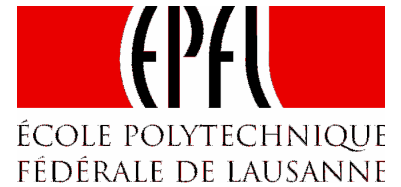


Roundtable on Sustainable Biofuels

An initiative of the EPFL Energy Center



Working Group on GHGs

Paper 2 for discussion during the 2nd meeting: Background Paper

The aim of this second Working Group on GHGs meeting is discuss the feedback received on the draft principle and to agree on a working procedure to reach consensus on a methodology and approach to measuring GHG emissions linked to biofuels' production and processing.

What are the goals of this Working Group on GHG?

This group will tackle the most sensitive and controversial issues related to GHG emissions calculation and, ideally, achieve a consensus on a methodology and approach to measuring GHG emissions. The goal is to identify and spread current best practice in assessing the GHG emissions linked to biofuels production.

We hope to, within one year, agree on a tool that makes it possible to answer the following question: *How much emission reduction does the use of biomass yield for a specific biofuel, calculated from its source up to its use, and compared with the average use of fossil fuel?*

With this tool, supply chains can then prove compliance with the following original draft RSB principle regarding GHG emissions:

Biofuels should result in lower GHG emissions compared to fossil fuels when analyzed via a lifecycle assessment (with system boundaries from “well to wheel”). This should include direct and indirect GHG emissions, for instance from fossil energy used in growing, transporting and processing biofuels. It should also include GHG emissions resulting from land use changes as land is converted to biofuel crop production, or as production for other markets is displaced.

The group will also recommend a procedure for maintaining and updating the tool after the first year of the project.

Scope of the meeting:

1. Discuss feedback about the draft principle tackling GHG issues
2. Agree on the key points/criteria for choosing the future RSB GHG approach
3. Plan next meeting and agree on the agenda

Other meetings will be specifically dedicated to discuss the way co-product allocation and such indirect effects as land use issues should be tackled. These topics will not be discussed in depth during this first GHG Working Group meeting.

1. Summary of feedback about the draft principle tackling GHG issues:

Below are the edits to the original principle regarding GHG emissions of biofuels proposed by the Steering Board. The editing was free of access to any of the Steering Board and Working Group members, although thus far no one in these groups has formally edited this principle. It is important to keep in mind that the bioenergy wiki serves as a forum of discussion, but due to its freely open access, the elements posted on it should be seen as raw opinions still to be discussed.

Draft Principle after Consultation (recommended changes in italics)

Biofuels should result in lower GHG emissions compared to fossil fuels when analyzed *on the long term* via a lifecycle assessment (with system boundaries from “well to wheel”). This should include direct and indirect GHG emissions, for instance from fossil energy used in growing, transporting and processing biofuels. It should also include GHG emissions resulting from land use changes as land is converted to biofuel crop production, or as production for other markets is displaced. *It should take a futures attitude of approaching zero emissions by using planned "Carbon Dioxide Sink Creation" as corporate and national social responsibility.*

One stakeholder suggested that GHG emissions from biofuels should be offset via carbon sinks such that biofuels represent a truly carbon-neutral fuel. But other, more general, comments about the principles have been that we do not want to set the standards so high that biofuels cannot compete with fossil fuels at all.

Do other WG members feel that we should aim to have zero GHG emissions, or rather just GHG emissions that are better than fossil fuels.

Do you think that a time dimension falls in the draft principle?

2. Key points/criteria for the future RSB GHG approach:

Is our goal to pick one pre-existing tool? To create a new tool? Or to accept several tools as reference values and make slight modifications/additions to each one to reflect our overall approach?

1. The approach will be based on life cycle approach from well to wheel.
2. The unit will be: gCO₂e/MJ gram of carbon dioxide equivalent per mega-joule of energy.
3. The approach will use a reference system: the greenhouse gas emissions along the biomass chain will be compared with a relevant standard fossil reference chain.
4. The approach will focus on those steps/inputs with the biggest impact on GHG emissions. Where emissions in one step represent a small part of overall emissions, or where they are similar amongst different feedstock and processing types, default values will be used/simplifications will be made.
5. The approach will focus on the impacts which vary from crop to crop or production method to production method – we want to create a tool that can compare different types of production to each other, and then that overall number to fossil fuel
6. Default values will also be used when no data are available from particular links in the chain. The defaults value will be evaluated conservatively, and be as specific as necessary for

various feedstocks, countries, processing technologies, etc. This will encourage process improvements. If an owner of biomass thinks he is performing better than the standard value, he will have to prove this with the aid of a predetermined methodology (and perhaps third-party verification). We hope to reduce the need for verification and monitoring, yet still incent producers to improve GHG performance.

7. Direct certification tool based on RSB GHG approach versus indirect incentives:

Impacts are divided into two categories:

- DIRECT impacts: things that farm/plant/shipping company can affect, or uses directly, like amount of fertilizer, energy used in processing, directly demonstrable alterations in land use (for example a forest cut down to plant energy crops)etc.
- INDIRECT effects that they cannot control like displaced deforestation or land use change. These indirect changes in land use have to be described qualitatively and fall under another category.

This differentiation makes it possible to clarify what the RSB GHG approach and the linked product certification does (monitor direct effects), and what it doesn't do (like indirect effects). Thus, for indirect effects, other types of solutions (or ways to measure) can be thought of.

Do you agree on these points? Are there other key points that should be clarified/fixd from the beginning?

6. Next meeting

Next meeting will be held in the second part of October.

Any further comment?