

# *The Roundtable on Sustainable Biofuels*

*Greenhouse Gas Accounting Working Group*



# *Presentation Overview*

- Aims and organization of the RSB
- Draft principles
- GHG Working group:
  - Principle and Criteria
  - Organization
  - First results
  - Next steps

# *The Roundtable on Sustainable Biofuels*

We are an international multi-stakeholder initiative developing principles and criteria for sustainable biofuels production that will be:

- **Simple, accessible** and implemented worldwide
- **Generic** to all crops
- **Adaptable** to new information
- **Efficient and cheap** to measure
- **In line with WTO rules**  
(use ISEAL code)



# *How is the RSB organized?*

- One **Steering Board** composed of international stakeholders from National Wildlife Federation, UNEP, UNCTAD, Shell, WWF, BP, Petrobras, Toyota, TERI India, Mali Folkecenter, Bunge, and others.
- One **secretariat** based at EPFL. Coordination of the RSB.
- Four **Working Groups (GHG, Environment, Social, and Implementation)** + smaller **Expert Advisory Groups** to make recommendations to the Steering Board. 180 participants from international organisations, NGOs, private sector and academic institutions have signed up for one or more Working Groups.
- **Global stakeholder** feedback at every step (blogs, meetings, wiki technology, pilot projects, regional outreaches)
- Innovative **transparent standard-setting using [www.BioenergyWiki.net](http://www.BioenergyWiki.net)**, to share background information and share comments with other participants.

# *Draft Principles*

- **National Law** (esp. re. land, labor, water rights)
- **Community Consultation** (esp. to determine land rights, social & environmental impact, idle land, resolve grievances)
- **GHG** – positive balance over lifecycle, including direct & indirect effects
- **Environmental** – conserve and protect high conservation values, soil, water, air; responsible use of potentially hazardous technologies (e.g. biotechnologies)
- **Social** – biofuels should benefit rural communities and workers; should not contribute to food insecurity

## Roundtable on Sustainable Biofuels - Draft Scorecard Concept

Overall Energy and Greenhouse Gas Efficiency	Conservation of Natural Resources				Social Concerns		
Total score for product life-cycle (well-to-wheel)	biodiversity	soil health	air quality	water use	Food security	Working conditions	
Considerable reduction of ecol./ social footprint	Low GHG emissions, maximize carbon sequestration (e.g. low-till)	Biodiversity corridors	Restore degraded land	No sig. impact on air quality on farm or at processing facility	No sig. impact on local water quality or quantity	Use of degraded or idle land	Best-practice wages and working conditions
Small or no reduction on ecol./ social footprint	10-90% GHG emissions as compared to fossil fuel	Buffer zones	erosion protection	Moderate impact on air quality	Moderate impact on local water quality, quality		
No or negative impact on ecol./ social footprint	High N2O emissions from fertilizers, conversion of high carbon-stock land	Deforestation, habitat encroachmt.			Water pollution, significant reduction in water availability		Hazardous or illegal working conditions

## *Principal No. 3 : Climate Change and GHG*

**3. Biofuels shall contribute to net GHG emission reduction as compared to fossil fuels, in order to stabilize the climate.**

*Draft guidance/ criteria:*

Emissions shall be estimated via a consistent approach to lifecycle assessment, with system boundaries from “well to tank”. This shall include direct and indirect GHG emissions, for instance from fossil energy used in growing, transporting and processing a biofuel, as well as the carbon embedded in the biofuel. It shall also include GHG emissions resulting from land use changes as land is converted to biofuel crop production, or as other production is displaced.

# *The GHG Working Group*

- We are not going to create a new LCA tool, or pick an existing LCA tool. Rather we will agree on a preferred methodology, especially :
  - key factors to include
  - co-product allocation, and
  - accounting for direct and indirect land use change.
  
- This preferred methodology will then be the basis for guidelines for national/other LCA tools that could be used to measure biofuels' performance.
  
- Use teleconferences, online discussions, and in-person expert meetings over the next year to come to consensus on a methodology and approach.
  
- Use/recognize other scientific consensus (e.g. IPCC)

# Structure of GHG WG

The Working Group is led by two **Co-chairs**:

➤ Dr. Bruce Dale (Michigan State University)

➤ Dr. Stephan Krinke (Volkswagen)

and a **coordinator**:

Dr. Tourane Corbière (EPFL)

Georgios Sarantakos from EPFL will be supporting Tourane and the group with background research.

The members of the **Expert Advisory Group** are:

Dr. Alex Farrell (UC Berkeley)

Dr. Edgard Gnansounou (EPFL)

Dr. Guido Reinhardt (IFEU, Germany)

Dr. Hisashi Ishitani (Keio University)

Dr. Isaias Macedo (UNICAMP, Brazil)

Dr. Jeremy Woods (Imperial College London)

Dr. Michael Wang (Argonne National Labs, USA)

Dr. Rainer Zah (EMPA, Switzerland)

Dr. Shoba Veeraraghavan (Shell)

# *Results*

So far, the Working Group has agreed on the following points:

- ✓ Well-to-tank scope, including combustion phase
- ✓ Unit: gCO<sub>2</sub>e/MJ useful energy – i.e. not taking into account vehicle technology
- ✓ Reference system: relevant standard fossil reference chain (biodiesel with diesel and ethanol with petrol). Global rather than regional fossil reference.
- ✓ Focus on those steps/inputs with the biggest impact. Use default (average) values as much as possible, to reduce the reporting or certification burden on farmers and companies.
- ✓ Focus on the impacts that vary from crop to crop or production method to production method.

## *Next steps*

- Decide on fossil reference chain (using IEA supply predictions)
- Develop guidelines for minimum criteria for acceptable national LCA tools, e.g.:
  - list of key factors to include (could be feedstock or region-specific)
  - transparency of data & methodology required

Other existing tools and methodologies can then be benchmarked against these guidelines and then accepted, or accepted with additional information needed.

- Sensitivity analysis of using different methodologies/tools will likely follow

# *Timeline*



- Bi-monthly teleconferences with entire Working Group
- In-person expert meeting to select preferred methodology, ideally by June 2008
- Collaborate with US and other partners to co-host an in-person meeting on indirect land use change accounting, perhaps summer 2008

# Contact

## Secretariat:

Energy Center, EPFL

[tourane.corbiere@epfl.ch](mailto:tourane.corbiere@epfl.ch) (GHG Working Group Coordinator)

[georgios.sarantakos@epfl.ch](mailto:georgios.sarantakos@epfl.ch) (GHG Research Team)

<http://EnergyCenter.epfl.ch/Biofuels>