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on Socio-economics and Sustainability

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Recommendations on how to harmonise sustainability certification for biofuels and bioproducts

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Abbreviations

2BSvS	French biomass biofuels voluntary sustainability standard
CoC	Chain of Custody
EU	European Union
FPIC	Free Prior and Informed Consent
ILUC	Indirect land use change impacts
ISCC	International Sustainability and Carbon Certification
NL Agency	Dutch Environmental Agency
NTA8080	Dutch standard for biomass
RED	Renewable Energy Directive
REDcert	German voluntary certificate
RSB	Roundtable on Sustainable Biofuels
RSPO	Roundtable for Sustainable Palm Oil
RTRS	Roundtable on Responsible Soy
WTO	World Trade Organisation
WWF	World Wildlife Foundation

Preface

In the framework of different sustainability certification initiatives, there has been a surge to consider their harmonisation in order to facilitate their international applicability and monitoring activities. Thus, the Global-Bio-Pact project reviewed the various ways through which harmonisation of sustainability certification among different continents, countries, and stakeholders could be possible. A number of case studies, reports on environmental and socio-economic issues from available standards as well as the results of the "Global-Bio-Pact Set of Impact Indicators" (Diaz-Chavez et al. 2012) that has been tested in the field, were reviewed in order to compare them with the standards of the global "Roundtable on Sustainable Biofuels", other existing sustainability certification schemes, and the EU legislation requirements.

This report presents this analysis and provides some recommendations for this harmonisation.

1 Introduction

The use of biomass for energy and biofuel production raises a number of environmental concerns. However, the environmental benefits from biomass should be balanced against the disadvantages. The discussion on the socio- economic impacts of biofuel production must balance the danger of environmental degradation and social problems associated with food security, access to land and land use, conflicts over resources such as water, with the significant advantages and potential for rural development, both in developed and developing economies. The different trade-offs associated with individual biofuel supply chains can also be compared to other products and commodities. These include many possible criteria that can be considered for the case of biofuels (Diaz-Chavez, 2011b).

According to Diaz-Chavez (2011b), a majority of the standards and verification systems respond to commercial and legal regulations but cannot assess in depth details that are related to each country's current legal, cultural, environmental and social circumstances. The multi-interactions that are implicit in biomass production and use for bioenergy, including biofuels is a new paradigm for the development of policies that tries to integrate them.

This report examines some of the differences between available schemes currently recognized by the EU and considers whether they can be harmonized. Furthermore, it discusses whether it is necessary to harmonise them or whether they are a viable prospect in the current and future markets with multiple options.

2 Differences among voluntary standards and certification schemes

As illustrated in the reports of the Global-Bio-Pact project on the environmental and socio-economic reviews of standards (see web site of the project) and the project's "Set of Socio-Economic Impact Indicators" (Diaz-Chavez et al. 2012), a large number of voluntary standards exist, which can be used to demonstrate that biomass, bioenergy or biofuel supply chains are designed and implemented responsibly. Some schemes are not specific to bioenergy or biofuels and can be used to certify feedstock production and/or processing regardless of the final use (food, feed, fuel, fibre, timber, paper, etc.). For example, wood products certified by the Forest Stewardship Council[1] could equally be used for timber, paper or bioenergy. Several "roundtables" were primarily developed to supply the food sector with certified products, as in the case of the Roundtable for Sustainable Palm Oil (RSPO)[2] or Bonsucro[3]. These schemes decided to broaden the scope of certification to cover biofuel supply chains. Finally, some voluntary standards were specifically designed for bioenergy and biofuels. This is the case for the Roundtable on Sustainable Biofuels (RSB)[4] or the International Sustainability and Carbon Certification (ISCC)[5].

There have been several benchmarking reviews of these different certification systems, application and evolution, such as ECCM (2006), Junginger (2006), Lewandowski and Faaij (2006), Diaz-Chavez and Rosillo- Calle (2009), Van Dam (2010), Diaz-Chavez (2011b) and the Global-Bio-Pact reports (2011a).

[1] http://www.fsc.org
[2] http://www.rspo.org
[3] http://www.bonsucro.com
[4] http://www.rsb.org
[5] http://www.iscc.org

The European Commission currently recognises 13 voluntary schemes[6], which can be used by biofuel producers or importers to demonstrate compliance with the Renewable Energy Directive (European Parliament and Council, 2009). While the European Commission imposes minimum requirements to voluntary standards in order to be recognised, they can as well include additional requirements at the levels of sustainable criteria and indicators, proofs of compliance or assurance systems. This creates an uneven landscape of voluntary standards, as reflected in various new benchmarking reports (NL Agency, 2012; Nassar et al., 2012). The following sections summarise the main differences in the application and use between the voluntary standards recognised by the European Union.

2.1 Sustainability Criteria and Indicators

The enforcement of the Renewable Energy Directive (RED) (European Parliament and Council, 2009) raised the baseline level of sustainability above business as usual by imposing all biofuels produced in or imported into the EU to comply with environmental criteria related to land-use and greenhouse gas performance (Article 17 of the RED). This baseline level has now become the reference for all biofuel producers willing to sell in the EU market. Any EU-recognised scheme includes at least the same environmental criteria as in the RED. However, several schemes include additional environmental and/or socio-economic requirements and thus ensure a higher level of sustainability to certified operators, as illustrated in Table 1 (NL Agency, 2012).

Table 1: Coverage of sustainability criteria in EU-recognised schemes (based on NL Agency, 2012)

Topics	RSB	RSPO	RTRS	Bonsucro	2BSvs	NTA8080	REDcert	ISCC
Planning, Improvement	Y	Y	Y	Y	Y	N	N	Y
Legal Compliance	Y	Y	Y	Y	Y	Y	Y	Y
GHG	Y	Y	Y	Y	Y	Y	Y	Y
Soil Carbon (formulated in RED) or beyond	Y	Y	Y	Y	Y	Y	N	Y
Biodiversity	Y	Y	Y	Y	Y	Y	Y	Y
Best agro-environmental practices	Y	Y	Y	Y	R	Y	Y	Y
Soil Quality	Y	Y	Y	Y	R	Y	N	Y
Water Quality	Y	Y	Y	Y	R	Y	N	Y
Air Quality	Y	Y	N	Y	R	Y	N	Y
Waste	Y	Y	Y	Y	N	Y	N	Y
Land tenure / property rights	Y	Y	Y	Y	N	Y	N	Y
Local prosperity / rural and social development	Y	Y	Y	N	N	Y	N	Y

[6] http://ec.europa.eu/energy/renewables/biofuels/sustainability_schemes_en.htm

Topics	RSB	RSPO	RTRS	Bonsucro	2BSvs	NTA8080	REDcert	ISCC
Social well-being / human and labour rights	Y	Y	Y	Y	N	Y	N	Y
Local Food Security	Y	N	N	N	N	Y	N	Y

Y=Included ; R = Reporting only; N = Not included

The criteria used in Table 1 are relatively general. The comparison can be further refined to analyse the approach taken by each scheme to address certain issues more precisely. German and Schoneveld (2011) conducted an analysis of how EU-recognised schemes address socio-economic impacts of biofuels. Table 2 shows two of the socio-economic criteria analysed: land and resource rights as well as food security. The level of stringency and robustness varies according to the criterion or indicator used to demonstrate compliance. As an example, the notion of Free Prior and Informed Consent (FPIC) is usually seen as the fairest and most protective approach to negotiate with local communities regarding land and resources. However, FPIC is also the most demanding process to implement for a company. As a consequence, some standards may only require operators to present a legal land title (no free prior and informed consent required). While this approach reduces the cost of compliance for operators, it dramatically increases the risk of conflict between the operator and local communities due to lack of local acceptance. Therefore, the immediate cost benefit can be offset over the long run by additional expenses due to damages caused by locals or judiciary processes.

Table 2: Coverage of Land/Resource Rights and Food Security in EU-recognised schemes (based on German and Schoneveld, 2011)

Parameter	Components	Bonsucro	Greenenergy	ISCC	RBSA	RSB	RTRS	2BSvs
Land and resource rights	Proof of legal ownership or lease	■	■	■	–	–	■	–
	Proof that land tenure is not under dispute	■	–	–		■		
	Prohibition of involuntary land acquisition/resettlement	–	(▪)	–	–	■		–
	FPIC as the basis for decision-making on the relinquishment of rights by all land owners and users	–	▪	–	–	■	▪	–
	Identification of customary land and resource rights	–	▪	(▪)	–	■	▪	–
	Identification of potential impacts on customary rights, property and resources	(▪)	■	–	–	■	–	–
	Livelihood baselines for affected land users	–	–	–	–	■	–	–
	Mitigation of negative effects on rights, land and resources	(▪)	▪	▪	–	■	–	–
	Compensation for lost assets (land, crops, economic trees, 'improvements')	–	–	–	–	■	▪	–
	Compensation for loss of access rights to common property resources	–	–	–	–	–	–	–
	Livelihood reconstruction for land/resource-losing households	–	–	–	–	■	–	–
	Proof of effectiveness of compensation, livelihood reconstruction and impact mitigation efforts	–	–	–	–	■	–	–
Food security	Assessment of risks to food security	–	▪[3]	–	–	■	–	–
	Food security baseline	–	–	–	–	■[4]	–	–
	Mitigation of food security impacts	–	(▪)	■	–	■	–	–
	Enhancement of local food security	–	–	–	–	▪[4]	–	–
	Providing opportunities for employees to carry out household-level food production	–	–	–	–	▪[5]	–	–
	Setting aside land in estates for local food production	–	–	–	–	▪[5]	–	–
	Proof of effectiveness of food security impact mitigation efforts	–	–	–	–	■	–	–

The Global-Bio-Pact report on **Assessment of existing socio-economic principles, criteria and indicators for biomass production and conversion** (Diaz-Chavez, 2011a) also reviewed the available standards and systems. The review of standards focused on the

social and economic issues contained in them. The aim of the review was to look at identifying the main topics of the schemes as well as the overall functioning of it.

Table 3: General characteristics of sustainability standards and systems of biomass (Diaz-Chavez, 2011a)

Standard	Year	Region	Type	Certification	Social	Econ
RSB	2007	Worldwide	Standard (draft)	Y	√	√
RSPO	2006	Worldwide	Standard	Y	√	√
RTRS	2004 (Basel)	Worldwide	Standard (draft)	Y	√	√
Better Sugar Initiative	n.a.	Worldwide	Standard (draft) guidelines	Y	√	√
Rain Forest Alliance SAN	2002	Worldwide	Standard	Y	√	√
FSC	2000	Worldwide with national	Standard	Y	√	√
PEFC	1999	Worldwide with National	Standards at National level	Y	√	√
SAI	2004	Worldwide	Guidelines (standard in development)	N	√	√
ISEAL	2006	Worldwide	Code of Practice		√	√
Fair Trade	2008 (FLOcert)	Worldwide with geographic scope	Standard	Y	√	√
AAPRESID	1989	Argentina (National but looking to become international)	Standard	Yes	√	√
GBEP	2008	Worldwide (national)	Indicators	N	√	√
ISCC	2006	Global	Indicators	Yes	√	√

Most of the standards reviewed focus on qualitative indicators or information to be monitored. Only GBEP has produced indicators that measure both forms qualitative and quantitative.

Tables 1, 2 and 3 show different levels of sustainability requirements for each EU-recognised scheme, in terms of criteria, principles or indicators. The first level shows whether an issue is addressed at all, the second level describes how the issue is addressed (i.e. through which specific criterion or indicator) and finally, the third level is defined by the evidences of compliance to be brought by the operator. The different levels of sustainability requirements are summarised in Figure 1.

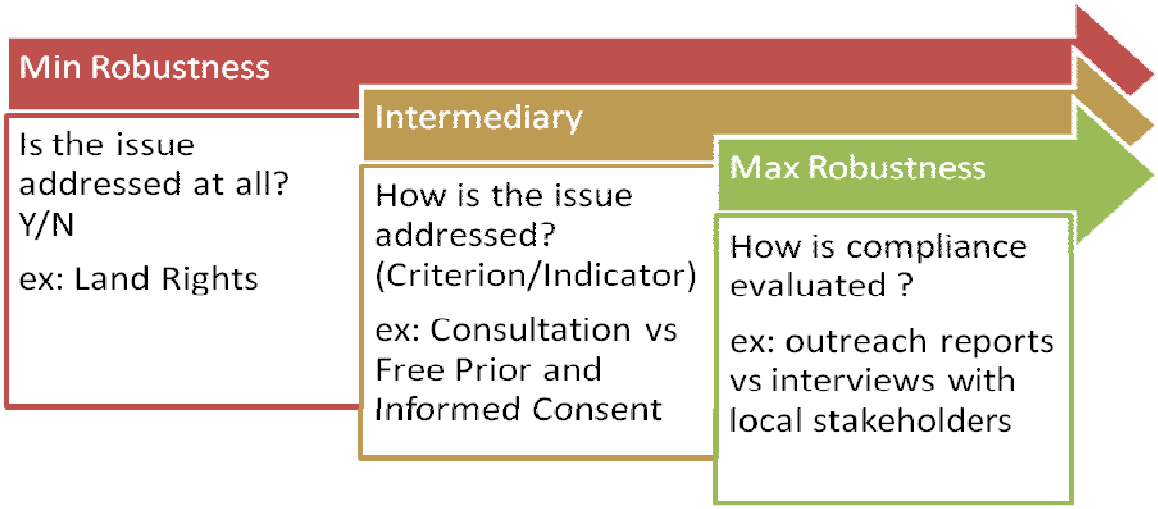

Figure 1 Levels of Sustainability in Voluntary Standards

Certification and verification schemes might contribute to paving the way towards the sustainable production of feedstock and its transformation to biofuels. Nevertheless, they are limited to their sustainability issues and broader sustainability issues may be neglected, especially for some environmental aspects and concerning the local population (Diaz-Chavez, 2011b). The form they are used in practice will also determine the level of sustainability they attempt to cover. The following section describes how the products are certified in practice.

2.2 Chain of Custody

The term *Chain of Custody* (CoC) describes the tracking of certified products and sustainability claims throughout the supply chain. There are several models of CoC, which involve different degree of segregation of certified products from non-certified products. The four main CoC models are:

- **Identity Preserved**: Certified products from a given origin are physically separated from other products. Any product can be traced back up to the farm of origin. This is the costliest system to implement.
- **Segregation**: Certified products from different origins can be mixed but are physically separated from non-certified products.
- **Mass Balance**: Certified products are physically mixed with non-certified products while documentation remains separated. Claims of compliance are limited to the exact volumes of certified products in the mix.
- **Book and Claim**: Physical products are disconnected from documentation. Users buy certificates and are allowed to claim compliance, which does not correspond to the physical product they buy.

As specified in Article 18.1 of the Renewable Energy Directive (European Parliament and Council, 2009), the *Mass Balance* model is preferred to others in the European Union. *Identity Preserved* and *Segregation* are acceptable as well, since they do not contradict requirements related to mass balance; *Book and Claim* is not allowed in the European Union (NL Agency, 2012).

Differences exist between CoC models in EU-recognised voluntary standards at two levels:

- The number of CoC models offered.
- The steps in the supply chain for which CoC tracking is required

Table 4 and Table 5 describe the main differences in CoC models for some EU-recognised schemes.

Table 4: Chain of Custody Models in some of the EU-recognised schemes (based on NL Agency, 2012)

CoC Models	RSB	RSPO	RTRS	Bonsucro	2BSvs	NTA8080	REDcert	ISCC
Identity Preserved	■	■						■
Segregation	■	■	■			■		■
Mass Balance	■	■	■	■	■	■	■	■
Book and Claim		■	■					

Table 5: Supply chain coverage of voluntary standards (NL Agency, 2012)

Processes	RSB	RSPO	RTRS	Bon-sucro	2BSvs	NTA8080	REDcert	ISCC
Farmer	■ [3] #	■ [4]	■ #	■ [10]	■ [9] [10]	■ #	■ [7]	■ # [15]
First gathering point [#]	■	■ #	■	■ #	■ # [14]	■	■ #	■ # [15]
Processing units [1]	■	■	■	■	■	■	■	■
Transportation	■	■	■	■	X	■	X	■
Trader (physical)	■	■	■	■	■ [9] [13]	■	■ [12]	■
Biofuel plant	■	■	■	■	■	■	■	■
Biofuel blender	■	■	■	■ [11]	X [12]	■	■ [8], [12]	■
Re-blending [2]	0 [4]	X	0 [4]	■ [11]	X [12]	X [6]	X [8], [12]	■ [12]

[#] First gathering point can be a storage unit, warehouse, central managing office of farmers, etc.
[1] Referring to intermediate processing units as crushing facilities or mills
[2] Example: re-blending biofuels from 7% to 2%
[3] The operators audited against the principles and criteria are farmers/feedstock producers, processing units/feedstock processors, biofuel plants/biofuel producers and biofuel blenders. It is important to note that not all the criteria apply equally to all these operators; for example, biofuel blenders are only bound to comply with Principle 3 (GHG).
[4] Farmer level and mill (first gathering point) are integrated in definition.
[5] The need for an audit for re-blending is still under discussion or not yet discussed (Zeehandelaar, 2011), (Rudolf, 2011)
[6] No supply chain certification needed as registered party for NEa will be one step in front of the supply chain
[7] Only through self-declaration, and part of the First gathering point certification
[8] German law doesn't require the supply chain to go beyond the "final interface" in which the final biofuel is produced. This biofuel (German version) is reported to the German government.
[9] Whenever justified, the verification audit maybe performed through a documentary verification audit rather than an on-site audit (see also next Chapter).
[10] Farmer audit is part of the first gathering point certification.
[11] Included, however no experience yet
[12] This is optional
[13] This can include any sub-contractors and/or storage sites within the same certificate.
[14] This can include trading activities within the same certificate
[15] Farmers can choose to be individually certified or as a group with a central office, which will be the official certificate holder, and will do internal audits and has a good management system in place and receives the self-declarations

(■ = included in system and CoC audit required, X = included in system, no CoC audit needed, 0 = under discussion, # = first point of the formal certificate holder)

As for sustainability requirements (see chapter 2.1), the degree of stringency and robustness of Chain of Custody varies considerably among the different voluntary standards. Similarly, a lower level of stringency will lower the cost of compliance for operators, but this benefit will

be offset by the increased risk of fraud within the system, which directly impacts the credibility and reliability of the corresponding scheme.

2.3 Assurance

Voluntary standards are usually implemented through a certification system whereby economic operators are audited against the requirements of the standards and, if deemed compliant, receive a certificate and associate rights for claims. Here again, the level of robustness and credibility of certification schemes can vary according to how, by whom and through which process certificates are delivered. The system whereby auditors and certification bodies receive an accreditation to deliver certificates and operate is referred to as *Assurance System*. The different components of assurance systems are:

- **Type of audit**: 1st, 2nd or 3rd party. 3rd party audits are performed by independent auditors and are usually seen as more credible than 1st or 2nd party audits.
- **Requirements for auditors**: training, qualification, education, experience.
- **Requirements for Certification Bodies**: internal management systems, ISO accreditation (e.g. ISO/IEC 65, ISO 17021, others.)
- Existence of a **formal Accreditation Body**, with clear and transparent rules.

Table 6 describes some of the differences found among EU-recognised schemes in terms of assurance (NL Agency, 2012).

Table 6: Requirements for Certification Bodies in EU-recognised schemes (NL Agency, 2012)

Items	RSB	RSPO	RTRS	Bonsucro	2BSvs	NTA8080	REDcert	ISCC
CB has procedures on defining roles audit team [1]	=	=	=	=	X	≈ [1]	=	X
Language skills	=	=	=	=	X	=	X	X
Educational requirements	=	=	=	=	X	≈ [3]	≈ [3]	=
Supervised period of practical auditing [1]	=	=	=	=	X	X [4]	X	=
ISO 19011 accredited	=	X	=	=	≈ [7]	=	=	=
ISO 65 accredited	=	=	=	=	≈ [6]	=	= [5]	=

3 Harmonization and Differentiation: finding the right balance

As illustrated in chapter 2, many differences exist among EU-recognised voluntary standards and general sustainability standards. These differences are found in the comprehensiveness of sustainability-related requirements, the robustness of implementation (indicators, evidences/verifiers, etc.), the types of Chain of Custody models offered and the quality of assurance systems.

The complexity and comprehensiveness of voluntary standards is generally correlated with the costs for compliance and certification (NL Agency, 2012). Therefore, voluntary standards may give the priority to their economic competitiveness by keeping the exigencies related to sustainability, chain of custody and assurance to the legal minimum. As a consequence,

standards with higher levels of robustness and stringencies will generally be seen by users as more cumbersome and complex, but will in turn receive more support from Non-Governmental and Civil Society Organisations (WWF, 2012).

It is important to realise that differences between voluntary standards are generally causing no problems and markets will function more efficiently with a broad range of offers regarding certification systems. However, some degree of harmonisation is needed to ensure that all voluntary standards used in the European Union meet the minimum quality level. The two following sections respectively describe the aspects for which harmonisation is needed and those for which a differentiated offer is beneficial to the users.

3.1 Harmonisation

As described in the previous chapters, the level of robustness of a certification scheme can decrease significantly according to the options taken in terms of implementation. This is particularly true for verification systems, chain of custody and assurance. Lin (2010, p. 9) highlights the positive effect a meta-standard, like the Renewable Energy Directive, could have as a benchmarking and consolidation tool for voluntary standards.

Therefore, the Global-Bio-pact consortium **recommends a better harmonisation of chain of custody systems and assurance among recognised standards**. Currently, the level of scrutiny over these aspects during the process of recognition of voluntary standards appears to be low. As a consequence, there is a serious risk that some biofuels certified by EU-recognised schemes do not bring sufficient guarantees with regards to sustainability for various reasons including weaknesses in chain of custody and assurance (WWF, 2012).

The following list suggests improvements in the current EU legislation, in order to raise the overall level of robustness and quality of recognised standards:

- **Proofs of Compliance:** The different types of verifiers/evidences shall be carefully evaluated by EU authorities to select those which offer the highest level of guarantee in a given context. Examples: internal records, maps, interviews of employees, interviews of stakeholders, applicable laws, etc.
- **Chain of Custody:** Additional guidance is needed from EU authorities on how to design and implement mass balance systems in accordance with the Renewable Energy Directive. In addition, EU shall evaluate the likelihood of frauds due to the fact that many systems only start the chain of custody at the first gathering point in comparison to systems starting chain of custody at the level of farms. Finally, the sampling patterns in case of group certification shall be in line with ISEAL Assurance Code (ISEAL, 2012).
- **Assurance:** Assurance systems are critical to the proper implementation of standards and certification systems. The Assurance Code developed by the ISEAL Alliance (ISEAL, 2012) defines good practices to ensure an appropriate level of robustness on various aspects of the implementation systems of standards while preserving their workability and operability.
- **Standard Development**: The process whereby a standard is developed and implemented is essential to ensure participation, representativeness and legitimacy. Multi-stakeholder standard-setting processes are generally recognized as the most credible. The EU shall recognize the importance of multi-stakeholder processes through a closer partnership with the ISEAL Alliance and by using elements of ISEAL Codes of Conduct (ISEAL 2010a) to grant voluntary standards recognition under the Renewable Energy Directive.
- **Monitoring and Evaluation**: As described in in the Global-Bio-Pact report by Haye et al. (2012), monitoring and evaluation (M&E) systems shall form part of the minimum requirements for any voluntary standards recognized by the EU in order to

demonstrate the impact over time on biofuel and bioenergy supply chains. The development of such M&E systems shall be conducted in line with the ISEAL Impact Code (ISEAL, 2010b).

Dam and Junginger (2011) state that harmonization is also recommended in order to "avoid proliferation of schemes, methodologies and approaches" and that a "meta-standard approach, in combination with using international agreements, could partly solve proliferation and priority differences of standards." Dam and Junginger also stress the significance of better using existing certifications schemes and standards "for further improvement of the harmonization of a biomass and bioenergy sustainability certification system on European level."

Diaz-Chavez (2011b) also stated that the possibility of integrating different sustainability goals is a challenge that is difficult to approach and to put in practice. It is also necessary to integrate the different stakeholders (e.g. farmers, producers, companies and communities), but difficult to harmonise their different interests.

3.2 Differentiated Offer

While harmonisation is required on the essential elements of certification systems (see chapter 3.1), it is not necessarily the case for other elements, such as the types of environmental or socio-economic impacts that standards try to address. The different standards were created with different aims and different scopes, thus providing the industry with a wide range of options. This diversity of options is important as all companies may have different needs in terms of:

- Particularities of supply chains in terms of risks to the environment and people
- Legal compliance
- Corporate Social Responsibility
- Communication and Marketing
- Consumers

The diversity of standards is well illustrated through the membership of the ISEAL Alliance[7], which includes schemes with mainly social requirements (e.g. Social Accountability International, Fairtrade Label Organisations, Goodweave), schemes with mainly environmental requirements (e.g. Marine Stewardship Council, Organic) and standards, which cover both environmental and social aspects at different stages of the supply chain (e.g. Forest Stewardship Council, Roundtable on Sustainable Biofuels, Rainforest Alliance). Interestingly, the criteria to become an ISEAL Member are not prescriptive regarding the scope of a standard (i.e. how comprehensive it is with regards to social and environmental issues). They are, however, prescriptive regarding assurance systems and standard-setting processes (ISEAL, 2010a).

Therefore, harmonisation in terms of sustainability content is **not recommended** for standards used to verify or certify biomass, bioenergy and biofuel supply chains. In the current situation, biofuel companies have different needs and different means to comply with standards and receive certifications. Some of them may only afford to comply with the legal minima, while other may develop a more advanced Corporate Social Responsibility (CSR) strategy and look for standards which comprehensively address environmental and socio-economic issues.

An important element to promote is *continuous improvement* of companies towards sustainable practices, but this goal needs to be made accessible to all companies at their respective pace. Of equal importance is the mutual recognition of voluntary standards in

[7] http://www.isealalliance.org/our-members/full-membership

order to create bridges across the different certification systems and further enhance opportunities for users. Mutual recognition shall be based on a sound and transparent benchmarking process, whereby gaps between standards are identified. Operators certified against standard A could therefore obtain certification against standard B through a simplified audit process, which corresponds to the gaps identified between standards A and B. The path across different certification systems could be described as a sustainability ladder towards excellence (Figure 2).

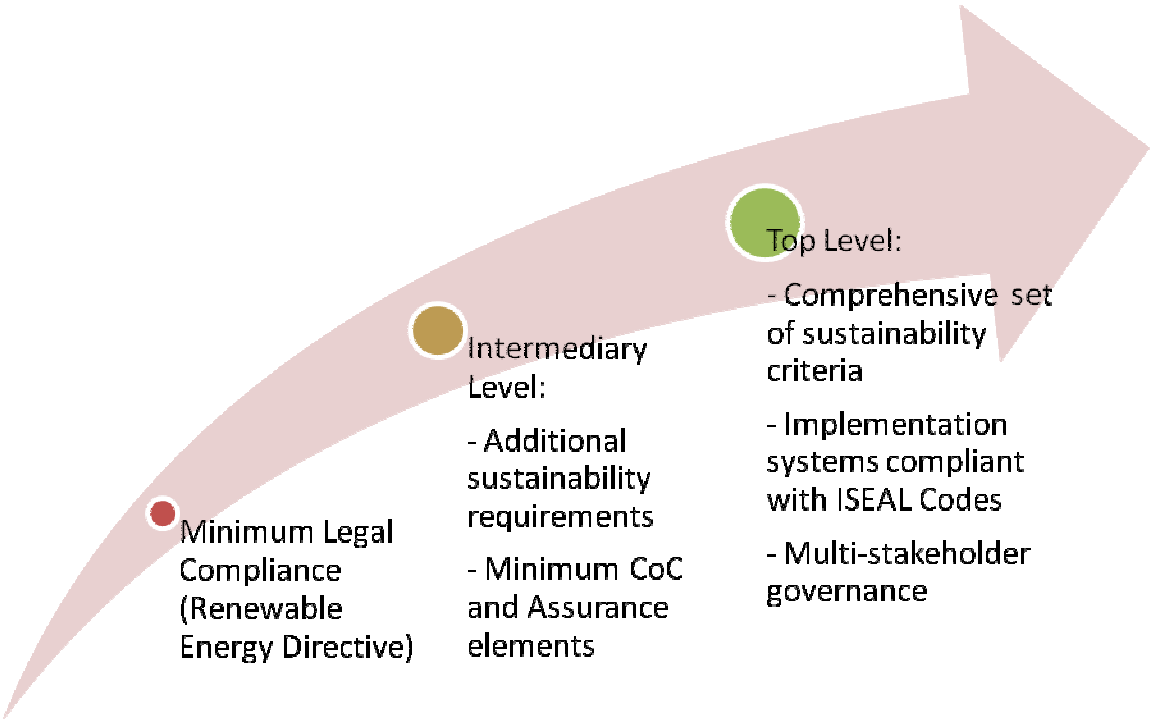

Figure 2: Sustainability ladder towards best practices

An integrated policy approach should provide the way forward for the use of the different environmental and political tools. Furthermore, enforcement in each country is an additional challenge that even the verification systems will not be able to solve. Nevertheless, market based schemes can potentially ensure a different type of enforcement mechanism than legislative schemes and may be more powerful as a mechanism in countries with poor ability to enforce policy. However they are only applicable if the market demands the certification (Diaz-Chavez, 2011b).

4 Conclusion and Recommendations

As Diaz-Chavez (2011b) stated, whilst assurance (the development of standards) and certification cannot ensure the provision of sustainable supplies of biofuels, they will play a major role in developing the framework for sustainable agriculture and forestry and extend it to a more sustainable biofuel production. Therefore, the way forward is to use these tools to help reconcile the inherent trade-offs between the different demands for photosynthetic products and to increase the efficiencies of production and supply.

Harmonisation of the different available standards and schemes (recognised and non-recognised by the EU) for biofuels will be a difficult task to conduct at a European and global level. Furthermore, there is not strict need to do so, even with a meta-standard. In the case of Europe the political and regulatory frameworks are in some way providing the bases for the criteria and indicators considered necessary to assure a sustainable biofuel production.

One of the main concerns with the standards is whether they generate barriers for trade and result in discrimination. The World Trade Organisation (WTO) is still unclear in terms of the possible barriers to trade.

Biomass for biofuels and bioenergy use cannot be the only productive system in a region or country to contribute to sustainable development and poverty reduction. Issues such as indirect land use change impacts (ILUC) and sustainable verification systems should be applied to other commodities as well specially in countries where this debate is on-going.

Finally, the Global-Bio-Pact set of indicators (Diaz-Chavez et al. 2012) does not aim towards a harmonisation of principles, criteria or indicators, but to work as complementary information for the socio-economic issues of current standards.

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