ISCC Technical Committee Southeast Asia
2nd meeting
Jakarta, April 23, 2014

Update EU framework conditions

Jakarta, April 23, 2014

ISCC System GmbH
Weissenburgstr. 53
D-50670 Köln
www.iscc-system.org
e-mail: info@iscc-system.org
Multiple counting has been discussed in many variations in the past year without any solution

<table>
<thead>
<tr>
<th>2009</th>
<th>10/2012</th>
<th>09/2013</th>
<th>10/2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RED (2009/28/EC)</strong></td>
<td><strong>EC Proposal</strong></td>
<td><strong>European Parliament</strong></td>
<td><strong>Lithuanian Council Presidency</strong></td>
</tr>
</tbody>
</table>
| • Double counting:  
  • wastes  
  • residues  
  • non-food cellulosic  
  • ligno-cellulosic  
  • No lists but examples:  
    • Crude glycerine,  
    • Straw  
    • Bagasse  
    • Husks  
    • Cobs  
    • Nut shells | • Quadruple counting  
  • Algae  
  • Straw  
  • Animal manure, sewage sludge  
  • POME, EFBs  
  • Tall oil pitch  
  • Crude glycerine  
  • Bagasse  
  • Grape marc, wine lees  
  • Nut shells, husks, cobs, bark  
  • ... | • Quadruple counting  
  • Algae  
  • Renewable liquids  
  • Gaseous fuels of non-bio origin  
  • CCS  
  • Bacteria  
  • Double counting  
  • UCOME  
  • TME  
  • Advanced but single counting  
  • Waste, residues, straw, husks, etc. | • No quadruple counting  
  • List of double counting material  
  • Five times counting for electric mobility |
Further Member States implemented double counting. Harmonization, practical implementation and certification guidance remain limited.
Large volumes of double counting biofuels are already on the market. They reduce markets for traditional producers.
Example: Feedstock eligible for double counting: waste and processing residues*

<table>
<thead>
<tr>
<th>Feedstock</th>
<th>UCO</th>
<th>Animal fat Cat. I</th>
<th>Animal fat Cat. II</th>
<th>Animal fat Cat. III</th>
<th>forestry residue</th>
<th>waste wood</th>
<th>brown grease</th>
<th>organic MSW</th>
<th>food waste</th>
<th>waste pressing from production of vegetable oils</th>
<th>food crops affected by fungi during storage</th>
<th>tall oil pitch</th>
<th>manure</th>
<th>crude glycerine</th>
<th>POME (sludge oil)</th>
<th>spent bleaching earth (industrial grade palm oil)</th>
<th>molasses residues</th>
<th>corn (germ) oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

*The list includes all relevant feedstock. It is largely based on the list from the “RTFO Guidance – Wastes and residues”

Remark: Changes of lists are taking place
The Renewable Energy Directive (RED; 2009/28/EC) contains important GHG requirements for biofuels and bioliquids

- GHG saving requirements:
  - Today: 35 %
  - 2017: 50 %
  - 2018: 60 % for installations in which production started from 2017 onwards

- Methodology:
  - The RED contains “default values” and “disaggregated default values” that can be used in certain cases*
  - The RED contains a calculation methodology for “actual values”

* Certain restrictions are in place for the use of the disaggregated default value for cultivation.
In addition, the FQD implements a decarbonization strategy for transport. Importance of individual GHG calculations will rise further.


**Decarbonization strategy for the transport sector**

- **European Union:**
  FQD requires a 6% GHG reduction per unit of energy from fuel supplied*

- **Germany:**
  Switch from energetic quota to GHG reduction quota already in 2015 (2015: 3%; 2017: 4.5%; 2020: 7%)
  
  ➔ The importance of the individual GHG performance of biofuels will increase tremendously and will impact prices
  
  ➔ Individual calculations and audits of individual calculations will increase
  
  ➔ Fraud potential

* Obtained through the use of biofuels, alternative fuels and reductions in flaring and venting at production sites (additional 4% by CCS, electric vehicles and CDM possible).
With the implementation of the FQD at the beginning of 2015 in Germany, the future biofuel consumption is less certain...

BioKraftQuG

- Germany implements the FQD on 01.01.2015
- Consequences: biofuel consumption highly depending on the average GHG emission savings
- There is a great uncertainty about the consequences of the implementation of the FQD starting next year
- The competent authority in Germany (BLE) will start to control GHG emission saving calculations
- German biofuel association (VDB) is lobbying for a postponement of the implementation
...and will highly depend on the average GHG emission savings of all biofuels consumed

Mio. t Biofuels*

2013  2015  2017  2020

Climate quota: 3 %  4.7  3.3  2.0  3.1
35 % GHG-savings  50 % GHG  80 %

Climate quota: 4.5 %  4.9  50 % GHG

Climate quota: 7 %  7.6  50 % GHG

80 % GHG

* Calculation based on biofuel consumption 2013
Internal Paper of the Greek EU Presidency addressing iLUC and advanced biofuels (I)

Paper of Greek Presidency

- **“Advanced biofuels**, such as those (...) (that) do not compete directly for agricultural land for the food and feed markets”
- “Member States should promote the consumption of such biofuels through setting specific **sub-targets** at national level”
- “(...) Member States shall aim to ensure that a minimum proportion of biofuels, and other fuels produced from feedstocks listed in Part A of Annex IX is placed on the market. A reference target shall be 0.5 % of the share of energy from renewable sources in all forms of transport in 2020 (...)”
“Distinction in the estimated indirect land use change emissions arise from different data inputs and key assumptions (…)”

In particular, assumptions with regards to the conversion of tropical forests (…) strongly influence the estimated indirect land use change emissions associated with biodiesel production from oil crops, and as such it is most important to ensure that such data and assumptions are reviewed in line with the latest available information on land conversion and deforestation, including capturing any progress made in these areas through ongoing international programmes.”
INRO – German Initiative for the Sustainable Supply of Raw Materials for the Industrial Use of Biomass

• INRO is promoted by the German Federal Ministry for Food and Agriculture and the German Agency of Renewable Resources (FNR)

• Aim of INRO (inter alia):
  • To reach an agreement with the industry on the voluntary certification of renewable resources
  • Definition of criteria for sustainable supply of biomass for industrial processes
  • Credible certification for the use of renewable resources in Europe and worldwide
  • Identical criteria for all sectors to avoid distortions of competition

• Participants of INRO come from certification systems, government organisations, Science and the industry

• ISCC actively participates in the INRO initiative
Green Deal – Dutch initiative to implement sustainability criteria for biobased polymer products

• Green Deal partners come from Dutch authorities and companies from the chemical industry

• Aims of Green Deal (inter alia):
  • To lower the footprint of biobased polymers
  • To make this lower footprint transparent
  • To increase of market opportunities by the introduction of certified biobased polymers
  • To develop sustainability criteria against which certification systems can be recognised

• ISCC actively participates in the Green Deal initiative
Leading companies have responded to public demand and developed company-specific sustainability requirements ...
In the food industry, Unilever’s Sustainable Living Plan is considered as a benchmark.