



TRENDS IN GLOBAL BIOFUELS MARKETS: SUSTAINABILITY POLICY AND TRADE

Summary of Discussions



International Centre for Trade
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**Trends in Global Biofuels Markets:
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**SUMMARY OF DISCUSSIONS
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1. Background

Biofuels currently offer one of the most cost-competitive ways to complement the use of fossil fuels in the transport sector, due especially to their compatibility with existing infrastructure. As biofuels move from national and regional markets to become a global commodity, impacts arising from biofuel demand are no longer easily confined to the country of production.

The growth in biofuels trade has occurred in the context of persistent distortions in international markets for agricultural commodities and complex policies for energy-related products and services. The uptake of biofuels has also happened within a context of weak global governance for environmental public goods, and most notably for climate change.

The emerging global biofuels markets have also revealed the complex linkages associated with land resource management and policies in a global economy, which can lead to unforeseen cross-sector and cross-scale impacts. Thus, in order to reduce risks that have been linked to the global expansion in biofuels especially land use change, CO₂ emissions and food security and affordability, a number of policy instruments have been adopted or are being discussed, such as sustainability certification, a greater push for energy efficiency, as well as limitations on the use of biofuels produced from crops used as food and fuel.

In the EU, proposals are on the table to revisit renewable fuel legislation, while in the US, high feedstock prices have spurred debate over blending mandates. It is important that new policies and rules lead to improved environmental outcomes, particularly in reducing greenhouse gas (GHG) emissions, as countries strive to intensify their actions against climate change. However, policymakers also need to ensure that producers in other countries are not unfairly disadvantaged by changes in policy frameworks. In particular, it must be noted that developing countries have the ethical right to pursue biofuels programmes that address their economic priorities while profiting from their comparative advantages, and thereby contributing to rural development.

Although developing countries do not have obligations to reduce GHG emissions, it will nevertheless be in their interest to choose biofuels with lower GHG emissions. Developed countries have been promoting sustainability certification in export markets for biofuels. Technological improvements which reduce risks bound to the expansion of biofuels are desirable to all countries.

However, limitations on the markets for current-generation biofuels might be detrimental to producers in developing countries, which seek development opportunities in the production, use and trade of sustainably-produced biofuels.

Furthermore, as policy proposals tend to steer the market towards advanced technologies (e.g. cellulosic ethanol or fisher-tropsch liquids), there is a risk of a growing technological gap between current and potential competitors in this market. Governments around the world need to consider how different policy approaches could affect access to energy and technology. This is especially true for developing countries that can benefit from first generation biofuels production and exports, whereas a major shift in policy emphasis to second generation biofuels might again reduce the role of these countries to raw materials exporters.

A decade has passed since biofuels have been first introduced in international legislation. The first EU directive was adopted in 2003 and paved the way for a fast expansion of biofuels markets. More recently, policy changes in the EU, the US and growing biofuel sectors in developing countries have focused political agendas on biofuel sustainability, costs, technologies and supply capacities to meet the ever growing demand. In the last years, the food versus fuel discussion has been a constant reminder of the interplay between biofuels and aspects inherent to human development, such as affordable nutrition and access to energy.

Against this background, UNCTAD, in partnership with the International Centre for Trade and Sustainable Development (ICTSD) and Stockholm Environment Institute (SEI) organized the event **“Trends in Global Biofuels Markets: Sustainability policy and trade”** on 19 March 2013. All three organizations have been engaged in studying and building consensus on the potential of improving bioenergy use as a tool to promote development, trade in equitable conditions, as well as to reduce carbon emissions.

2. Speakers

The event had the participation of a diverse set of speakers representing international organizations, academia, NGOs, the private sector, as well as representatives from countries engaged in the production and use of biofuels. The event was divided into two sessions: the first was a presentation by the panel on current developments on biofuels, policies, legislation and alternative mechanisms for sustainability, and the second session involved a panel of discussants who provided comments on the previous presentations, from their own perspectives and experiences.



Opening the event were Mr. Bonapas Onguglo from UNCTAd and Ms. Malena Sell from ICTSD. Mr. Onguglo mentioned the long history of collaboration between the organizing institutions, as well as the common institutional view on the importance of the

biofuels theme for development. Ms. Sell from ICTSD stressed the importance of

having a diversity of participants in the room able to exchange views from a variety of perspectives. She also mentioned the vibrant and active debates on biofuel policy currently taking place in Brussels, Washington and Sao Paulo, which made the organization of the event in Geneva very timely. While biofuels should not be seen as a silver bullet to climate change, their contribution to reduce GHG emissions warrants cooperation between the main policy setters in the sector (the US, the EU and Brazil). The unintended consequences of biofuels activities should also be preempted by preparedness and understanding of what is taking place in producing regions. Ms. Sell finalized her introductory remarks by mentioning that the future of biofuels will likely expand beyond the energy sector, towards a broader bio-based economy including materials, bio-pharma, and other markets.

After the introductory remarks, the meeting proceeded to the first panel which was moderated by Mr. Henrique Pacini from UNCTAD. The first panel included interventions from representatives from the Food and Agriculture Organization of the United Nations (FAO), Stockholm Environment Institute and Cornell University. Profiles of the three presenters, in order of interventions are as follows:

- (1) **Seth Meyer** is an Economist in the Global Perspectives Studies Team at the Food and Agriculture Organization of the United Nations (FAO). He is part of the FAO Unit which is involved in the analysis of commodity supply and consumer demand, including energy demands on agriculture.

Mr. Meyer made a presentation on the phenomenon of intra-industry trade of biofuels, which takes place when traders engage in arbitrage between different markets in the US, Brazil and in the EU. This happens due to heterogeneous policy frameworks which call for different types of sustainability criteria and certification systems, increasing overall costs in the industry and causing unnecessary additional GHG emissions through increased shipments of biofuels.

- (2) **Francis X. Johnson** is a senior research fellow at the Stockholm Environment Institute (SEI). His work has focused especially on biomass energy in developing countries.

Mr. Johnson's presentation was centered on alternative ways for countries to obtain sustainability certification while maintaining high environmental standards on the production and use of biofuels. While biofuels markets have increased about 6 times over a ten-year period, production is still dominated by a few players (the US, Brazil, the EU, and a few Asian countries). Africa has the potential in the long term, and developing biofuels in the region could help tackle poverty, making the option appealing. However, as sustainability certification is becoming a prerequisite to do business in the global biofuels market, some developing countries could be discouraged by the costs of certification.

He added that the EU Renewable Energy Directive (RED) (2009) provided three options for sustainability certification: (i) national schemes, (ii) voluntary schemes and the possibility for (iii) bilateral agreements. While voluntary schemes have been the favorite certification route adopted by markets, the option of bilateral agreements has not been further developed and

yet, it could have many potential benefits (e.g. lower costs), which would allow for larger developing country participation in the global biofuels market. Furthermore, bilateral agreements could protect small farmers by having a more flexible and holistic approach available for them instead of certifying only one operator at a time. Johnson concluded his presentation asking why this option is not being used, since bilateral agreements for biofuels certification do not appear to be a hidden landmine. Still according to him, bilateral agreements are only just unexplored, but a viable path to be pursued.

(3) **Harry de Gorter** is a professor of economics at Cornell University. Much of his recent work has been on biofuels and agricultural trade reform and the Doha Development Agenda, especially the impact of subsidies and protection on developing countries.

His presentation provided a data-driven analysis of the food versus fuel issue, especially the impact of ethanol policies in the United States on corn prices. Based on 33 months of data, he showed that since October 2006, bioethanol prices have been locked to the price of corn which suggests that high demand for ethanol as blending mandates in the United States are directly connected to increased corn prices. Mr. De Gorter also observed that there are many other commodities which affect corn prices, such as the price of oil, and alternative cereals such as soybeans and wheat. He concluded by stating that environmental and energy policies are linked and that there are limits to how low cereal prices can go due to ethanol demand, based on the interconnection with energy markets.

3. Attendance

The meeting was attended by about 40 participants from the private sector, certification agencies, NGOs, International Organizations and delegates from country missions to the UN.



Figure 2. Participants attending the UNCTAD-ICTSD-SEI Biofuels meeting on March 19, 2013

4. Main issues arising from the debate

The event had a strong engagement from the audience, which asked questions after each presentation and remained engaged in the debate in the time slot allocated for this purpose. This section contains some of the key points discussed during the event, which could be an opening for future work and meetings on biofuels.

4.1 Reducing costs and emissions in biofuels trade

Presenter Seth Meyer proposed that the adoption of a Book and Claim System for sustainable biofuels between the US and Brazil, with the design similar to the RIN system present in the US, would allow for a system to avoid the phenomenon of ethanol reimports due to the current market configuration. It would also contribute to reduction in costs as well as cutting down unnecessary shipment of ethanol between the two markets, thereby reducing overall CO₂ emissions.

4.2 Dependency on foreign biofuels supply

A question was posed by a member of Platts on whether advanced biofuels mandates would be maintained if fulfilled only by sugarcane bioethanol. This was followed up by a question whether there would be an enduring political will in major markets to allow for expanded biofuels production in developing countries driven by policies in the northern hemisphere. This issue is particularly important since ethanol from sugarcane, which is mostly imported, has been the lowest cost alternative to fulfill the advanced biofuel mandate in the US.

Another question on trade patterns was posed specifically on the economic rationale of exporting corn ethanol from the US to Brazil. The panel explained that sugarcane ethanol is cleaner but Brazil does not make this distinction and considers ethanol as the same independent of its method of production, be it certified sustainable or conventional. . With excess production in the United States, corn ethanol flows to Brazil where there is high domestic demand for the renewable fuel. It is interesting to note that while facing high demand for ethanol, sugarcane production in Brazil has not grown at the same pace.

4.3 Exploring alternative roads for sustainability certification

Concerns were raised on how to deal with verification of compliance in bilateral agreements between countries, since the usual pathway adopted under voluntary schemes has relied on market-based, independent auditors. Suggestions were also requested on what could be done in order to replace verifications in the case of bilateral systems. The panelists suggested the possibility of creating institutions to support the market for sustainable biofuels in each country and from there, build up capacities, which the panelists appreciate as a (recognized that this would be) a long-term approach.

Mentioning that there can be agreements to recognize sustainability standards of biofuels directly between the EU and third countries, questions were raised on whether besides the threat of losing market shares, how verification of compliance can be dealt with in a bilateral agreement. The panelists explained that 3rd party audits

are so far the best way to ensure a solid system. In addition, different mechanisms such as the following could be used:

- Operator-based: in this system, market agents adhere to voluntary schemes, which comply to the sustainability regulation in the export market. Those are very reliant on the existence of capacities in producing countries, which should contain the necessary knowledge components to meet the sustainability standards required.
- Bilateral agreements between countries: this pathway would amount to a long-term process, focused on the development of institutional capacities in countries and improving sustainability focus of environmental law; focus shall then be on the institutions that support markets. This approach takes many years, so it should be considered to be complimentary to voluntary standards in emerging markets.

Moreover, bilateral agreements can be done by the EU Commission directly with countries, based on the example of the Forest Law Enforcement, Governance and Trade (FLEGT) system in the timber industry.

4.4 Further understanding the food versus fuel issue

When considering fuel and cereal prices, production and demand levels should be taken into account. The panel mentioned that capacity constraints have a strong impact on price levels (e.g. ethanol processing capacity, blending capacity). When no capacity constraints exist, the relationship between cereals and ethanol prices is significantly correlated.

On whether oil or cereal prices were leading ethanol prices, it was stated that in theory, ethanol is locked to the price of oil, and corn follows ethanol prices. But sometimes, if ethanol prices float above those of oil – then ethanol prices follow corn.

A comment was made on food security since the issue is related to the discussions on biofuels. While the potential five per cent cap on food-based biofuels proposed in the EU would address concerns on food security, the biofuel activity itself could actually be an opportunity to address food security since it delivers rural income and development to very poor areas. It was also further stated that the goals of governmental policies should not so much focus on GHG reduction alone, if food security is to be seen as an important goal.

4.5 How to optimally promote the transition to advanced biofuels

There has been a clear shift of focus in biofuel strategies worldwide. New studies have showed that biofuels are not as safe as people have expected. Economic growth has increased the demand for biofuels and for food at the same time. There is a general consensus on the need to promote better biofuels, especially those which do not compete with food production and have better GHG performances. The uptake of such fuels (e.g. cellulosic ethanol and fischer-tropsch liquids) has been the focus of government incentives to promote their market adoption. In the US, legislators have placed a cap for the use of conventional biofuel up to 2015. In Europe, a proposed change to the current legislation was presented in 2012 seeking to limit conventional

biofuels to a maximum of five per cent of the ten per cent goal for renewable energy in European transport by 2020.

While transitioning to second generation biofuels is a goal shared by all countries, advanced biofuels are still more expensive than conventional ones. Cost reductions have been overhyped, but under-delivered. ~~And~~ In the end, a policy-driven transition to advanced biofuels could create a technological cap that would affect the competitiveness of developing and least developed countries seeking participation in this market.

It became clear in the discussions that the path pursued by the European Commission in promoting second generation biofuels has its opponents. Southeast Asian countries have developed a large vegetable oil industry, which became an important source of biodiesel in Europe. The discussions that there has been an improvement in the sustainability standards guiding the palm oil industry. Land caps were adopted to protect sensitive areas. Productivity is increasing, and sustainability has been embraced as a major strategy, and should become the gold standard in the market. Some countries in Southeast Asia still have an average of 50 per cent native forest cover as compared to less than 25 per cent in European countries. Efforts should be made to produce more with less by using techniques to facilitate re-planting, yield improvements, and increase in labour productivity. It has also been noticed as equally important to develop systems for better usage of agricultural waste such as add-on biogas facilities, which materialized through the help of EU RED and the adoption of overall sustainability practices. The importance of the palm oil industry in poverty eradication should not be overlooked, as significant resources have already been invested in compliance to the sustainability criteria currently in place. Therefore, market-limiting and indirect land use change (iLUC) rulings may jeopardize the good work already done.

There is a perception that biofuel policies are being blamed for all the imbalances in the agricultural markets. It was stressed that the biofuels industry has grown only by responding to government policies. As such, the industry should not be punished for policies which are perceived to be not working by way of introducing limitations on the market.

Policies follow different or sometimes contradictory paths evident in the different frameworks for biofuels in the US and the EU. Trade policies in the field also appears to be incoherent since no free trade in the sector exists. As a renewable energy technology, the free trade in biofuels is crucial for the much-needed sustainability harmonization and cost reductions.

By engaging in low-tariff regimes for biofuels, countries could use trade more freely to compensate for supply shortages brought by crop disruptions, , thereby safeguarding prices in domestic markets.. There remains a substantial amount of work to be done concerning the large intra-industry trade of ethanol between Brazil and the US which causes redundant shipments and unnecessary additional costs, generally brought about by heterogeneous policies present in different markets, which ends up having redundant shipments and bringing additional costs to the industry. It is thus important for countries currently engaged in the production of 1st generation biofuels to engage in international harmonization of biofuels standards and rules. Since the

demand for sugarcane ethanol is coming to an end in North America due to existing limits in the US blending mandate, it seems wise for producing countries to diversify their export portfolios, as well as optimize their domestic markets.

On the possibility of bilateral agreements with countries to meet sustainability requirements in the EU, there has been a perceived lack of initiative to engage in this pathway. The bilateral path has also been hampered by apparent institutional weaknesses by some countries in the enforcement of their environmental laws with the exception of advanced developing countries, which could meet the EU requirements by domestic policies alone. Striking the right bilateral agreements entails a very lengthy process in which national sovereignty is at play. Based on this, voluntary schemes seemed to have become the most reasonable choice to avoid market disruption.

Biofuels legislation in the EU is a work in progress. It is therefore difficult to engage in bilateral negotiations at this point. Once the biofuels framework is finalized, bilateral agreements would make things simpler. It is nevertheless important for developing countries interested in participating in the EU market to pro-actively engage in bilateral discussions.

4.5 Multi-sectoral policy coherence

Today, if biofuels are assessed on a cost-benefit approach, any emission savings through them seem quite expensive. It is important for government policies to have a clear goal on what they would like to achieve. In highly distorted agriculture and energy markets, coherence between sustainability measures and the goals sought is paramount.

It was mentioned that energy in the developed world is subsidized, in contrast to Africa, where it is not. In addition, fossil fuels are left aside when biofuels sustainability is discussed. They should be subject to the same level of scrutiny as biofuels. In developing countries, investments in biofuels should be guided not only by public policy and voluntary certification, but also by corporate social responsibility practices. Private actors should take into account traditional land tenure practices, as well as engage in programmes compensating for the land used based on the number of people in the affected communities.

It has been noted that all economic activities (biofuels, agriculture, fossil fuels, etc.) should be subject to the same level of sustainability requirements currently facing biofuels. While there is a trend to look at practical-oriented solutions to mitigate iLUC, there is a lot of work to do at the policy level and it goes beyond what standards alone can achieve.

The debate around sustainability has multiple dimensions. It was suggested that a new event be organized for an in-depth engagement of more aspects of the biofuels sector, stressing that sustainability should not be seen via short-term optics of “price premiums”, but rather as a long-term vision of securing supply, improving efficiency and yields.

Government policies should be assessed against clear social and environmental objectives but unfortunately those are not always clear. These objectives occur in a context of distorted energy and agriculture markets. It is thus quite hard to ascertain whether policies have reached their stated goals. Benchmarking indicators should be impact-based, build upon partnerships taking into account economic, environmental and social sustainability at all times.

5. Conclusion

Panelists concluded by noting that there are still many questions to be answered in the issue of food security, and that not all biofuels are the same. Higher food prices do not necessarily translate to higher agricultural income, but this should be a matter for further research.

On the alternative paths for sustainability certification, the bilateral case is more an argument to take on a long-term view, especially in order to phase out fossil fuels. However, it takes time to develop biofuel markets. The market right now is only the EU, the US and Brazil and as such, is not really sustainable and is not delivering the full development potential of biofuels.

The discussion on ILUC from an economics perspective, boils down to carbon emissions due to market leakage. While a lot of focus has been given to market leakages from biofuels land expansion, policy makers should also look at market leakages originating from the oil industry, which can have higher impact than carbon leakages originating from the agricultural market. Concerns have been raised with regards to sustainability standards on ethanol from sugarcane, but not as much on sugar from sugarcane, which should also be addressed.

The significant uncertainty in the market could be said to be related to regulatory uncertainty. Many companies did not have clear business prospects in the EU and the US markets due to policy uncertainty and tax credits for biofuels. Biofuels were initially adopted by countries to achieve energy security, but now, in addressing climate change and reducing greenhouse gases, the debates move toward sustainability. Market sees incompatibility with approaches used; companies operating on a short-term basis are facing a lot of uncertainty. Clearly, there remains a lot to be done at the policy level. Ultimately, biofuels should be seen as a way of mitigating GHG emissions and not as a replacement for other energy resources.

Biofuels are perceived to be the leading cause of distortions in the energy and agricultural markets. From the perspective of the private sector, less regulatory burden is better, allowing the markets to rely on its forces. However, due to market distortions such as fossil fuel subsidies, biofuels are highly unlikely to develop without public support. Sustainability classifications that differentiate biofuels between conventional and advanced can be misleading. Also, there is a strong need to differentiate biofuels since all of them are not equal and this goes beyond a simplistic first versus second generation discussions. Ultimately, the sustainability of biofuels is heavily dependent on feedstocks, regions, and impacts caused. The failure to differentiate biofuels could cause loss of economic opportunities, as well as hamper innovation. Finally, there is a need to encourage and recognize those who are doing efforts on sustainability and not otherwise.

6. Follow up actions

Participants expressed their interest in having another extended meeting, touching on in-depth issues, continuing the productive partnership with ICTSD and SEI, as well as industry, academia and civil society. The United Nations is engaged in the review of the MDGs and is considering adopting “Sustainable energy” as one of its sustainable development goals for the post-2015 period, so efforts on bioenergy which are especially relevant for developing countries will continue to figure high in political agendas. UNCTAD has been working on an initiative to focus biofuels work in Africa, and this will be operationalized in 2013.