

• **Policy developments on solid and gaseous biomass used in electricity, heating and cooling**

• John Neeft
• BioGrace coordinator

• John Neeft
• RVO – Netherlands Enterprise Agency
• BioGrace-II public workshop
• Vienna, June 10, 2014

Contents

1. Introduction
2. Relation to EC and work of JRC
3. Roles and responsibilities
4. Harmonisation of GHG emission calculations
5. Overview on European policy developments

Introduction

- o BioGrace is a **GHG calculation tool**
- o BioGrace-I versus BioGrace-II

BioGrace-I:

- Biofuels, *recognised scheme*
- Calculations up to liquid fuel (“Well-to-tank”)

BioGrace-II:

- Electricity, heat and cooling from solid, gaseous and liquid biomass, *under development*
- Calculations including conversion to electricity, heat and cooling

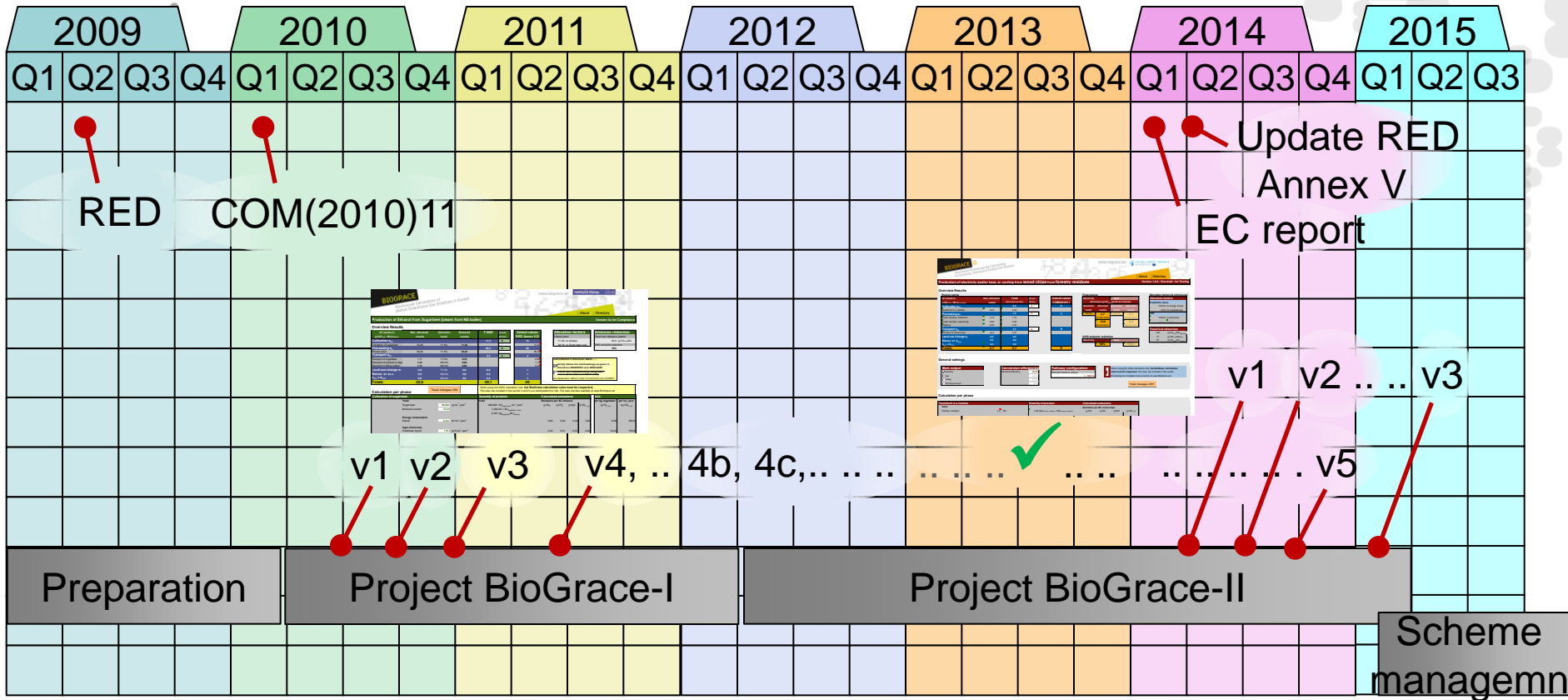


www.BioGrace.net

Introduction

- o BioGrace tools are developed from EU projects
 - Funded by Intelligent Energy for Europe
 - Two projects: 2010-2012 and 2012-2015
- o Current partners
 - RVO (formerly Agency NL), Netherlands (John Neeft, coordinator)
 - AEBIOM, Europe (Cristina Calderon and Jean-Marc Jossart)
 - BE2020, Austria (Nikolaus Ludwiczek and Dina Bacowski)
 - BIO IS, France (Grégoire Thonier and Perrine Lavelle)
 - IFEU, Germany (Susanne Köppen and Horst Fehrenbach)
 - STEM, Sweden (Alesia Israilava and Maria Forsberg)
 - VREG, Belgium (Jimmy Loodts and Veerle Buytaert)

Introduction



Introduction

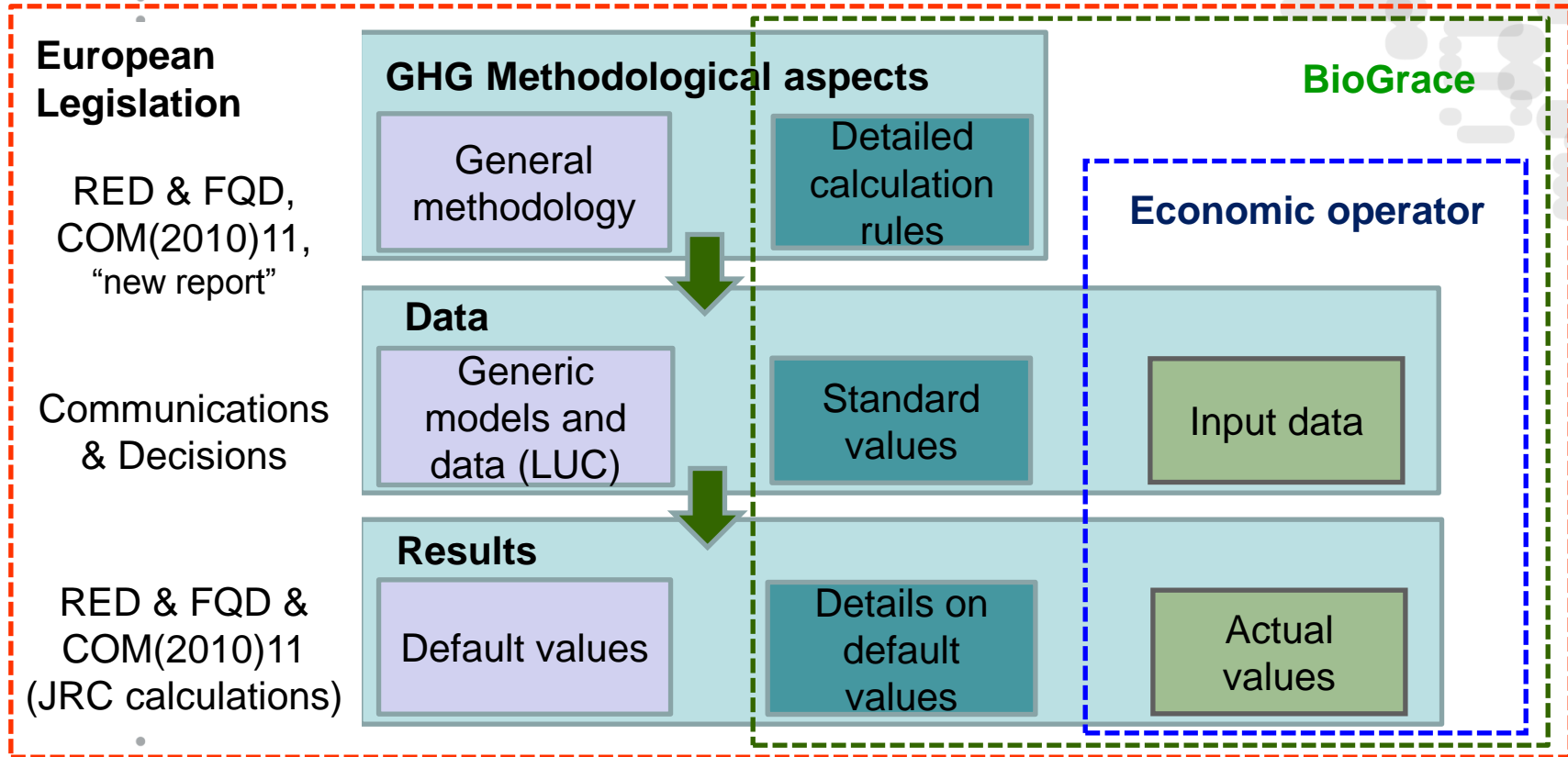
The following activities are part of the BioGrace-II project

- A. Build user-friendly GHG calculation tool
- B. Harmonisation of GHG calculations
 - Cause that calculations by two different persons (in different countries, using different tools) give the same result
 - Organises policy maker workshops
- C. Dissemination and stakeholder feedback
 - Public workshops and smaller feedback sessions
- D. Train verifiers
 - Sessions in 2013 for biofuels (completed),
and end 2014 / early 2015 for solid biomass
 - On-line instruction videos

Contents

1. Introduction
2. Relation to EC and work of JRC
3. Roles and responsibilities
4. Harmonisation of GHG emission calculations
5. Overview on European policy developments

Relation to EC and work of JRC



Relation to EC and work of JRC

- o Some current scientific discussions have not (yet) been implemented in policy
 - forest carbon stock changes (“carbon debt”)
 - indirect land use change
- o BioGrace will not include such topics in tools before policy makers have decided:
 - to include the issues into legislation
 - to amend the GHG calculation methodology
- o BioGrace will only use pathways for which default values are given in directive / report, for instance:
 - no jatropha pathway in BioGrace-I
 - no miscanthus pathway in BioGrace-II

Contents

1. Introduction
2. Relation to EC and work of JRC
3. Roles and responsibilities
4. Harmonisation of GHG emission calculations
5. Overview on European policy developments

Roles and responsibilities

- o Stakeholders (companies, NGO's, advisors, lobby groups) approach us with all kind of questions
- o BioGrace does take:
 - Question on user-friendliness of tools
 - Questions on how default values were calculated
 - Suggestions to improve the tool
- o BioGrace does not take:
 - Suggestions to include new pathways (this is for COM)
 - Requests to change methodology (for COM)
 - Suggestions to improve input data leading to default values (COM)
 - Requests to help companies make actual calculations (not our role, company might hire consultant)

Roles and responsibilities

Role / responsibility	JRC	BioGrace
Define pathways, collect data	X	
Calculate results (typical and default values)	X	
Advice European Commission on methodology	X	
Take stakeholder comments (data and methodology)	X	
Explain how typical / default values were calculated	X	X
Create and distribute standard emission factors	X	X
Create tool to facilitate making actual calculations		X
Take stakeholder comments (user-friendliness of tool)		X
Organise workshops/trainings (policy makers, verifiers, sust. schemes) aimed at harmonisation		X

Contents

1. Introduction
2. Relation to EC and work of JRC
3. Roles and responsibilities
4. Harmonisation of GHG emission calculations
5. Overview on European policy developments

Harmonisation (different tools – same result)

- o BioGrace aims to cause that different tools give the same result (when fed with same input data)
- o This requires that same methodology and standard values
 - (“standard values” are emission coefficients, LHV’s, transport efficiencies etc)
- o Initiatives to cause such harmonisation:
 - Discussions with EC, UK, Wallonia, Flanders
 - Signals to JRC/EC on where methodology is not clear
- o Should the methodology and standard values be the same in all Member States?
 - If so: how is this to be done / regulated?
 - If so: Who will be responsible for updating the methodology and standard values?

Harmonisation of GHG emission calculations

- o At the start of the BioGrace project (for biofuels), different GHG calculation tools gave different results:
 - German tool (IFEU)
<http://ifeu.de/nachhaltigkeit/pdf/THG-Rechentools-Testversionen%20Juli2011.zip>
 - Netherlands tool (Agency NL)
<http://www.agentschapnl.nl/en/programmas-regelingen/determine-biofuel-greenhouse-gas-emissions-production-transport-fuels-made-bio>
 - Spanish tool (CIEMAT)
<http://www.idae.es/index.php/relcategoria.1037/id.686/relmenu.322/mod.pags/mem.detalle>
 - UK tool (DfT / E4Tech)
<http://www.dft.gov.uk/publications/carbon-calculator>
- o BioGrace caused that these tools to give the same result, by:
 - Using the same set of standard values
 - Track down and change differences in calculations

Harmonisation of GHG emission calculations

- o Results from harmonisation (full table available at www.biograce.net):

Biofuel production pathways	Table A RED Annex V/FQD Annex IV	Diferences with BIOGRACE tool				Diferences with default value			
	Default value	The Netherlands ANL	Germany IFEU	Spain CIEMAT	UK	The Netherlands ANL	Germany IFEU	Spain CIEMAT	UK
Ethanol wheat lignite	70	0,0	0,0	-0,1	0,0	-0,2	-0,1	-0,3	-0,1
Ethanol wheat (proces fuel not specified)	70	0,0	0,0	-0,1	0,1	-0,2	-0,1	-0,3	0,0
Ethanol wheat (natural gas - steam boiler)	55	0,0	0,0	0,0	0,0	-0,4	-0,1	-0,4	-0,1
Ethanol wheat (natural gas - CHP)	44	0,0	0,2	0,0	0,0	0,1	0,5	0,1	0,3
Ethanol wheat (straw)	26	0,0	0,0	0,0	-0,6	0,0	0,1	0,0	-0,5
Ethanol corn	43	0,0	0,2	0,0	0,0	0,4	0,8	0,4	0,6
Ethanol sugarbeet	40	0,0	0,0	0,6	-0,2	0,1	0,3	0,7	0,1
Ethanol from sugarcane	24	0,0	0,0	-0,2	-0,1	0,0	0,3	-0,2	0,2
Biodiesel rape seed	52	0,0	-0,5	0,0	-0,1	-0,3	-0,5	-0,3	-0,1
Biodiesel palm oil	68	0,0	0,3	-0,1	-0,2	-2,0	1,0	-2,1	0,5
Biodiesel palm oil (methane capture)	37	0,1	0,4	-0,2	-0,1	0,0	0,5	-0,3	0,0
Biodiesel soy	58	0,1	0,0	0,1	-0,2	-1,0	-0,8	-1,0	-1,0
Biodiesel sunflower	41	0,0	-0,4	0,0	-0,1	-0,4	-0,6	-0,4	-0,3
Biodiesel UCO	14	0,0		0,0		7,3		7,3	
PVO rape seed	36	0,0	0,0	0,1	-0,1	-0,1	0,1	0,0	0,0
HVO rape seed	44	0,0		0,1	-0,1	0,2		0,3	0,4
HVO palm oil	62	0,0		0,0	-0,1	-3,1		-3,1	-0,5
HVO palm oil (methane capture)	29	0,0		0,0	-0,1	0,0		0,0	0,0
HVO sunflower	32	0,0		0,0	0,0	0,7		0,7	0,9
Biogas - dry manure	15	0,0		0,0	0,0	-2,1		-2,1	-0,8
Biogas - wet manure	16	0,0		-0,2	0,0	-1,6		-1,8	-0,3
Biogas - Municipal organic waste.	23	0,0		0,0	-0,1	-1,6		-1,6	-0,4

Corn-to-Ethanol pathway: JEC has used a different electricity mix for the credit of the NG CHP (EU electricity mix instead of electricity from a NG CCGT)

Waste-Oil-to-FAME pathway: The CO2 from natural gas combustion has been forgotten to insert into the process. In later versions JRC/LBST corrected this.

But in the version used for the RED the wrong number has been used. Therefore it is not possible to get the same number as in RED without making the same error."

Harmonisation of GHG emission calculations

In the BioGrace-II project, we intend to do the same

- UK carbon calculator
 - E4Tech makes updates
 - We have already established a good working relation
 - EC report is too late to cause harmonisation in 2014
- Wallonian and Flanders calculations on GHG emissions / fossil energy inputs
 - Updates being prepared
 - Harmonisations is being discussed (how to relate to BioGrace / which BioGrace numbers to use)

Contents

1. Introduction
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3. Roles and responsibilities
4. Harmonisation of GHG emission calculations
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Overview on European policy developments

EC has been postponing report.....

- o Formally, 2010 report (COM(2010)11) only guidance available
- o Commission decided not to come with legal proposals
(Giulio Volpi explained this in some detail in March 19 policy maker workshop:
“However, in order to promote the smooth functioning of the internal market and to minimise administrative costs for economic operators, the Commission maintains its 2010 recommendations that Member States should align as much as possible their existing and planned national sustainability schemes”)
- o Instead, Commission is preparing an update of the 2010 report
- o This update will include updated GHG default values
 - Additional pathways
 - Updated numbers
- o No iLUC and carbon debt

Overview on European policy developments

.... as a result, many (but not all!) MS are waiting.

- o Next few slides contain information from 19/3 policy maker workshop
- o Minutes from that workshop are available via BioGrace website

Some member states wait for new EC recommendation....

- o Italy (has implemented GHG threshold for incentives)
- o Poland

... while others have no current plans to introduce criteria:

- o Finland, France, Hungary, Slovakia, Spain, Sweden

Overview on European policy developments

Some member states have implemented / are implementing sustainability criteria:

- o UK: Sustainability criteria in place.
Plants with capacity above 50 kW have to report on sustainability criteria, incl. minimum 60% GHG saving
- o Belgium: LCA calculations in place, certification being prepared.
Both Flanders and Wallonia include GHG/fossil fuel input calculations when determining financial support for electricity from biomass

Overview on European policy developments

Some member states have implemented / are implementing sustainability criteria:

- o Germany: Sustainability criteria being prepared
Criteria to be implemented when Renewable Energy Act will be revised (August 2014). Same criteria as for bioliquids.
- o Netherlands: Sustainability criteria being prepared.
Criteria to be agreed upon in summer 2014.
iLUC and carbon debt must be addressed (positive/negative list)
Assessment framework to be in place end of 2014.



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Thank you for your attention

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