Sustainability Certification for Biofuels

Large fuel purchasers are increasingly turning to biofuels to improve their environmental performance. These efforts are well intentioned but warrant caution nonetheless. While biofuels can certainly provide environmental benefits, they can also cause severe damage if produced unsustainably. That's because biofuel feedstocks are inextricably linked to land, water, and wildlife. Careless development can have an impact on all of these resources and tarnish a purchaser's admirable efforts. Unfortunately, many fuel purchasers do not have the time, resources, or expertise to analyze a specific biofuel vendor's sustainability through each stage in the product life cycle. Biofuel sustainability certification systems have emerged to serve this purpose. The right certification systems provide third-party verification that biofuel feedstocks are grown and converted into fuel in a sustainable manner. Thus, a credible system can reduce the complexity and effort of ensuring that biofuel purchases deliver environmental benefits and avoid controversy. Yet, not all certification systems are equal–some are more protective of the environment than others. This fact sheet is designed to guide interested parties through the various options.

WHY CERTIFICATION SYSTEMS?

Biofuel sustainability analysis is intricate and complex. Sustainability certification systems simplify the task for the end user by providing independent verification that stringent environmental measures are being observed across the chain of production. These systems have several benefits. First, existing laws are helpful but not always sufficiently stringent. Second, some laws provide important guidance but do not audit for sustainability at the facility level. Fuel purchasers may still find themselves affiliated with unsustainable fuels, despite statutory protection. Sustainability certification systems provide the customer with verification of environmental protections at the detailed field level. In doing so, these systems also allow buyers to publicly demonstrate their environmental commitment. Finally, certification systems allow customers to identify and reward biofuel producers that take clear measures to protect the environment. In this way, biofuel purchasers encourage behaviors that are critical to developing a biofuel industry that is environmentally viable at scale.

WHAT DO CERTIFICATIONS SYSTEMS DO?

Biofuel sustainability certification systems measure and verify environmental performance of fuels throughout all major stages of the product life cycle, including feedstock production, fuel production, and end use. Within each stage, the system should look at a range of criteria that influence environmental sustainability including impacts on water, soil, biodiversity, air, land use, and waste. These criteria should be further subdivided into different indicators needed to measure sustainability at the project level. Within the water criterion, for instance, a system should evaluate different indicators such as water quantity and water quality. Finally, there should be a clear means of measuring whether a project performs sustainably in relation to each indicator. This is true not only for environmental concerns but also for social and economic issues, such as human rights, food security, and workforce safety. Different systems may categorize "criteria" and "indicators" somewhat differently, but the point is the same. A good certification system provides an organized and objective way to track sustainability down to the field level across a range of recognized issues.

Biofuel projects that apply for certification must undergo third-party site audits to certify that they are performing well across all criteria and indicators. Facilities and feedstock operations that pass rigorous inspection are then certified as sustainable. Purchasers can simply look for certified fuels rather than performing these tasks themselves.

KEY ATTRIBUTES OF A CREDIBLE CERTIFICATION SYSTEM

Not all certification systems are equal. While some provide a high level of resolution and certainty, others are less stringent, transparent, or thoroughly enforced. It is therefore critical to identify key attributes ensuring that the certification system performs well in the field. For instance, international accreditation of auditors as well as assurance by a well-recognized and international body such as ISEAL will ensure that the system is both well designed and applied with rigor down to the field level. Similarly, the system should be life cycle based, evaluating a wide variety of sustainability measurements across feedstock production, fuel production, and end use stages.

The system's format and development process should be consistent with international norms. This includes both the standards-setting process and evaluative methodologies. The standards-development process should also be transparent. It should include stakeholder engagement and public comment mechanisms. Approved summaries, standards, and protocols should be made available in the public domain. Documentation should include all relevant issues, data sources, assumptions, and references and present them in an accessible manner.

The standards-development process must be participatory, consensus driven, and deeply inclusive of all relevant stakeholders. The resulting system should be balanced, reflect general consensus, and include economic, social, and environmental factors. The requirements should identify principles, criteria, indicators, and clear evaluation benchmarks or outputs. These should all be objective, science based, and traceable. Compliance with the standard as well as all relevant laws should be demonstrable through product chain of custody and verifiable by independent third parties.

Finally, the system should be relevant. It should clearly communicate what is evaluated and directly serve the decision-making needs of the intended audience. In short, the standard should provide credible verification and clearly add value in serving the user's supply chain risk needs.

EVALUATING THE CANDIDATES

Poorly developed biofuels pose severe environmental risks. Procurement officials and risk managers should use only the most stringent and protective certification standards

available. Yet assessing how different certification systems rank across the product life cycle is a complex undertaking. That is why NRDC evaluated how several of the major sustainability systems perform against each other. Our report, which can be found here[1], looks at systems developed by the Roundtable on Sustainable Biomaterials (RSB), the Council on Sustainable Biomass Production (CSBP),[2] the International Sustainability & Carbon Certification (ISCC), the Roundtable on Sustainable Palm Oil (RSPO), the Roundtable on Responsible Soy (RTRS), Bonsucro, and the Forest Stewardship Council (FSC). We examined these certification systems across the major categories listed above (key attributes, economic performance, environmental performance, and social performance) and then the numerous subcategories within each.

We found that each certification system had strengths and weaknesses but that the Roundtable on Sustainable Biomaterials was clearly the most protective. Our high-level results are shown in the table below. We indicate whether the standard was sufficiently protective, less protective, or insufficient. A much more detailed analysis with all evaluation criteria and indicators broken out can be found here.[3]

	RSB	CSBP	ISCC	RSPO	RTRS*	Bonsucro	FSC
Life Cycle Focus**	1-3	1	1	1-2	1	1-2	1
Demonstrates Key Attributes (Out of 6 Evaluation Factors)							
Protective	6	4	2	5	5	6	6
Less Protective	0	1	3	1	0	0	0
Insufficient	0	1	1	0	1	0	0
Ensures Economic Sustainability (Out of 2 Evaluation Factors)							
Protective	2	1	0	2	1	1	2
Less Protective	0	0	1	0	0	1	0
Insufficient	0	1	1	0	1	0	0
Ensures Environmental Sustainability (Out of 18 Evaluation Factors)							
Protective	17	15	4	16	13	16	17
Less Protective	1	3	11	2	4	2	1
Insufficient	0	0	3	0	1	0	0
Ensures Social Sustainability (Out of 9 Evaluation Factors)							
Protective	9	8	4	8	8	8	8
Less Protective	0	0	4	1	1	0	0
Insufficient	0	1	1	0	0	1	1

* ISCC, RTRS, Bonsucro, and FSC all have separate chain of custody standards that somewhat expand their life cycle supply chain coverage. This is commendable, but chain of custody requirements are narrower in scope than the full range of indicators evaluated in this report. For purposes of clarity, each standard's primary life cycle stages are indicated under Table 2. While each standard may have a few indicators with greater coverage than shown in Table 2, the summary value indicates each one's focus as a general rule.

** The numbers in this row represent the different stages of the biofuel product life cycle. Stage 1 represents feedstock production and collection. Stage 2 signifies feedstock processing and transport. Stage 3 represents fuel production.

Endnotes

1 www.nrdc.org/energy/biofuels-sustainability-certification.asp.

2 The Council on Sustainable Biomass Production ceased operations during the production of this report. Nonetheless, we have retained our review of CSBP to further illustrate the strengths, weaknesses, and variability among different certification systems.

3 www.nrdc.org/energy/biofuels-sustainability-certification.asp.