Biofuels Sustainability Certification by 3rd Party Verification

Matt Rudolf
October 19th, 2011
25x25
Sustainability: The Challenge
**Biofuel Production: Sustainability Challenges**

**Direct impacts**

*Within the control of individual operators*

- Food security: direct local impacts, « food vs. fuel »
- Lifecycle GHG emissions
- Direct Land use change
  - Deforestation, biodiversity loss
- Conservation & biodiversity
- Pollution

**Indirect impacts**

*Global, market-driven, outside the boundary of operator control*

- Indirect land use change
  - Deforestation, biodiversity loss
- Impacts on commodity markets, food/feed prices and food security
Biofuel Legislation Developing Rapidly

Biofuel incentives and mandates increasingly include sustainability provisions

- European Union - Renewable Energy Directive (RED)
- United States - Renewable Fuels Standard (RFS2)
- The California Low Carbon Fuel Standard (LCFS)
- German Ordinance on Requirements for Sustainable Production of Biofuels (GER-Biokraft-NachV) - national implementation of EU RED
- Mexico: Norma Mexicana (NMX) on Sustainable Biofuels
- Numerous Countries in South America, Asia and Africa
- States and Municipalities throughout the world
Ensuring Sustainability

RSB Process
1. Screen for impacts – engage stakeholders & experts
2. Mitigate / Improve
3. Continuous improvement

RSB Standard currently addresses the Direct Impacts within the boundary & control of the operator

Working towards addressing Indirect Impacts in the next version of the RSB Standard

- Indirect impacts expert group
- Collaboration with WWF International, Ecofys, other project partners on developing a Low Indirect Impacts Biofuels Module
RSB Membership Structure

Chamber 1 - Feedstock Producers
(Solazyme, United Soybean Board, Jatropha Alliance, etc.)

Chamber 2 - Biofuel Producers
(National Biodiesel Board, BP, Poet, Imperium, etc.)

Chamber 3 - Retailers Transport/Investors
(Boeing, Airbus, IATA, IDB, SAFUG, SkyNRG, etc.)

Chamber 4 - NGOs & Trade Unions
(ALU-TUCP, NUPAWU, Sucre Ethique, etc.)

Chamber 5 - Devt, smallholder & indigenous people organisations
(German NGO Forum, Funcation Solar, MFC, etc.)

Chamber 6 - Env, Conservation & Climate
(WWF, IUCN, NWF, CI, Wetlands Int, etc.)

Chamber 7 - Research, Govt, IGOs
(Federal and State Governments, UC Berkeley, UNEP, FAO, etc.)
**RSB P&C’s and Supporting Practical Tools**

- Principle 1: **Legality**
- Principle 2: **Planning, Monitoring & Continuous Improvement**
- Principle 3: **Greenhouse Gas Emissions**
- Principle 4: **Human & Labor Rights**
- Principle 5: **Rural & Social Development**
- Principle 6: **Local Food Security**
- Principle 7: **Conservation**
- Principle 8: **Soil**
- Principle 9: **Water**
- Principle 10: **Air**
- Principle 11: **Use of Technology, Inputs, & Management of Waste**
- Principle 12: **Land Rights**

Guidelines on ESIA and Stakeholder Engagement
Methodology for GHG Calculation & RSB Tool
Guidelines on Food Security Assessment
Guidelines on Conservation Assessment
Guidelines on Soil Assessment
Guidelines on Water Assessment
Guidelines on Land Rights Assessment
The RSB GHG Calculator (Tool)

- The Greenhouse Gas Calculator (GHG) measures emissions of biofuels for each lifecycle production step, from farming to final fuel distribution.

- Calculation Methodologies supported include:
  - RSB Method
  - EU Renewable Energy Directive (RED)
  - CH (MinOEV) Swiss standard (for mineral-oil tax-relief)
  - USA RFS2 – default data
  - California (LCFS) – default data

- The tool took two years to develop and was supported by the Swiss State Secretariat for Economic Affairs (SECO).

- The Tool is directly accessible (free of charge) at www.rsb-services.com
### GHG Tool – Module Factors

#### Cultivation
- Land Use Change
- Land Use Validation
- Mechanical work
- Mineral fertilizer
- Organic Fertilizer
- Pesticides

#### Feedstock Processing
- Feedstock Input
- Energy input
- Chemical & Water
- Main Output
- Co Products
- Default Pathway

#### Biofuel Production
- Feedstock Input
- Energy input
- Chemical & Water
- Main Output
- Co Products
- Default Pathway

#### Blending & Transport
- Inputs - share in blend
- Energy input
- Storage
- Transport Device
- Losses in Transport
Participating Operators – Vertically Integrated Supply Chain

Participating Operator Concept

- producer
- converter
- trader
- processor
- trader
- end user
Participating Operators – Group Certification

Participating Operator Concept

Producer Cooperative

producer

producer

producer

producer

producer

producer

producer

producer

producer

trader

converter

trader

processor

trader

processor

trader

processor

trader

end user

end user
Courses held in 2011 in Switzerland, Mexico and Malaysia

Approximately 40 RSB Auditors Trained Thus Far

14 Different Certification Bodies participated, including: GHD, TÜV SÜD, Intertek, Scientific Certification Services, SGS, FuturePast, Degart Global, DNV, COVERCO, DQS, Rainforest Alliance, VerifAvia, NCS

19 Different Countries Represented:
Australia, Germany, USA, Poland, Colombia, UK, Spain, Portugal, Brazil, Guatemala, Mexico, Sri Lanka, India, Indonesia, Malaysia, Thailand, The Philippines, France, Argentina
Regulatory Comparison

Indexing of Agricultural and Industrial Processing Regulation to the RSB

1. Identify areas of overlap between the RSB standards and the relevant regulations

2. Verify the credible enforcement of environmental and social regulation

3. Indicate the type of evidence of legal compliance which may be used to show compliance with the RSB standards (e.g. legal permits).
RSB Certification Partners

Certification Body Applications to date:

- SGS
- SCS
- DQP
- TÜV SUD
- Industrie Service
- Intertek
- Control Union
- Rainforest Alliance
- MGETcert
- Business Assurance
- NCS
- RSB Roundtable on Sustainable Biofuels
Beginning of Certification Activities

First Applicants to the RSB Systems Recently Received
- Wastewater-to-Ethanol Project in Australia;
- Jatropha plantation in Mexico;
- Sugarcane production in South America;

First audits are starting to take place now

On October 18, 2011 we announced that **RSB Services** will incorporate in the United States.
Thank you!

rsb@epfl.ch

http://www.rsb.org
Recap

Melinda Kimble
Senior Vice President
United Nations Foundation
International Bioenergy and Sustainability Initiative
• More than 50 countries worldwide have put in place targets and/or mandates for bioenergy production.
  – EU Renewable Energy Directive (RED) mandates 20% share of renewable energy sources in energy consumption by 2020 and 10% binding minimum target for biofuels in transport sector.
## World Ethanol Production Forecast 2008 - 2012 by Country, Millions of Gallons

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>CAGR, %</th>
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<tbody>
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<td>Brazil</td>
<td>4,988</td>
<td>5,238</td>
<td>5,489</td>
<td>5,739</td>
<td>5,990</td>
<td>2.8%</td>
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<td>U.S.</td>
<td>6,198</td>
<td>6,858</td>
<td>7,518</td>
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<td>China</td>
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<td>1,128</td>
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<td>India</td>
<td>531</td>
<td>551</td>
<td>571</td>
<td>591</td>
<td>611</td>
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<td>France</td>
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<td>301</td>
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<tr>
<td>Spain</td>
<td>163</td>
<td>184</td>
<td>206</td>
<td>227</td>
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<tr>
<td>Germany</td>
<td>319</td>
<td>381</td>
<td>444</td>
<td>506</td>
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<tr>
<td>Canada</td>
<td>230</td>
<td>276</td>
<td>322</td>
<td>368</td>
<td>414</td>
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<td>Indonesia</td>
<td>76</td>
<td>84</td>
<td>92</td>
<td>100</td>
<td>108</td>
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<tr>
<td>Italy</td>
<td>50</td>
<td>53</td>
<td>55</td>
<td>58</td>
<td>60</td>
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<td>ROW</td>
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<td>2,794</td>
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<td>World</td>
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<td>17,574</td>
<td>18,934</td>
<td>20,293</td>
<td>21,653</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

Source: Markey Research Analyst
Other Sustainability Standards and Certification Schemes

- Basel Criteria for Responsible Soy Production
- Bonsucro (BSI)
- Council on Sustainable Biomass Production (CSBP)
- Green Gold Label 2: Agriculture Source Criteria (GGLS2)
- International Sustainability & Carbon Certification (ISCC)
- Forest Stewardship Council (FSC)
- Nordic Ecolabelling of Fuels
- Roundtable on Responsible Soy (RTRS)
- Roundtable on Sustainable Palm Oil (RSPO)
- EKAB Verified Sustainable Ethanol Initiative
- Sustainable Biodiesel Alliance (SBA)
Questions and Discussion
Thank you!

www.25x25.org