fuel has been observed in several countries. In the United States, for example, an expansion of ethanol production has shifted land use from wheat to corn production. This has led to a rise in the price of both crops and a decline in their stock (Ajanovic 2011). Since the start of ethanol fuel production in Brazil, sugarcane grown for bioethanol has been competing for land with food and feed crops. When returns for ethanol, which was increasingly being exported to other countries, became higher than those of traditional food crops, many farmers switched to growing sugar cane, which caused a rise in the price of the traditional crops, since supply shortages could not be readily compensated (Ibid).

Rising food prices have severe implications for the world's poorest. According to the World Bank, since June 2010, approximately 44 million

people in the developing world have fallen into poverty because of higher food prices. As the poor spend 60% and more of their income on food, higher prices can significantly reduce their purchasing power. The Agricultural Outlook 2010-2019 states that the increase in food prices could be up to 40 percent over the next ten years (FAO/OECD 2010). As long as governments impose mandates to achieve binding bioenergy targets, biofuel production will continue to aggravate the price inelasticity of demand, contributing to volatility in agricultural prices (FAO, IFAD, IMF et al., 2011).

Labor conditions

Biofuels production has been criticized because of the harsh labor conditions on many energy crop plantations in developing countries. Child labor, the arduous nature of the work, prolonged exposure to the sun, unfavorable employment conditions (e.g., with or without contracts, terms of payment, etc.), and long working days are a selection of issues that have raised concerns in terms of human and international labor rights. Even in Brazil, which arguably has the world's most developed and researched ethanol industry, reports and press articles have unveiled many cases of inhumane labor conditions on sugarcane plantations. Sometimes, workers also lack appropriate protective equipment. Between 2004 and 2007, for example, Brazil had 19 reports of workers' death due to accidents when handling equipment (Goldemberg et al. 2008).

A possible way of alleviating the harmful labor conditions on plantations comes with further mechanization of the harvest. On sugar cane plantations, mechanization does not only take of the most arduous tasks during harvest season, it also avoids the environmental and health effects of burning the cane. However, professional re-qualification programs are essential to avoid a broad replacement or unemployment of workers. In Brazil, for example, where these programs have arguably been most successfully implemented, workers have been trained to drive and operate tractors, to perform mechanics and welding, or to work in reforestation (Jank 2009).

Land rights / land grabbing

Biofuel crop plantations require large amounts of land, which investors increasingly try to obtain through large-scale land acquisitions, particularly in developing countries (World Bank 2010). The severe consequences this can have on rural populations are currently discussed under the terms "land grabbing".

The most recent and probably most comprehensive report on land grabbing was published by the Land Matrix Partnership in 2012. It states that, in the last ten years, as many as 203 million ha of land have been sold, leased, licensed, or are under negotiation in large-scale land (Anseeuw et al. 2012). Most of these have taken place since 2008 and have involved international investors (Oxfam 2011). According to the World Bank, the total land area for biofuel production increased by more than double between 2004 and 2008, partly due to land grabbing (World Bank 2010). The Land Matrix Partnership points out that 57 percent of all land affected by deals considered as land grabbing will be cultivated with energy crops that are to be exported to industrialized countries (Anseeuw et al. 2012). In Africa, this share is even higher and accounts for 65 percent.

Scientists, scholars and NGOs, such as the Food Information and Action Network FIAN, Friends of the Earth, GRAIN, and the Oakland Institute, have argued that land deals have negative impacts on local communities. They argue that profit-driven investors have no incentive to produce crops sustainably, and that governments in developing countries do not have the capacity to enforce regulations. Moreover, these large-scale contracts are likely to include land that is used or claimed by local communities (Cotula et al 2011). There is a major concern over land that is owned collectively by communities that, will be sold to foreign investors, without properly consulting or compensating the current owners, especially in Africa (Friends of the Earth 2010). Since communal land is often not registered and its ownership is determined more by tradition than by law, it is difficult to determine who has the right to sell it.

Whether this form of investment can benefit local populations is highly controversial. NGOs and scientists widely agree that the negative impacts

on rural communities will prevail (e.g., through evictions from their land, prevented access to natural resources for food and energy supply, and loss of income opportunities). Other international institutions, such as the World Bank and the International Fund for Agricultural Development (IFAD), have argued that these deals can be a win-win opportunity. They point out that if local governments ensured a proper regulation of such deals, selling the land to investors could lead to increased land productivity, foreign investment, skills acquisition, improved infrastructure, and overall economic development for the rural poor (World Bank 2010). The key problem, however, is that national policies to regulate land deals have not kept up with the pace of land acquisition, are poorly-enforced, or do not even exist.

Access to water and other resources

As a product of agricultural raw materials, biofuels will surely impact available water resources wherever they are produced. Agriculture is a water-intensive sector, consuming approximately 70-80% of the world's freshwater supplies every year (UNESCO 2009). UNESCO has estimated that about 2% of the total water withdrawals for irrigation are used to irrigate energy crops (Ibid). Depending on the kind of biofuel produced, such a large demand on already scarce water resources could negatively affect communities' economic development, either due to exploitation or contamination of drinking and farming water or because of the negative side effects on ecosystems. In temperate regions, where agriculture is mainly rain fed, fuel crops do not evoke water scarcity as much as in arid regions, such as in Texas, Northern India, or sub-Saharan Africa. In this context, the land grabbing issue discussed above is often associated with so-called "water grabbing," which should highlight the implications for rural communities being confronted not only with losing their land but also their water resources when intensively produced energy crops are grown in their watershed (e.g., in upstream areas where water is extracted from rivers for irrigation).

Local energy security

Almost half of the world's population relies on wood-biomass energy for cooking and heating. Most of this population lives in developing countries,

where four out of five people live without electricity, mainly in rural sub-Saharan Africa and South Asia. Household biomass use is 89% of total wood consumption in Africa, 81% in Asia, and 66% in Latin America (World Bank/AFREA 2011). If more wood and other biomass is imported from those countries to be used for the production of biofuels, this might lead to competition with local biomass used for energy production, either directly when biomass that currently feeds local energy needs is redirected to export and hence no longer available for the local population or indirectly, when designated sites for the production of biomass for export displace land uses that have a significant role in feeding local energy needs or in ensuring local income. Otherwise, biofuels can also have a positive impact on energy supply in rural areas, if programs are run for a decentralized application of biofuels. For example, different projects in the developing world are promoting ethanol as a clean, more efficient, affordable, and easily accessible household fuel.

Indirect land use change (ILUC)

Accounting of GHG emissions and other environmental impacts such as on biodiversity resulting from biofuels currently does not take the impacts of direct and indirect land use change into account. ILUC refers to the conversion of land to grow biofuel crops, which has previously been used for food production, pasturing or other purposes. As the economic demand for the products retained from the replaced land uses are likely to remain, they might be shifted to other locations (regionally or even globally) causing serious damage to the environment, in particular when ecosystems are effected that have not yet been under cultivation (e.g. natural or semi-natural forests). Different studies argue that if the GHG emissions from conversion of land caused by ILUC were taken into account, some biofuels would be found to release even more carbon emissions than conventional fuels.

However, ILUC also has social implications, which enhance other effects described above. For example, if more land in sensitive areas is converted to industrialized agricultural production, this often interferes with the interest and livelihoods of people living in the affected areas. Depending on the regional case, rural populations might lose access to land they have

previously used for small-scale agriculture. Moreover, intensively managed and irrigated plantations in the surrounding could reduce their own water supply. Converting the land into energy crop plantations could also lead to a loss of those income opportunities, which are in turn needed to buy food (World Bank/AFREA 2011).

Interestingly, the drawbacks discussed here mostly occur in developing countries, while **social impacts of biofuels within Europe** are mostly perceived as positive, for example through the creation of new jobs, the diversification of income opportunities for European farmers, or the reduction of energy dependency in rural communities (Ribeiro et al. 2008). Debates in Europe about negative social impacts of biofuels mainly relate to further intensification of land use (high inputs of pesticides and fertilizer, monocultures, water consumption), which does not only originate from the production of biofuels from rapeseed or sugar beet but also from the expansion of other energy crops (e.g., corn for biogas) which, altogether, increase the general pressure on land resources in Europe. Other more specific concerns raised by regional actors and sectors directly affected include the decreasing aesthetic value of the landscape due to monocultures (and possible negative impacts on tourism revenues), disapproval of technical facilities (related the "not in my backyard" phenomenon), and potential negative impacts such as (biogas) smell and increased traffic. However, it must be noted that the international debate about the environmental implications of biofuels and the food vs. fuel debate has led to a rather negative perception of biofuels among the European public, which has contributed, along with other factors, to the failure of the E10 introduction in Germany. Different analyses have shown that positive or negative impacts of bioenergy on rural development depend on regional conditions and cannot be generalized.

As briefly touched upon in the introduction, the global expansion of biofuels productions was and still is strongly incentivized by different policies, where the EU plays an important role. Chapter 3 and 4 therefore analyze the current status of EU biofuels policies and unveil if and to which extent the above-mentioned social impacts are currently addressed.

How social aspects are addressed in EU bioenergy policy

The EU Renewable Energies Directive (RED)

In December 2008, the European Parliament adopted the 'Directive on the promotion of energies from renewable sources' (Renewable Energy Directive or RED, Directive 2009/28/EC) as part of the EU Climate and Energy Package. This Directive sets a binding target for the European Union of 20% share of renewable energy sources in its final energy consumption to be reached by 2020. It also states that by 2020 the European Union as a whole and each Member State individually should derive at least 10% of the energy used in the transport sector from renewable sources (European Commission 2009).

Because electro-mobility and second-generation biofuels are not yet economically competitive, first-generation biofuels (biodiesel and bio-ethanol) have played a major role in meeting the target and will probably do so until 2020. Due to numerous sustainability concerns about biofuels from science, civil society, and decision-makers prior to the adoption of the RED (for an overview see Hirschl et al. 2011), European legislators sought to address the environmental impacts of biofuel consumption, production, and importation by incorporating a novel policy instrument into the RED: a set of sustainability criteria for all biofuels that count towards the 10% target (and are also eligible for governmental subsidies). The criteria mainly address environmental concerns linked to biomass production, specifically GHG savings. Biomass for biofuels can also not be derived from natural forests, protected areas, and grasslands with high biodiversity value and may not be produced on land with high carbon stocks, such as water-rich (e.g., peatlands) or permanently forested areas.

Social aspects in the context of sustainable biofuel production are not directly covered by the sustainability criteria in the RED but are addressed indirectly by so-called "reporting duties." Article 17(7) of the RED (excerpt see below) obliges the European Commission to report every 2 years to the

European Parliament and the European Council on the social impacts of Members States' demand for biofuels, particularly in developing countries. These social aspects, which include food security, respect for land rights, and other development issues (Directive 2009/28/EC), are also captured in the non-mandatory criteria of the RED (Article 18(4) 2nd subparagraph, 2nd sentence RED that also refers to Article 17 (7)) (European Commission 2010a).

The first Commission report on social sustainability is due by the end of 2012. Moreover, Article 23 ("Monitoring and reporting by the Commission") of the RED requires "by 31 December 2014, the Commission shall present a report, addressing, in particular, the following elements (…): an assessment of the feasibility of reaching the target whilst ensuring the sustainability of biofuels production in the Community and in countries outside the EU, and considering economic, environmental and social impacts, including indirect effects and impacts on biodiversity, as well as the commercial availability of second-generation biofuels" (paragraph 8, b, ii).

In the Directive, voluntary certification schemes for biofuels and bioliquids are foreseen as an instrument to verify the sustainability of biofuels to be counted towards the EU target. In this model, biofuels producers choose a certification system, which checks the sustainability of their biofuels according to the RED criteria and issues a certificate, if they do. Such certification schemes must first be reviewed and approved by the European Commission. In July 2011 the first seven schemes have been approved. They must at least cover the sustainability criteria contained in the RED, which address the environmental impacts of biofuels and their greenhouse gas savings. Any social criteria recognized under a particular scheme are considered as additional (see chapter 4 for additional information on certification schemes).

The RED implementation and recent debates

Each individual Member State is responsible for implementing the RED, and ensuring that economic operators – entities producing, processing, or otherwise handling biofuels – provide evidence that their biofuels

consignments meet the requirements laid down in the sustainability criteria. As part of the implementation process, the Member States were obliged to develop a National Renewable Energy Action Plans (NREAP), in which they outline how they will reach the renewable energy targets. Among other themes, the plans also cover the Member State's strategy to meet their contribution to achieve the 10% biofuels target while fulfilling the sustainability criteria for biofuels and bioliquids at the same time. By the end of 2011 all 27 Member States had submitted their NREAP.

According to a study by the Institute for European Environmental Policy Member States plan to meet their 2020 targets mainly through the use of conventional (first-generation) biofuels (Bowyer 2011). Biodiesel will be the largest source followed by bioethanol. In total, this strategy requires that Member States increase their biofuels consumption by 17.2 Mtoe until 2020 compared to 2008 levels. The Netherlands Environment Assessment Agency estimates that 20-30 million hectares will be required for the EU to meet its 10% target in the transport sector, with 60% of supplies imported. Bowyer (2011) further concludes that reaching the 10% target in EU Member States would impose between 4.1 and 6.9 Million hectares of ILUC both within and beyond European borders depending on the feedstock used and the actual import rate assumed. The highest ILUC effect can be expected from the UK (1.04-1.62 Mio. ha), Spain (0.64-1.17 Mio. ha) and Germany (0.61-1.06 Million ha). The study also notes that most of the NREAPs do not give much importance to advanced generation biofuels or to strategies to increase energy efficiency in transport, so as to reduce the sector's emissions.

Currently, the calculation model of the GHG savings from biofuels in the RED does not take the emissions from ILUC into account. It basically assumes that biomass grown on arable land for the production of biofuels must be sustainable if the other sustainability criteria are met. However, this ignores the possibility that biofuel feedstock production can displace pre-existing agricultural production in new areas not currently under arable production, but instead consist of forests or different types of natural areas. Since demand for food and animal feed is unlikely to decrease in the following decades, more land will be required for both food and feed production

and biomass for energy (Bowyer 2011). Many studies argue that if ILUC is not included in the sustainability criteria and the GHG saving calculation in particular, the RED will not deliver the anticipated GHG savings needed to fulfil the climate goals associated with the RED. Some of the most recent studies on ILUC have been commissioned by the European Commission itself to be used in its own forthcoming assessment (see e.g. IFPRI 2011).

After months of delay, the Commission has published a proposal for a legislation to address the effects of biofuels on ILUC in October 2012. In fact, the proposal represents a circumvention of the ILUC problem. All previously discussed options such as an ILUC factor to be added up on the general GHG emission requirements were diminished. Instead, the Commission proposal poses a cap on all food-based biofuels of 5% for the achievement of the overall 10% target until 2020. In turn, the consideration of ILUC in GHG emissions of current biofuels has been completely suspended. Moreover, Member States should cease all public support for food-based biofuels after 2020. "Second-generation" or non-food based biofuels, should be promoted and supported instead. This proposal can be seen as a fundamental shift in EU biofuels policy because it clearly questions the 10% target that many thought would be mainly achieved by first generation biofuels.

Another important and less prominent debate surrounds the potential extension of the sustainability criteria for biofuels and bioliquids to gaseous and solid biomass. Currently, biomass, which is later used as bioliquids for energy production does not have to meet any environmental or social sustainability criteria under the RED. In February 2010, the European Commission adopted a report, which recommends how EU Member States should develop their own sustainability criteria for all biomass used for bioenergy.

The Commission also stated that it would reassess the need for binding and specific sustainability criteria for biomass by the end of 2011 in its first report on sustainability requirements for the use of solid and gaseous biomass sources in electricity, heating and cooling from February 2010. The Commission intends to release this legislative proposal based on the

conclusions of the expected report on sustainability requirements for the use of solid and gaseous biomass sources in electricity, heating and cooling that were expected in December 2011. However, this process is delayed and first conclusions from the report suggest that there might be a need for action not because of environmental reasons but because of the need for European Single Market regulation. Apart from criteria already represented in the RED, such as land use, the RED also addressed GHG savings and other environmental aspects like energy conversion efficiency (European Commission 2010).

However, there have been opposing voices from different Member States (most importantly Sweden, Finland, Austria, Slovenia and Baltic states) about the extension of the sustainability criteria to other types of biomass. This is mostly because they intend to save their forestry sectors from additional tracking requirements. Current discussions suggest that the sustainability criteria for wood will have to count globally if trade distortion should be avoided. However, this would be difficult given the range of forests and forestry techniques found around the world.

Other EU policies with relevance to bioenergy

At the same time when the intensive debates took place about the design of the RED and the role sustainability criteria should play, EU decision-makers also amended the **Fuel Quality Directive** (European Commission 2009a). The amendments referred to a number of elements of the petrol and diesel specifications as well as introducing a requirement on fuel suppliers to reduce the greenhouse gas intensity of energy supplied for road transport in Article 7a (Low Carbon Fuel Standard). In addition, the Directive established the same sustainability criteria that must be met by biofuels under the RED if they are to count towards the greenhouse gas intensity reduction obligation. This means that if biofuels are blended with fossil fuels in order to reach the Low Carbon Fuel Standard, they have to fulfill the same sustainability requirements set out under the RED. Under the RED, the requirements are set to ensure that biofuels counting towards the 10% renewable energy target in the transport sector are produced sustainably.

Bioenergy has also been supported by the **Common Agricultural Policy (CAP)**. From 2003 to 2009, an energy crop premium payment for biomass was offered on top of a producer's decoupled farm payments within the Common Agricultural Policy of the EU (CAP). The CAP back then also allowed producers to raise energy crops on set-aside land. Rural development policy has also addressed bioenergy issues by making investments in bioenergy on farms eligible for support from the European Union. Before the new reform of the CAP for the period 2014-2020, which is still underway, a so-called Health Check was conducted in 2008 to assess the outcomes and effects of the current CAP and to formulate new challenges for European agriculture in the future. Among the main challenges identified was also "making the most of the opportunities offered by bioenergy". However, the opportunity to have a stronger emphasis on bioenergy after the CAP Health Check in 2008 was hardly used in most Member States. For example, in Germany research showed a clear difference between the formal assignment of additional funds towards measures according to the Health Check priorities, and the actual distribution of funds in the programs. Furthermore, these measures were hardly tied to additional environmental benefits as a condition for support (Tietz 2010). The crop premium was eventually abolished in 2009 along with mandatory set aside, while other incentives for biofuel production such as the compulsory bioenergy targets were regarded as sufficient support. In regards to terms of sustainability of biomass production for biofuels and other bioenergy forms in particular the CAP did not lead to improvements. The only clear connection between the CAP and biofuel sustainability requirements is that the RED makes a direct reference to Cross Compliance requirements: Article 17 (6) requires biofuel feedstock grown in the European Community to be cultivated according to the EC's Cross-Compliance requirements. Cross-compliance is a mechanism that links direct payments to compliance by farmers with basic standards on the environment, food safety, animal and plant health and animal welfare, as well as the requirement of maintaining land in good agricultural and environmental condition. However, Cross Compliance does not contain any social standards.

The role of private certification schemes in sustainable biofuel production

In order to receive government support or count biofuel usage towards mandatory national renewable energy targets both locally produced and imported biofuels used in the EU have to comply with the aforementioned sustainability criteria of the Renewable Energy Directive.

Member States require economic operators to provide proof of compliance to ensure sustainability criteria are fulfilled. Operators can do this in one of three ways (see also German & Schoneveld 2011):

1. By gaining certification under a 'voluntary scheme' approved by the European Commission. The European Commission currently expects that the vast majority of biofuels consumed will be certified through voluntary schemes.
2. By providing data to relevant national authorities through a "national system" of compliance, which each Member State is required to develop. Biofuels/bioliquids approved under a national system are normally only recognised in that country
3. By fulfilling terms specified in relevant 'bilateral or multilateral agreements' with third countries concluded by the EC (Art. 18 (4) RED). EC decisions to this effect would apply to all Member States.

In response to these provisions several schemes have been emerged from different initiatives and organizations ranging from single-actor enterprises to multi-stakeholder associations with representatives from various interest groups and different degrees of participation. These certification schemes are 'voluntary' in the sense that economic operators can choose between the different schemes and are not legally obligated to make use of the certification schemes at all. However, due to the fact that operators need to prove the sustainability of their biofuels under the RED requirements to receive government support or count towards the renewable energy targets, the term "voluntary" can be mistaken.

The main advantage of using a certification scheme is that it reduces the administrative burden for economic operators of proving compliance and avoids a wide array of means and measures operators would have to choose themselves if such certification schemes did not exist.

The schemes that have been approved by the European Commission on July 19, 2011 and will also be valid in all EU Member States are:

- ISCC (International Sustainability and Carbon Certification)
- Bonsucro EU
- RTRS EU RED (Round Table on Responsible Soy EU RED)
- RSB EU RED (Roundtable of Sustainable Biofuels EU RED)
- 2BSvs (Biomass Biofuels voluntary scheme)
- RBSA (Abengoa RED Bioenergy Sustainability Assurance)
- Greenergy (Greenergy Brazilian Bioethanol verification programme)

Another six certification schemes have also been approved until the end of 2012. Once an operator has signed a participation agreement with one of these schemes, their biofuel production can undergo the required verification process, which may vary from scheme to scheme. Usually, the economic operator must first conduct a risk assessment and self-evaluation; this is required for example by the RSB. It can then apply for an audit, which is generally conducted by an independent certification body recognized by the competent national authority (e.g. the Bundesanstalt für Landwirtschaft und Ernährung (BLE) in Germany). The auditor is responsible for verifying the participator's self-evaluation, and if the participator is found to be compliant with the certification scheme's standards, a certificate of compliance will be issued. The certification bodies can issue certificates for all of the relevant elements of the supply chain.

To which extent are social issues addressed in certification schemes?

Of particular interest in the context of this study is the question: to which extent do the currently approved certification schemes contain social criteria in addition to the environmental criteria required under the RED. Such social criteria might be voluntary in relation to the RED requirements,

but in order to get certified, an operator must comply with all criteria set out under the respective scheme. Therefore, even if they are only "through the back-door", social requirements in certification schemes for biofuels can become just as binding as the environmental and greenhouse gas sustainability criteria laid out in the RED.

In the following paragraphs an overview of social criteria covered by the mentioned seven EU-approved sustainability schemes is provided. This overview is based on the results of a working paper prepared by the Center for International Forestry Research (CIFOR) (German & Schoneveld 2011), which assessed the first seven certification schemes that have been approved by the European Commission in 2011 (see chapter above). The analysis perceives labor rights, land and resource rights, food security and livelihood impacts/rural development as the four key social sustainability parameters.

In terms of scope, German and Schoneveld's analysis shows that the Roundtable on Sustainable Biofuels' (RSB) standard clearly has the largest number of social sustainability components. However, according to the registered certificates of RSB, its certification body does not yet operate in a meaningful manner (see Table 1).

Table 1: Certificates issued of selected certification schemes

Certification scheme	Number of certificates*
ISCC	934
Bonsucro EU	22
RSB	1
2BSvs	526
Greenergy	Applies to Greenergy's own supply chain
RTRS EU RED	16

*Information gained from websites of respective certification schemes

Standards that also incorporate some social sustainability criteria but with less breadth than the RSB, include Bonsucro EU, Greenergy, International Sustainability and Carbon Certification (ISCC) and the Round Table on Responsible Soy Association (RTRS). The Biomass Biofuels Sustainability Voluntary Scheme (2BSvs) and Abengoa RED Bioenergy Sustainability

Assurance (RBSA) lack any social sustainability criteria. According to available information from websites, ISCC and 2BSvs currently have the highest share in trade volume among the approved certification schemes (see Table 1).

Most of the schemes (all but RBSA and 2BSvs) obligate the operators to comply with national labor laws and with the international conventions of the International Labor Organization (ILO), which cover several issues rela ted to child labor, non-discrimination, occupational health and safety, the right to organize and collectively bargain, and prohibitions of forced labor. This even treatment of **labor standards** is a likely response to the RED's intention to monitor compliance with these conventions (see RED chapter 3.1 above). All other labour-related commitments fall outside the RED monitoring commitments. Additional issues that are tackled by some schemes are minimal wages, the provision of primary schools for children, medical care, etc.

Most standards (again all except RBSA and 2BSvs) address **land rights** one way or the other. For example ISCC, RTRS and Bonsucro EU require that operators show proof of legal ownership or lease. Greenergy, ISCC, RTRS and RSB are the only standards that explicitly address alleviation of impacts of biofuel production on customary rights, property and resources. While Bonsucro EU, Greenergy and ISCC all require proof of legal ownership or lease, only Bonsucro EU and RSB make the requirement that land tenure is not to be under dispute. Greenergy and RSB also require an impact assessment of customary rights and property. The RSB goes beyond the usual impact assessment procedures and demand for the Free, Prior, and Informed Consent (FPIC) as the negotiation basis on land rights, compensation for lost assets, livelihood reconstruction for households who lose land resources, and proof of the effectiveness of the compensation. Greenergy and ISCC also require mitigation of impacts on land and rights but the requirements are very loosely defined and do not have to be verified. Prohibition of involuntary resettlement is stressed explicitly only by RSB. None of the schemes compensate households for loss of access to common property resources.

Regarding **food security,** the RSB is the most comprehensive standard in scope and even requires efforts to enhance food security. The RSB is also

the only scheme which obligates operators to prove that efforts to mitigate impacts to food security are effective. According to German and Schoneveld (2011) the ISCC standard has the strongest commitments to mitigate food security impacts, while for Greenergy food security impacts are not treated explicitly but may emerge through mandated local consultation and impact assessment processes.

Some of the certification schemes cover impacts of biofuel production to **local livelihoods and on rural development.** Bonsucro EU, Greenergy, ISCC, RSB and RTRS ask for a social impact assessment and/ or impact mitigation strategies. However, most schemes have considerable room to interpret and determine what impact mitigation activities will be carried out. Greenergy and RSB go furthest in this regard requiring the assessment and mitigation of all negative local socio-economic impacts. The RTRS for example, only requires a review process to 'identify where improvement is desirable', but no local participation is envisaged in this process (see German and Schoneveld 2011). Besides the obligation for an impact assessment, only the RSB includes a commitment to long-term improvements in the socio-economic status of local communities.

Procedures for community **consultation and participation** vary broadly (e.g. including consensus or non-consensus decision-making, gender issues, clarity and scope of who should be consulted as a stakeholder, inclusion of grievance mechanisms, transparency commitments etc.).

Besides their criteria and social requirements, the schemes also differ in terms of other aspects, which have to be taken into account when assessing their performance for sustainable biofuel production. Of particular importance are the mechanisms developed by the certification schemes in order to apply social criteria and indicators in practice. These are critical as they can potentially diminish the effects of the social criteria.

For example, important **procedural rules** include specifications (and exceptions) on: who must comply in which regions (e.g. regions of poverty); the (lack of) independence and specialized expertise in the identification of the impacts (usually done by the operators themselves); the classification

into minor and major musts (as with the ISCC standard); options to only comply with some indicators (Bonsucro EU, e.g. only 80% of the indicators in principles 1-5); and the auditing process. Guidelines to support "group certification" for small-scale producers (e.g. ISCC) are an example of how procedural rules can reduce the barriers for small-scale operators. Other aspects include the following:

- **The type of developer and promoter:** In principle the seven analyzed schemes are either led by commercial companies (RBSA, 2BSvs, Greenergy) or the schemes were developed by multi-stakeholder associations, often non-profits, and organized as roundtables (Bonsucro EU, ISCC, RSB, RTRS). The latter seem to be slightly more responsive in addressing national laws and international agreements, including social requirements (see also German and Schoneveld 2011).
- **Geographic focus:** Except Greenergy (focus on Brazilian Sugarcane based ethanol) all have a global geographic focus.
- **The type of biofuel:** Three of the schemes apply to all types of biofuels, three target the ethanol sector, and the RTRS only covers soybean-based biodiesel.
- **Their RED adaptation/customization:** Three schemes (RSB, Bonsucro EU and RTRS) are customizations of existing certification schemes that are oriented beyond the EU biofuel market (geographically and/or due to their sectoral orientation). The RSB standard makes compliance with the EU RED additional to the requirements of the existing standard, thereby ensuring that both social and environmental criteria must be respected.

Private certification schemes as mentioned above are one way to implement sustainability standards. Standards are usually composed of three levels: principles, criteria and indicators.

The development of the standard needs to be viewed separately from the actual implementation of the standard, which could be done in various ways. This includes certification schemes, but also reporting obligations, voluntary guidance on good practice, agreements on rules for public procurement or regulation and intergovernmental agreements, trade guidelines, codes of conduct etc.

Conclusions

With the increasing extent to which social impacts of biofuel production are investigated, the debates about the benefits and drawbacks of the EU biofuel policy are becoming more intense, adding to the already controversial debate about the environmental impacts of expanded biofuel production after the adoption of the Renewable Energy Directive (RED) in 2009.

While the **social impacts** of increased biofuel production in the EU can positively affect employment, diversification of income for EU farmers, etc., the most severe negative impacts take place outside the EU, particularly in developing countries, where only few actors benefit from the cultivation and export of energy crops to industrialized countries. Impacts on mostly rural communities include food insecurity, violation of land rights and land grabbing, lack of access to water and negative impacts on local energy security as well as unfavorable labor conditions on biofuel plantations.

These impacts are not addressed by the mandatory RED "sustainability criteria", which are restricted to environmental impacts. The review of the first seven EU Commission approved schemes conducted in this study showed that the coverage of social sustainability criteria varies, ranging from including no social criteria at all (RBSA, 2BSvs) to schemes with ambitious social requirements (RSB). Hence, the consideration of social aspects for biofuels produced for the European market will depend strongly on the uptake and market share of those certification schemes which entail high social requirements. Obviously, there is the **threat for a "race to the bottom" in social requirements** as certification schemes usually become less attractive to economic operators seeking a low level of certification obligations. To date, this has been hard to predict as currently none of the schemes have yet to achieve a substantial market share of traded biofuels.

As a result, there is an evident risk that RED-approved "sustainable biofuels" will lack any social sustainability. This is even more worrying as all EU-approved schemes, including the least ambitious, have to be accepted automatically in all EU Member States. This significantly impedes Member States' ability to ask for higher standards and to implement respective

certification schemes, because they would possibly not be competitive. Furthermore, the flexibility and gaps in procedural rules of certification schemes can undermine the effectiveness of social requirements. Experiences from practical implementation are still scarce and little can be said about effectiveness and the level of compliance. These considerations show somewhat limited room for improvements within the current EU biofuel policy. The **highest potential for improvements** – although currently far from being seriously discussed or even implemented – could be the following options:

- Incorporation of additional compliance criteria in the RED scheme emphasizing social aspects and
- Enabling greater flexibility for Member States to set more ambitious requirements than the RED sustainability criteria and mandating compliance with national laws.

The expected reports by the EU Commission (with the first expected at the end of 2012) and the subsequent consultations and discussions might be able to serve as a starting point for processes headed in this direction. It will also be important to look at which further RED certification schemes will be approved by the European Commission, and the coverage (good or poor) of social sustainability criteria these include.

Last but not least, it has to be noted that the actual driving factor of the biofuels expansion and all associated drawbacks has been the 10% target set out by the RED. Different scientists (e.g. IFPRI 2010) and NGOs have recommended to decrease or temporarily suspend the target in order to alleviate the pressure and allow certification schemes the time to start operating properly. It therefore remains to be seen if the current proposal of the European Commission to cap the contribution of food-based biofuels at 5% will be approved by the European Parliament and the Council, and if the implications essentially lead to an alleviation of pressures on global land resources.

Besides possible improvement within the RED, large contributions towards a more socially sustainable EU biofuel policy can also be achieved beyond

the RED. Most importantly, it is necessary to find integrated answers to the wider implications of EU biofuel policies by adjusting the goals of trade, energy, agriculture, social, environmental and development policies given their close interlinkages and social relevance. The common denominator for all policies linked to biofuels is the question, how the policies affect land use in general and the people depending on the natural resources, which are also needed for the production of biofuels. Such an analytical starting point could help in rechecking the impacts all policies have and to make suggestions for readjustments.

In this context, it has to be noted that macro effects such as higher food prices and land grabbing in developing countries cannot be covered by sustainability criteria and respective certification schemes as envisaged in the RED alone. It therefore needs an **integrated policy approach** that supports the saving and efficient use of energy and natural resources, including a meaningful reduction of the EU's ecological footprint.

References

Ajanovic, Amela (2011): "Biofuels versus food production: Does biofuels production increase food prices?" Energy 36, pp. 2070-2076.

Anseeuw, W. / Alden Wily, L. et al. (2012): "Land Rights and the Rush for Land: Findings of the Global Commercial Pressure on Land Research Projekt." International Land Coalition. Rome.

Bowyer, C. (2011): "Anticipated Indirect Land Use Change Associated with Expanded Use of Biofuels and Bioliquids in the EU – An Analysis of the National Renewable Energy Action Plans," IEEP.

Cotula, L.; Finnegan, L.; Macquee, D. (2011): "Biomass energy: Another driver of land acquisitions?" International Institute for Environment and Development (IIED), August 2011.

de Shutter, Olivier (2010): "Report of the Special Rapporteur on the Right to Food," United Nations General Assembly.

European Commission (2009): Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

European Commission (2009a): Directive 2009/30/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions (…).

European Commission (2010): Report from the Commission to the Council and the European Parliament, on sustainability requirements for the use of solid and gaseous biomass sources in electricity, heating and cooling, SEC(2010) 65 and SEC(2010) 66, Brussels.

FAO, IFAD, IMF, OECD, UNCTAD, WFP, the World Bank, the WTO, IFPRI and the UN HLTF 2011: "Price Volatility in Food and Agricultural Markets: Policy Responses", 3 May 2011.
Friends of the Earth (2010): "Africa Up For Grabs: The scale and impact of land grabbing for agrofuels," Brussels.

German, L. L.; Schoneveld, G. (2011): "Social sustainability of EU-approved voluntary schemes for biofuels: Implications for rural livelihoods," Working Paper 75, CIFOR, Indonesia.

Goldemberg, J.; Coelho, S. T.; Guardabassi, P. (2008): "The sustainability of ethanol production from sugarcane," Energy Policy 36:6, pp. 2086–2097.

Hirschl, B.; Kaphengst, T.; Neumann A.; Umpfenbach, K. (2012): "Science-Policy Interface and the Role of Impact Assessment in the Case of Biofuels", in: Von Raggamby, A. and Rubik, F. (eds.): Sustainable Development, Evaluation and Policy-Making. Theory, Practice and Quality Assurance. Cheltenham, UK / Northampton, MA, USA: Edward Elgar, 151-172.

IFPRI (2010). Global Trade and Environmental Impact Study of the EU Biofuels Mandate. Washington, DC. International Food Policy Research Institute.

Jank, M. (2009) "Sugarcane: Historic Advances in Labour Relations," UNICA.

Marshall, E.; Weinberg, M.; Wunder, S. and Kaphengst, T. (2011): "Environmental Dimensions of Bioenergy Development", EuroChoices 10(3), The Agricultural Economics Society and the European Association of Agricultural Economists.

Oxfam (2011): "Land and Power: The growing scandal surrounding the new wave of investments in land," Great Britain.

Ribeiro, M.M.; Kaphengst, T.; Dworak, T.; Guilet, M.; Kaditi, E. (2008): Bioenergy from agriculture in the European Union –analysing opportunities and constraints. Agrinergy Policy Brief. October 2008, Vienna, Austria.

Schlegel, S.; Kraemer, R.A. (2007): European Union Policy on Bioenergy. GMF Policy Brief.

Shrank, S. and Farahmand, F. (2011): "Biofuels Regain Momentum," Worldwatch Institute.

Tietz, A. (2010): "Auswirkungen von Health Check und EU-Konjunkturprogramm auf die ländlichen Entwicklungsprogramme der deutschen Bundesländer," Johann Heinrich von Thünen-Institut (vTI).

UNESCO (2009): "Water in a Changing World," The United Nations World Water Development Report, London.

World Bank (2010): "Rising global interest in farmland: can it yield sustainable and equitable benefits?" Washington, D.C.

World Bank/ AFREA (2011): "Wood-Based Biomass Energy Development for Sub-Saharan Africa. Issues and Approaches", The International Bank for Reconstruction and Development/The World Bank Group and the Africa Renewable Energy Access Program (AFREA), September 2011.

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Biofuels have made an alternating career in EU climate and energy policy in recent years. While in the early 2000 years they have been widely seen as a panacea for several environmental and economic challenges, their promotion has been faded substantially in more recent time. Serious doubts have been raised by scientists, civil society and other actors regarding the sustainability of biofuels production. The discussion in the EU thereby centred on the environmental dimension of biofuels production such as greenhouse gas emissions, impacts on biodiversity and increased water consumption. This Ecologic Brief provides an assessment to which extent social aspects of the ongoing biofuels expansion are addressed in current EU policies. It also explores possible ways on enhancing, reshaping or extending existing policies in order to fill potential gaps.

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