

Steps towards further harmonisation of biofuel GHG calculations

Per Wollin
Swedish Energy Agency
Public workshop Heidelberg
April 14, 2011

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Introduction

- Objectives of project will be met:
 - Current GHG tool makes transparent how RED Annex V default values were calculated
 - BioGrace list of standard values is important step towards harmonisation of European biofuel GHG calculations
 - The BioGrace tool plus national tools facilitate stakeholders to make actual calculations
 - BioGrace results are widely disseminated
- Next ambition of BioGrace is to:
 1. Support stakeholders in meeting (RED & FQD) biofuels sustainability criteria
 2. Clarify role of BioGrace compared to other (existing/under development) voluntary certification schemes

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Recognition as a voluntary cert. scheme

Observations:

- Current voluntary cert. schemes do not include GHG tool
 - ISSC, REDcert, NTA8080, RSPO, RTRS, Bonsucro (BSI)
- European Commission only allows use of GHG tool if it is recognised as a voluntary cert. scheme
- To our knowledge no GHG tools have been send to Commission for recognition
 - Some schemes will be send in, eg. National GHG tools
 - Information on actual developments is scarce
- GHG tool can be used as “add-on” to existing schemes

BioGrace action:

- Submit BioGrace GHG tool to EC for recognition as a voluntary scheme
- This required some actions during last month

Recognition as a voluntary cert. scheme

Actions taken during last month

- Defined calculation rules and linked them to tool
 - From Commission we understand that calculation rules need to be part of GHG tool
 - BioGrace opinion: rules should also be harmonised
 - Harmonised with CEN draft standard
- Discussed requirements for audits and mass balance
 - These are not needed as part of BioGrace (as they are set in “parent scheme”)
- Made some changes to GHG calculation tool

Time schedule

- Send in BioGrace tool to EC for recognition during April
- Recognition period lasts ... ?

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Making actual calculation requires rules

- Making actual calculations under the RED/FQD requires rules
 - Which input data and standard values are allowed?
 - Cut-off criterion
 - Combination of actual and disaggregated values
- Many of these rules not yet defined
 - More detailed than methodology in RED Annex V.C
 - Some rules given in communications, several topics are not yet covered
- BioGrace will make document “calculation rules”
 - To be published as a separate document
 - To be linked to GHG Excel tool
- European Commission will be evaluating rules...
 - ... when assessing a voluntary certification scheme after a request for recognition
 - We expect some coordination of Commission

Changing starting values

- When changing a starting value into an actual value, all other starting values in that step should be changed into actual values as well.

Extraction of oil

Yield	
Crude vegetable oil	0,6125 MJ _{Oil} / MJ _{Rapeseed}
Co-product Rapeseed cake	0,3875 MJ _{Rapeseed cake} / MJ _{Rapeseed}
Energy consumption	
Electricity EU mix MV	0,0118 MJ / MJ _{Oil}
Steam (from NG boiler)	0,0557 MJ / MJ _{Oil}
NG Boiler	
CH ₄ and N ₂ O emissions from NG boiler	
Natural gas input / MJ steam	1,111 MJ / MJ _{steam}
Natural gas (4000 km, EU M	0,062 MJ / MJ _{Oil}
Electricity input / MJ steam	0,020 MJ / MJ _{steam}
Electricity EU mix MV	0,001 MJ / MJ _{Oil}
Chemicals	
n-Hexane	0,0043 MJ / MJ _{Oil}

Refining of vegetable oil

Yield	
Rapeseed oil	0,960 MJ _{Oil} / MJ _{Oil}
Energy consumption	
Electricity EU mix MV	0,0008 MJ / MJ _{Oil}
Steam (from NG boiler)	0,0115 MJ / MJ _{Oil}
NG Boiler	
CH ₄ and N ₂ O emissions from NG boiler	
Natural gas input / MJ steam	1,111 MJ / MJ _{steam}
Natural gas (4000 km, EU M	0,013 MJ / MJ _{Oil}
Electricity input / MJ steam	0,020 MJ / MJ _{steam}
Electricity EU mix MV	0,000 MJ / MJ _{Oil}
Chemicals	
Fuller's earth	0,0002 kg / MJ _{Oil}

All results in g CO _{2,eq} / MJ _{FAME}	Allocated results	Total
Cultivation e_{ec}		28,9
Cultivation of rapeseed	28,49	
Rapeseed drying	0,42	
Processing e_p		21,7
Extraction of oil	3,83	
Refining of vegetable oil	1,02	
Esterification	16,84	
Transport e_{td}		1,4
Transport of rapeseed	0,17	
Transport of FAME	0,82	
Filling station	0,44	
Land use change e_l		0,0
e _{sca} + e _{ccr} + e _{ccs}	0,0	0,0
Totals		52,0

Cut off criteria

- All emissions from processes and products used and associated with the system the economic operator has defined must be included in the GHG calculation. However, if the contribution of that input or process to the total emissions of the biofuel pathway is lower than 0.1 g CO_{2,eq}/MJ biofuel, it may be excluded.

Mass or energy threshold		
0,000005	kg/MJ	(this is equal to 0,005 g/MJ)
0,0002	MJ/MJ	(this is equal to 0,2 kJ/MJ)
10	MJ ha ⁻¹ year ⁻¹	
0,3	kg ha ⁻¹ year ⁻¹	

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Future actions

1. Update in 2011
 - RED Annex V default values might change
 - When Commission updates Annex V in 2011
 - BioGrace will update tool and will update standard values
2. Apply BioGrace approach to electricity/heat from biomass
 - Harmonise GHG calculations for bio-energy
 - Different to biofuels: sustainability not mandated by directive
3. Ensure continuation of work after March 2012

Thank you for your attention

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