



# **Assessing Challenges for Implementation of Biofuels Sustainability Criteria**

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## Introduction

Over the last three years, biofuels have been a subject of wide debate. They have been called a panacea for meeting fuel demands while reducing energy security concerns and combating climate change. Yet they are simultaneously blamed for rising food prices and increasing greenhouse gas emissions from direct and indirect land use change. In order to assess the social and environmental impacts of biofuels production and use, many certification schemes and assessment both mandatory and voluntary, are under development, or in use. The EU Directive 2009/28/EC, the EPA Renewable Fuel Standard Program (RFS2), the California Low Carbon Fuel Standard, the Roundtable Sustainable Biofuels and the Global Bioenergy Partnership are some examples in this regard. Given the range of schemes being developed, the implementation of sustainability criteria in order to access the diverse markets can be overwhelming. Furthermore, there is a steep learning curve for exactly how sustainability criteria will be implemented at the project level.

There have now been countless studies analyzing the sustainability of biofuels<sup>1</sup> and many efforts to develop criteria to inform policy and voluntary certification standards. For producers, navigating the range and multitude of standards for sustainability criteria for biofuels can be completely overwhelming and confusing. If producers aren't able to actually implement sustainability criteria, biofuels investment will most likely decrease and a viable alternative to fossil fuels will be lost. "The volume of certified product available in the short-term (2010-2012) will already not be sufficient to meet biofuel volumes expected to be required by US and EU policy decisions in that time period<sup>2</sup>." Reducing the barriers to implementation and facilitating understanding of the benefits of certification are key challenges that need to be overcome in order to increase the likelihood of a successful, sustainable, global biofuels industry.

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<sup>1</sup> Devereaux, Charan, and Henry Lee. 2009. *Biofuels and Certification: A Workshop at Harvard Kennedy School*. Cambridge, Mass.: Belfer Center for Science and International Affairs, June 2009.

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Royal Society (Great Britain). 2008. *Sustainable biofuels prospects and challenges*. London: Royal Society.

United Nations Conference on Trade and Development. 2008. *Making Certification Work for Sustainable Development: The Case of Biofuels*. New York and Geneva.

World Bank Group. 2009. *Bioenergy development: issues and impacts for poverty and natural resource management*. Washington D.C; London: World Bank.

<sup>2</sup> Winrock International (2009) The Impact of Expanding Biofuel Production on GHG emissions – White Paper #1: Accessing and interpreting existing data

Winrock International (2009) Building capacity to monitor compliance with biofuel sustainability standards – White Paper #2: Existing and emerging tools and approaches

## **1. The objective of the workshop**

It has become apparent that there is significant confusion regarding the range of sustainability standards being developed and what each of these standards, both voluntary and regulatory, will mean specifically for a producer. In order for biofuels to deliver on their promise of sustainability, producers will not only need to understand the sustainability criteria being developed, but also understand what their incentive is for implementing the criteria and seeking certification.

To address some of these challenges, the IDB and UNEP brought together biofuels producers with sustainability criteria authors and auditors to identify the primary barriers to implementation, identify pilot testing scenarios to assess on the ground implementation, and start to develop potential solutions. The goal of the workshop was to highlight practical challenges in complying with sustainability certification schemes and share experiences on how to overcome specific implementation issues. The involvement of both the private sector and the sustainability certification scheme "designers" provided a platform for enhancing clarity and providing concrete examples of implementation challenges and potential solutions on specific criteria, both in the developed and developing countries. This report is part of the organizers' continued effort to streamline and provide information for producers to increase understanding of sustainability criteria (mandatory and voluntary) in order to increase the implementation of best practices and facilitate the creation of a sustainable biofuels industry in all regions of the world.

The workshop took place on January 25-26<sup>th</sup>, 2010 at the IDB offices in Washington, DC. It included 35 participants from 13 countries and 28 different organizations. In order to ensure ease of discussion, attendance was by invitation only, and participants agreed that anything said during the course of the workshop would not be attributable to any individual present. The workshop was organized into five working sections, each focused on a different topic. Each of the sessions began with a brief presentation of a case study as an illustration and starting point for the topic of discussion. For the final two sessions, the participants broke up into three separate working groups for smaller, more focused discussions. These groups then reported back their main points to the plenary.

The five working sessions on the agenda were:

1. Anticipated challenges for implementation and verification of sustainability criteria,
2. Accounting for co-products in the cultivation and production cycle,
3. Measuring compliance and verification through the supply chain,
4. Environmental implementation challenges and potential solutions, and
5. Social implementation challenges.

This report is a summary of the major discussion items, themes and conclusions that emerged over the course the working sessions.

## **2. Anticipated Challenges to Biofuels Certification**

Certifying the sustainability of biofuels is a complex and difficult process. The implementation and application of sustainability standards has raised a number of difficulties that have yet to be resolved. The process through which criteria translate into on-the ground processes which can be measured and verified is complex and far from straight-forward. Participants discussed their overall experiences with implementation, and the discussion focused on several major themes as areas that have been problematic in their experience, or where they anticipate challenges in the future:

- A. Certainty in the Regulatory Framework,
- B. The difficulties of creating certification systems for technologies that are still developing rapidly, change quickly, and are not fully developed or broadly implemented;
- C. The proliferation of different criteria across feedstocks, geography, and environmental and social criteria; and
- D. The practicalities of implementation.

### **Certainty in the Regulatory Framework**

From the perspective of investors in biofuel technologies, and those who are already part of the industry, it is important to have clear regulatory signals and frameworks. Sustainability criteria are taken into account from the earliest phases of project development, and regulatory uncertainty is a disincentive for investment. To make investment decisions, and to increase sustainability certification uptake, producers need to know how regulatory frameworks fit with voluntary schemes. At the same time, the groups that are designing certifications must go through a process of pilot testing and adjustment to ensure that the certifications can be practically deployed and still deliver credible results in terms of sustainability impacts. Participants indicated that in order to deal with the problem of parallel development, it is important for certification to focus on the core issues first, in order to construct viable frameworks that address the most important impacts, before adding additional layers of complexity onto certification programs.

### **Creating Certification for Emerging Technologies**

“First generation” biofuel technologies are part of well-established systems of production, manufacture and distribution. They currently supply the vast majority of the biofuel products

available on the market. In the long term, however, the expectation is that they will be replaced by biofuels from a variety of different feedstocks, such as corn stover, switch grass, jatropha, and others. The challenge is that the technologies and systems required to supply the market with these “second generation” (and even “third generation”) biofuels are still being developed. Yet at the same time that scientists and engineers are wrestling with the underlying technical challenges, governments, NGO’s, industry and other stakeholders are attempting to devise sustainability criteria to guide them, in an area where generic standards become very complicated. These parallel efforts are much like “building the race car while running the race.”

### **Proliferation of Certifications**

The trend in sustainability certification in the biofuels sector has been towards a proliferation of certification schemes. There are different certifications for different feedstocks, for different criteria, and for different regions. Many of these certifications are in competition with each other, and there are concerns about wasting resources through duplication of efforts on the part of certification bodies. On the ground, the multiplicity of certification regimes is costly for producers. There is also a question about how voluntary schemes fit with regulatory schemes. It is unclear, across the entire universe of voluntary and regulatory initiatives, which are most appropriate in which areas, and how they can benefit producers while still delivering a sustainable future. In order to avoid wasting resources and creating prohibitive barriers from transaction costs, participants reiterated the need for integration and coordination across different roundtables, initiatives and regulations. They also stressed the importance of learning across certification programs, both in biofuels and in other areas, such as forestry. Some programs, such as the RSB, have made an effort to incorporate these concepts into their process, and to find ways to link schemes in order to ease the burden on producers and operators.

Another set of efforts that could reduce the burdens from the proliferation of certifications are those that are attempting to create “meta-standards” or benchmarking systems. These are, for the most part, a standard for the certification systems themselves. This way, once a certification program is recognized as being compliant with a meta-standard or benchmark, then it would be viewed as an acceptable alternative to the other biofuels standards. Practically speaking, that means that a biofuels producer would only have to achieve one of the certifications recognized by the meta-standard, and would then be free to sell into any of the markets that recognize the meta-standard. This would replace the current system where the producer would be forced to achieve many separate certifications to enter the same set of markets. For regulatory bodies, this would be a way to recognize voluntary certifications as being sufficient to meet regulatory standards on the sustainability of biofuels. Movement in this direction is being seen in the EU Directive of “recognized voluntary certifications.” This is another area where the RSB is working to help reduce the burdens on producers and operators.

## **Practical Implementation**

Sustainability certification is a process that requires the implementation of standards to address problems that range from the very local to the global. Translating criteria into on the ground practice is difficult, and a number of issues were raised. The first is that there is often a mismatch between the scale of the problem or impacts, and the scale of implementation. The second is that it is often unclear how to apply global standards in local contexts. Different weights may be placed on particular endpoints, depending on the specific values in an area. For implementation, there are also the issues of how those being certified can realistically prove that they are meeting criteria. There is a process of translation into operation that has to occur between the criteria in certification program, and the actual guidance that producers receive as to what actions are required of them. During this process of moving from a certification scheme to on the ground implementation, there is a tension between ensuring credibility, and understanding what practices are actually possible for the producers and operators. Participants noted that the practical challenges of implementation, including capacity for implementation and verification on the ground, are especially acute for smaller producers. This was discussed in greater detail during the session on measuring and verifying compliance.

Another challenge for practical implementation is demonstrating the value to producers. Certification requires an investment on the part of producers, and for the majority, they will do this only if there is an expectation of value. This value could be access to a market, a price premium, or even reductions in costs due to improvements in yields or efficiency improvements. But it has been difficult to develop data that can be used to demonstrate to individual producers what they expected value of the certification will be, and what kind of pay-back they can expect from their investment. Further case studies and a better empirical understanding of how certification impacts costs of production and the price available in the market would help induce broader implementation.

### 3. Accounting for Co-Products

For the actual implementation of sustainability certification, it is crucial to understand how different impacts are actually measured and calculated. For many sustainability criteria, there are multiple calculation methodologies, and different schemes require different accounting systems. Since the “answer” can be highly dependent on which method is used, the differences in methodology can have a significant impact on which certification schemes are taken up, and what the actual impacts will be. For biofuels, one key question is how to assign impacts to the biofuels themselves, as opposed to other products of biofuels production that have market value.

For co-product accounting, there are several methodologies that are commonly used. The first is substitution or system expansion, in which the boundaries of the analysis are broadened to include the primary and secondary impacts of co-products on the market, and the subsequent environmental impacts. This is the approach that the EPA has used to calculate the GHG emissions impact of the biofuels co-products that are sold as cattle feed. This is also the method that is encouraged by the ISO. System expansion has the drawback of being complex, and requiring a large amount of data and knowledge of the markets for each co-product. Since this is often unavailable, there are two other methodologies that are commonly used. One is to allocate impacts based on the economic value of the products. The second is to allocate impacts based on the relative energy content.

Different certification schemes have developed different requirements for co-product accounting. In the UK, the preferred method for reporting is system expansion, with allocation by economic value in cases where data is unavailable. In the EU’s RED certification, co-product allocation is calculated by relative energy content and through the use of default values. For RED, while the calculation methodology has been laid down, there is a lack of detailed guidance for those who are actually required to submit information.

The examples of the UK and RED highlight the practical challenges that arise from accounting for the impacts that are attributable to the co-products of biofuel production. First, there is a lack of consensus on methodology. Calculations of the same process for the UK and for RED will produce different results. In both cases, there is a challenge to accuracy that is the result of the practicality of reporting and verifying data, and the overall availability of the information required. In many cases, the data required has to be moved up or down the supply chain, and may be difficult to access.

Overall, participants discussed a need for consensus across certifications regarding methodologies, data, and default values. They also emphasized that from a practical standpoint, there needs to be more work on tool development, especially for multiple-methodology tools. These kinds of tools, such as one under development by RSB, would allow producers to enter their data, and output the values required for different programs.

#### 4. Measuring Compliance and Certification

The success of a certification program rests on the ability to credibly measure compliance on the ground. In the case of biofuels, where the end products are fungible, the result is a need to certify the chain of custody from the farm, through the supply chain. There are two methods that are in use. The first is secure chain (“track and trace”), where all feedstocks are certified, and the resulting certified biofuel is sold into the market, with documentation attached. The second method is mass balance, where a percentage of certified feedstock is mixed with uncertified at the mill. If, for example, 80% of the feedstock is certified, and 20% is not, then the mill will sell the fuel as 80% sustainable. This second method is easier for mills that want to include small holders, for whom receiving certification can be difficult and costly. Since achieving certification has proved to be difficult for small holders, certifications that require strict track and trace could result in the exclusion of small holders, and favor larger farms and plantations.

There is a second compliance issue, which occurs before chain of custody is even an issue. This is the process through which compliance with certification is measured and verified. For most certification schemes, verification is provided by paid third party auditors. While the auditors are independent from the certification program itself, there is an inherent conflict of interest, since the auditors are paid by those who are in need of the audits. Many aspects of certification require auditors to make subjective judgments when they are actually on the ground, performing their audits. Within any firm, individual auditors frequently meet to discuss what they see in the field, and to make sure that there is consistency in their judgments. However, auditors only see a “snap shot” of practices, and are still dealing with how they maintain their own credibility in cases where producers may be cheating. Auditing procedures have to resolve the tension between providing their services at a reasonable cost, but also maintaining a system that catches enough cheaters to act as a deterrent.

##### **Availability and capability of Auditors: The need for capacity building programs**

Another practical issue is the capacity of local auditors, and the impact that this has on costs. Auditors are required to have a broad range of expertise, and it can be difficult to find individuals whose knowledge spans the range of environmental, technical, and social issues that are part of certifications. In some cases, auditing firms can hire technical experts, or they can fly in auditors with the necessary background from other areas. Both of these solutions can significantly increase the cost of an audit. Audit costs are also increased in situations where there are not adequate laboratory facilities in the region, so that testing has to be done in other regions. Participants discussed the importance of capacity building, and the need to do so through linking certification programs with auditors, testing laboratories, and others involved the process to reduce the need to import expertise. Furthermore, auditors develop a great deal of experience on the ground, and could provide valuable information and feedback during the pilot and testing phases of certification programs. There is still uncertainty about how best to measure and prove

compliance, as well as how criteria need to be adjusted for local conditions. Auditors have a role to play in resolving some of these.

### **Small holders: The need for simpler procedures**

Participants discussed some examples of methods that have been used to address the issues of small holders, capacity, and costs. One example came from FSC certification in Sweden. In this case, a major pulp and paper producer which worked with small timber producers to organize group certification. They paid for the costs of undergoing the required audits, and contributed expertise. They did this without requiring that the producers sell to them exclusively. However, by helping these small producers meet certification standards, they helped to make sure that they would have access to a supply of certified timber for their products. Supply chain security is one incentive for processors to invest in the capability and certification of small holders. Other models of group certification could be useful for different feedstocks, or in different regions, depending on the markets and supply chains involved.

### **5. Implementation:**

Part of the workshop did address specific case studies in the environmental and social field. This was very informative for participants as it showed grounded experiences in dealing with sustainability criteria. Case studies introductions represented a kick-off for discussion that took place in small parallel working groups for both environment and social.

## **Environmental Challenges**

### **A. Case Studies**

Implementation of certification remains a learning process. Two case studies illustrated some of the challenges, and also successes that have occurred on the ground in Latin America. The first group of cases, from SNV's work in Peru, was an illustration of a few key points. The first is that in different regions, different environmental issues come to the fore as the ones requiring the most attention. For Peru, oil palm projects in the Amazon region of San Martin had to grapple with how to responsibly farm oil palm in a heavily deforested area. On the other hand, the main issue for a sugar cane ethanol project in the desert coastal region of Pirura had to demonstrate, through the use of impact assessments, that there was ample water in the river to support necessary irrigation. The different environmental concerns in these two regions are a useful reminder that specific geographic regions face particular environmental challenges, and this can change the technical solutions needed, as well as the relevancy of particular criteria, required to achieve certification.

For Taboga, a private Costa Rican sugar mill that produces sugar, ethanol and electricity, improving sustainability has required investment in a broad range of technologies. These have

ranged have included developing a program to rotate sugar cultivation with other crops, such as rice; redesigning fields using lasers and GPS to allow for efficient flood irrigation; investing in state of the art boilers for energy production and particulate emissions reduction; and even experimentation with alternative crops such as sweet sorghum, and biodigesters. An important lesson from the Taboga experience is that even for technologies and practices that are well understood, there is a process of experimentation and adaptation on the part of producers when they invest in their implementation. Sometimes this process is relatively easy, but there are others, such as the case of biodigesters, where current enzyme technologies are not compatible Costa Rican growing cycle. Technologies like these require a more intensive process to find ways to make a practice technically, as well as economically feasible.

From these two cases, there are some important lessons for those interested in understanding the practical implementation of certification criteria that deal with environmental challenges. The first is that local contexts, and the associated environmental issues of concern, vary considerably. Related to this is the fact that practices and technologies frequently need to be adapted to be implemented in different areas. For those who engage in biofuels production, they have to deal with these dual challenges- the hard task of identifying the environmental problems, and the often even more difficult task of identifying solutions. This presents a capacity challenge for the adopters, but also for auditors who have to assess producers across a range a criteria.

Two additional points were made in the case studies. SNV, from its experiences throughout Latin America, has identified the need for integrated policies, especially in developing countries where it is difficult to get different agencies, regulators and certifiers to work together efficiently. And from Taboga, which also has had experience in coffee certification, came the observation that, in the case of coffee, even after seven years, certification has been very expensive, and has not added enough value to cover the costs. In this case, the producers continue to certify because of a belief that it is the right thing to do, and that it may pay in the long run. This underscores the point that for any certification, biofuels included, to spread beyond those with the resources and mindset that allows them to participate, there must be a demonstrable value to the producers.

## **B. Working Groups on the Main Environmental Challenges**

The workshop participants divided into three groups, and each group discussed and reported back to the entire assembly as what they saw to be the main environmental challenges, and also potential solutions. The following eight items are a list of practical challenges to certifying the environmental elements of sustainability, based on the experiences of the participants. Neither the list of challenges, or solutions, is comprehensive. But it is useful and informative for understanding the practical reality of certification in the field.

## **1. Greenhouse gas emissions**

### *Challenge:*

- There is a lack of harmony in the methodologies to calculate GHG emissions, especially since different methodologies are linked to different destination markets (EU, US, etc...)

### *Solutions:*

- A unique calculation methodology, but that is unlikely in the short term.
- Creation of tools to allow producers to calculate GHG emissions in a relatively simple way (like the tool under development by the RSB).
  - oAny tool must be user friendly, and shouldn't require project developers to hire multiple contractors to do multiple calculations.

## **2. Water Use**

### *Challenges:*

- It is not frequently measured, and measurement is required for management.
- Water use in some regions/countries might not be enough of a challenge to incentivize increases in water use efficiency.

### *Solutions:*

- Engage in projects to implement water measurement programs.
  - Set targets, which allow projects to have water-use benchmarks:
    - oTargets can be adjusted based on the sustainable use levels for the local area/watershed,
    - oConduct impact assessments to meet applicable regulatory standards in the area.

## **3. Land Management**

### *Challenge:*

- There is a need to make sure that biofuel demand does not incentivize expansion into areas that are unsuitable, or where feedstock cultivation would result in land degradation, loss of biodiversity, damage to ecosystem services or other environmental problems.

### *Solutions:*

- Use mapping to clearly define areas that are inappropriate for biofuel production.
- Set land-use rules at a regulatory level to clarify issues and expectations.

#### **4. Subsidies**

##### *Challenges:*

- The biofuels industry, if it becomes truly global, is working within a system of highly distorted agricultural subsidies.
  - oFor land management issues, farmers have to choose between food and fuel subsidies- and recognize that the food subsidies have very few strings attached as compared to the fuel ones.
  - oFor water management, farmers dislike limits on water use, and will prefer agricultural subsidies that do not require them to measure (and one day, potentially pay for) their water use.
- Farmers, and the large agricultural subsidies, will continue to be supported by politicians, which makes them extremely difficult to change, especially on the short term.

##### *Solutions:*

- Need to implement rules and regulatory actions for biofuels to make sure that they do not become a historical anomaly by making biofuel production as attractive as agricultural production (while still sustainable).
- Use sustainable biofuel production as a demonstration for agriculture more broadly of best practices, and as a way to introduce more sustainable production methods to the larger agricultural sector.

#### **5. Lack of Common Definitions, Approaches and Methodologies Across Roundtables**

##### *Challenge:*

- There is currently a great deal of confusion, and a lack of harmonization, across the roundtable groups developing and implementing certifications in the areas of definitions, approaches and metrics.
  - oThis can lead to a costly system for farmers and producers.

##### *Solutions:*

- The roundtables should work together to develop common frameworks, definitions, approaches and methodologies.
  - oThis will reduce the costs of implementation.
  - oIf there is more harmonization, then it becomes easier to engage in capacity building and auditor training.

## **6. Interaction Between Certification Schemes and Regional, Local and National Legislation and Regulation**

### *Challenge:*

- There is a risk of duplication of efforts on the part of producers.
  - oEven when the types of requirements for compliance with regulations and certifications are similar, the definitions can differ.

### *Solutions:*

- There may be cases when certificates of compliance with national or local regulations should be accepted as fulfilling criteria for certain elements of voluntary certifications.

## **7. Relative Importance of Sustainability Criteria**

### *Challenge:*

- Some of the criteria in certification schemes are country specific, and the ranking of criteria varies depending on the local context and values.
- It can be difficult in some countries for producers to collect the data required for particular criteria (especially for small producers).

## **8. Establishing Boundaries and Causal Links for Impacts**

### *Challenges:*

- It can be unclear how far the impacts of a given project reach.
- It is difficult to establish causal links between local activity and the impacts for which a producer can be held responsible, for reasons including:
  - oDifficulty in measuring distant or secondary impacts,
  - oLack of methodologies and data available for this type of analysis,
  - oSome impacts may be beyond the responsibility of the producer, and instead need to be addressed in the regulatory and policy sphere, as opposed to be certification.

### *Solution:*

- Certify management systems on the farm, as opposed to certifying the feedstock crop (the output) itself.

## **5. Implementation: Social Challenges**

### **A. Case Study : UNICA – Brazilian Sugarcane Industry Association**

In Brazil, there is an expanding universe of certification bodies and initiatives related to sustainability. Some of these initiatives compete with each other, but there are also a number that have different objectives. The Brazilian Sugarcane Industry Association (UNICA) endeavors to participate with them all as much as possible. From these interactions, they have been able to establish that there are a core set of social indicators that tend to be common between initiatives, and others that specific, depending on the objectives of a given certification. The common elements address (1) no child and forced labor, (2) no discrimination, and (3) right to freedom of association and collective bargaining. Other issues addressed by various certification schemes are minimum wages, safety and health, capacity building, legal land rights and food security.

In Brazil, in addition to the certification programs, social issues are also addressed through a combination of national laws, and voluntary commitments. In particular, UNICA has been part of a recent initiative to create and implement a National Commitment for Better Work Conditions in the Sugarcane Industry. This is a voluntary commitment based on continuous improvement beyond legal obligations. It is based on 30 best labor practices, and more than 80% of Brazilian sugar mills have become signatories. Implementation has just begun, but sugar mills will be subject to a monitoring committee, and will, if they demonstrate that they meet the elements of the commitment, be awarded a certificate of compliance.

Based on UNICA's experience with certification, regulation and voluntary commitments, they were able to share several important lessons regarding the implementation challenges related to the social aspects of sustainability certification. The first is that at times, there is a tension between the social and the environmental elements of certifications. For example, mechanization of farming practices may be preferred, from an environmental standpoint. But this results in the loss of jobs for manual laborers, which is not ideal from a social standpoint. In this case, the problem can be resolved through programs for education and job training in other fields. But this kind of conflict has not been uncommon for many producers. Producers also face a number of challenges when they set about to prove their compliance. They must fulfill the reporting requirements for multiple requirements, and may have to overcome the added complications of language barriers. Finally, the voluntary programs do not usually provide enough incentives for companies on the bottom tier to participate. Engaging laggards, as opposed to those who are already among the most responsible, remains a challenge.

Finally, echoing the message from the case studies that focused on environmental aspects of certification, the UNICA case reiterated the need for continuous improvement, well-structured governance, programs based on best practices (especially for social impacts that can be difficult

to quantify and measure), and avoidance of duplication of efforts between regulations and voluntary programs.

## **B. Working Groups on Main Social Challenges**

The workshop participants divided into three groups, and each group discussed and reported back on their discussions of the key challenges to implementing the social aspects of sustainability certifications for biofuels. The following nine challenges were highlighted by participants as the most important ones that they have encountered in the course of their experiences with biofuels certification.

1. Social criteria are difficult to quantify, and it can also be difficult to demonstrate progress in achieving them.
2. Food security is a problem beyond the responsibility or control of a single producer. This makes it difficult to control on a project level.
3. Categorization of land use types can be difficult and contested.
4. There are problems with differences between definitions of land categories and types in different certification schemes, as well as across regulations at the local and national levels.
5. Land rights are required for investment security.
6. There has not been a great deal of thought as to how biofuel production can be used to improve food security- the focus has been on negative impacts on food security. Problems with understanding and certifying around issues of food security stem from multiple issues.
  - a) Agricultural and commodity prices are now more interlinked than ever.
  - b) Regulatory agencies use global trade models, but the mechanisms and actions that they are trying to capture take place at the individual level.
  - c) There is a need to differentiate between what can be controlled at a project level, and what needs to occur at a broader policy or regulatory level.
7. The social impacts of biofuels production, with the exception of food security, are linked to agricultural production, not biofuels.
  - a) Increasing demand for biofuels could be used as a way to influence the social impacts of agriculture more broadly, through sustainability criteria and other regulations and policies.
8. There is a tension between social and environmental criteria of sustainability certifications for biofuels.
9. There are significant data gaps for social indicators. Data needs include:
  - a) The development of better proxies, default values, and aggregation methods.

- b) Programs for data monitoring, collection and tracking.
- c) Development of central data banks, which could also be used as tools to share learning and expertise across regions and certification programs.

## 6. Conclusions

The presentation of case studies, along with a series of active discussions between participants highlighted a set of key conclusions. These conclusions, discussed below, will serve as important lessons to make biofuels certification a more effective tool for achieving sustainability, and for the IDB as it moves forward with its process of reviewing and revising its *Scorecard*.

1. There are a multitude of sustainability certification schemes for biofuels. Some are feedstock based, others are voluntary based, or part of regulatory scheme. This situation confuses the industry and creates additional costs for understanding and complying with the different schemes.

It is important:

- a) To understand the inter-linkages (and possible coordination) among different voluntary schemes (such as RSB, GBEP, BSI, RSPO);
  - b) To understand the links between voluntary and regulatory schemes that play a role in the global trade of biofuels (EU; EPA). This includes understanding whether certain voluntary schemes can, or should, become meta-standards for regulators in major markets like the US and the EU;
  - c) The ways in which voluntary and regulatory schemes are used, and interact, on the national level;
  - d) To realize, and make use of, the leverage gained from making use of the experience of sustainability certification schemes in sectors other than biofuels, such as forestry (FSC), coffee (fair-trade), and flowers.
2. Sustainability certification schemes for biofuels need to find a balance between the need for clear “rules” (strongly needed by industry to plan investment in a clear regulatory framework) and the need of flexibility to keep pace with biofuels technology development.
  6. There is the risk that small scale producers, especially in developing countries, may be edged out of the industry if sustainability certification and regulation does not take their interests into account. Sustainability certification schemes can imply costs that are prohibitive for smallholders especially in developing countries. A large part of this cost stems from local auditing capacity shortages, which result in a need to hire international technical expertise. Moreover, small industries may encounter financial and technical difficulties in data

collection. Possible solutions already in place in other certification schemes, such as FCS and fair-trade are “group certification” or “cooperative certification” that could reduce costs. Additionally, sustainability certification schemes need to include capacity building activities for auditors and producers.

4. When sustainability certification schemes include environmental and social standards, there can be tension between environmental and social goals. For example, improving mechanization vs burning that is better for the environment, but has the downside of creating unemployment. It is important to include “corrective” actions when these tradeoffs emerge, such as efforts for reintegration of the unemployed people in the job market through requalification programs and education. Especially for social standards, it is essential to create incentives for the “worst performers” to participate, in order to change bad practices in the market.
5. There is still a great deal of variation and uncertainty between certification schemes regarding how to prove compliance with sustainability criteria, especially when it comes to methodologies for measurement and impact accounting. The current situation confuses the producers and can also create market distortion, which indicates a strong case for working towards convergence between methodologies.
6. Data availability and quality remains a challenge, especially in developing countries and for small holders along the entire supply chain.

Right now, there is a need to mobilize resources in order to guide the implementation of sustainability certifications for biofuels. This workshop highlighted a demonstrated need for more capacity building, more pilot programs, and more venues for learning between certification systems, and also between the auditors, producers and consumers. To do this requires moving beyond theoretical discussions about certification criteria, and to engage in practical, empirical efforts to identify, understand, and implement solutions for the real-world implementation challenges to sustainability certification efforts in biofuels.

Given this need for practical action, the IDB’s overall goal is to use this report as guide as it makes use of the experiences of the participants, along with the planned future work on pilot tests and case studies, to create a Scorecard that will improve the sustainability of the IDB’s investments in biofuels in LAC. More broadly, by bringing together the experiences of different groups in different regions, IDB and UNEP also hope to share its findings across the large number of actors that are involved with the production, use, and development of biofuels. In this way, IDB and UNEP can help move the future of biofuels in a direction that is a net benefit, socially and economically on a global, and on a local scale.

## Annex

### **IDB role in Biofuels**

Greenhouse gas emissions from land use change account for over 46% of total emissions in Latin American Countries (LAC)<sup>3</sup>. Given the global focus on biofuels sustainability, there is huge potential to help develop best practices and safeguards for land use change that could help reduce emissions agriculture and reduce deforestation on the whole. Transportation is the next largest source of emissions in LAC, and biofuels are currently the only commercially viable liquid alternative for transport fuels and can play a role in reducing emissions, while other new technologies come to the market.

The Inter-American Development Bank's Sustainable Energy and Climate Change Unit (INE/ECC) has been actively involved in biofuels sustainability issues over the last three years. In April 2008, the IDB partnered with the Roundtable on Sustainable Biofuels (RSB) to integrate the Roundtable's sustainability principles into their lending and to support Latin American stakeholder involvement in the Roundtable's global standards-setting process. As biofuels demand continued to grow in 2008 and as a response to the discussion around biofuel versus food, the IDB needed to develop a screening tool to ensure that only projects that met key sustainability criteria were being pursued and to incentivize better practices among current projects – which lead to the creation of the IDB Biofuels Sustainability Scorecard in September 2008.

The Scorecard is a web-based tool that allows users to assess the level of sustainability of a biofuels project. The Scorecard was developed to be consistent with the Roundtable on Sustainable Biofuels (RSB) Principles and Criteria<sup>4</sup>. Within the parameters set out by the RSB principles, the Team developed specific indicators and associated colors to those indicators according to their sustainability level. For example, bright green means that the practice meets or exceeds best environmental and social practices and red indicates clearly unsustainable (and often illegal) practices. The end result of the Scorecard is a color map where the user can see its performance across different environmental and social areas and clearly see which areas may require further analysis and improvement. In this manner, the Scorecard provides a tool to think through the complex issues associated with biofuels from the field to the tank. The Scorecard was designed to be useful for project developers, including people at all stages of production; financial institutions; private investors; and environmental and social safeguard reviewers, but it can also be used more broadly as a conceptual tool to outline criteria that should be assessed in biofuels development. The Scorecard can be used at multiple stages of project lifecycle: in project development, project screening, initial analysis, and then again throughout due diligence

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<sup>3</sup> De la Torre, Fajnzylber and Nash 2009

<sup>4</sup> The Roundtable on Sustainable Biofuels (RSB) is a key multi-stakeholder initiative to develop standards for the sustainability of biofuels. The Roundtable is an initiative of the Swiss EPFL (École Polytechnique Fédérale de Lausanne) Energy Center. In 2008, IDB formally partnered with the RSB.

and investment approvals. By using the Scorecard at multiple stages, users can identify areas that can be improved and then measure the tradeoff associated with changes in different areas.

Over the last year, ECC/INE has co-hosted, with the Roundtable on Sustainable Biofuels, a total of five workshops throughout the region, including multi-stakeholder representation from the Southern Cone, the Andean Region, Central America, and the Caribbean. The workshops included Sao Paulo, Brazil (November 2008), Guatemala City, Guatemala (December 2008), Bogota, Colombia (February 2009), Santo Domingo, Dominican Republic (March 2009), Buenos Aires, Argentina (March 2009).

The discussions and feedback at each workshop have helped to raise important areas for improvement of the *Scorecard* to ensure that it is an effective tool for increasing the sustainability of the Bank's investments in biofuels. Some of the key areas of feedback received have been focused on the issues of biodiversity, greenhouse gas emissions, verification and monitoring, and governance of sustainability standards/certification.

In addition to working on the improvement of the Scorecard, the IDB has also been an active member in many international fora related to increasing the sustainability of biofuels and is the Vice-Chair of the Investor Chamber of the Roundtable for Sustainable Biofuels. The IDB is able to offer a unique perspective and approach to sustainable biofuels development given its structure – governed by the governments of the region (public sector and policy focused) but with a strong private sector branch with investments in specific projects and close relationships with project developers. Given this unique perspective, the IDB is eager to play a key role in ensuring that a sustainable biofuels industry develops in LAC and that biofuels can provide a fuel alternative, rural development benefits, address energy security concerns, and reduce greenhouse gas emissions in the region.

### **The United Nations Environment Programme**

The United Nations Environment Programme's mission is to 'provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations'. UNEP focuses its efforts on delivering on its mandate by exercising environmental leadership on six priority areas: climate change, disasters and conflicts, ecosystem management, environmental governance, harmful substances and hazardous waste, and resource efficiency (sustainable consumption and production).

UNEP's work on climate change concentrates on efforts to reduce emissions of greenhouse gases, mainly by promoting renewable energy and improved energy efficiency and spurring the development of a carbon market. UNEP has also been active in efforts to reduce the risks of, and improve society's resilience to, climate change, notably through its support to the development of National Adaptation Programmes of Action, which are national-level plans that address the adverse effects of climate change.

UNEP recognizes that many developing countries require assistance in order to accelerate their take up of cleaner technologies in order to combat climate change and reduce global

GHG emissions, while addressing economic development and natural resource protection. Such assistance ranges from creating the means for sharing experience; strengthening institutional capacities; and helping governments design technology-specific policy and financial frameworks that stimulate technology development, deployment, and diffusion. For bioenergy these enabling frameworks are just as important as safeguarding social and environmental risks. It is with this understanding that UNEP's bioenergy program operates on targeted interventions including a) supporting governments in bioenergy planning and setting enabling policy frameworks; b) assuring environmental and social sustainability of biofuel production through the development and use of sustainability criteria; and c) promoting small businesses planting energy to make use of the development benefits of biofuels.

In its initiatives with sustainable certification of biofuels, UNEP is directly involved with both the Roundtable on Sustainable Biofuels (RSB), and the Global Bioenergy Partnership (GBEP). With the RSB, UNEP is a co-chair of chamber 11 and member of the Steering Board, and is engaged in several of the expert groups set up around specific issues. UNEP is a member of GBEP, and serves on the Sustainability Task Force as a co-leader of the Environment Sub-group.

Working on both platforms, UNEP aims to achieve synergies between various certification schemes, and thus reduce the risk of proliferation of standards. The organization also provides scientific findings to policy makers, i.e. through the recent report 'Towards sustainable production and use of resources: Assessing Biofuels' by the International Panel for Sustainable Resource Management, and brings together the scientific community to flag certain emerging issues in bioenergy including issues related to degraded land and biodiversity mapping, as well as issues related to the bioenergy and water nexus. The outcomes of these scientific workshops feed back into the certification development process and provide guidance on how to move forward with a better understanding rooted in science, and build the basis for an Issue Paper series ([www.unep.fr/energy/bioenergy](http://www.unep.fr/energy/bioenergy)).