New Requirements for Waste and Residue Based Supply Chains under ISCC – Report from the Working Group

Dr Norbert Schmitz, ISCC System GmbH
8th ISCC Regional Stakeholder Committee North America, Las Vegas, November 19, 2019
EU Member States are responsible for the national framework for waste and residues. This results in a non-harmonized EU market

- MS decide individually **which materials are classified as waste/residues**
- **Double-counting** for waste/residue based biofuels in some MS (e.g. UK, NL)
- Germany switched from double-counting to GHG reduction quota in January 2015
- **National “double counting schemes”** in addition to voluntary schemes (e.g. Dutch Double Counting, Italian Double Counting)
- **“Positive lists”** (not necessarily harmonized)
- Certification and documentation requirements **not harmonized** + Certification for **multiple markets** necessary
Legal framework and requirements for waste and residue-based biofuels and bioliquids specified by the European Commission

<table>
<thead>
<tr>
<th>Sustainability Requirements¹</th>
<th>Greenhouse Gas (GHG) Emissions²</th>
<th>Traceability and Chain of Custody³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste and processing residues do not need to comply with sustainability requirements for cultivation of biomass</td>
<td>Zero GHG emissions at the point where the waste or residue occurs or is generated (point of origin)</td>
<td>Traceability starts at the point where the waste or residue occurs or is generated (point of origin) and covers the entire downstream supply chain</td>
</tr>
<tr>
<td>Residues directly derived from agriculture, aquaculture, fisheries and forestry (e.g. straw, bagasse) must comply with the sustainability requirements for cultivation</td>
<td>Biofuels and bioliquids produced from waste and residues must comply with the GHG reduction target laid down in the RED</td>
<td>All supply chain elements need to be audited and certified individually. Only at the point of origin group auditing approaches can be considered</td>
</tr>
</tbody>
</table>

³ Note from the EC to the voluntary schemes, 10 October 2014
The RED requirements for certification and GHG calculation of waste and residues are less complex

Simplified supply chain of agricultural products (e.g. palm)

- Farm/Plantation
- First Gathering Point
- Oil Mill / Refinery
- Biodiesel Plant
- Final Market

Certification of the entire supply chain including cultivation (sampling for farmers)
GHG emissions cover all life-cycle emissions

Simplified supply chain of waste and residues (e.g. Palm Oil Mill Effluent)

- Oil Mill (Point of Origin)
- Biodiesel Plant (Collecting Point)
- Final Market

No upstream:
- certification
- sustainability requirements for cultivation
- GHG emissions
- traceability

Sampling for points of origin possible
No GHG at point of origin. First GHG with transport
Waste, residues and advanced low carbon fuels become increasingly important. UCO is the predominant waste certified under ISCC*

* Numbers as of October 2019 (Note: Certificates covering waste/residues may cover both, waste/residue material and non-waste biomass. Figures do not represent volumes of certified material)
Annex IX of the RED includes waste and residues and defines “advanced” feedstocks and fuels

<table>
<thead>
<tr>
<th>Annex IX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part A (“Advanced”)</strong> targets: at least 0.2% in 2022, 1% in 2025 and 3.5% in 2030</td>
</tr>
<tr>
<td>- Algae if cultivated on land in ponds or photobioreactors</td>
</tr>
<tr>
<td>- Biomass fraction of mixed municipal waste but not separated household waste subject to recycling targets</td>
</tr>
<tr>
<td>- Bio-waste as defined in Article 3(4) of Directive 2008/98/EC from private households subject to separate collection</td>
</tr>
<tr>
<td>- Biomass fraction of industrial waste not fit for use in the food/feed chain, including material from retail/wholesale and the agro-food and fish and aquaculture industry, excluding feedstocks listed in part B</td>
</tr>
<tr>
<td>- Straw</td>
</tr>
<tr>
<td>- Animal manure and sewage sludge</td>
</tr>
<tr>
<td>- Palm oil mill effluent and empty palm fruit bunches</td>
</tr>
<tr>
<td>- Tall oil pitch</td>
</tr>
<tr>
<td>- Crude glycerine</td>
</tr>
<tr>
<td>- Bagasse</td>
</tr>
<tr>
<td>- Grape marc and wine lees</td>
</tr>
<tr>
<td>- Nut shells</td>
</tr>
<tr>
<td>- Husks</td>
</tr>
<tr>
<td>- Cobs cleaned of kernels of corn</td>
</tr>
<tr>
<td>- Biomass fraction of wastes and residues from forestry and forest-based industries, i.e. bark, branches, pre-commercial thinnings, leaves, needles, tree tops, saw dust, cutter shavings, black liquor, brown liquor, fibre sludge, lignin and tall oil</td>
</tr>
<tr>
<td>- Other non-food cellulosic material</td>
</tr>
<tr>
<td>- Other ligno-cellulosic material except saw logs and veneer logs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Part B (Not considered as “advanced”)</strong> capped to 1.7% but exemption possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Used Cooking Oil (UCO)</td>
</tr>
<tr>
<td>- Animal fats classified as categories 1 and 2 in accordance with Regulation (EC) No 1069/2009</td>
</tr>
</tbody>
</table>

Source: RED II (Directive 2018/2001)
Many materials from Annex IX (part A) are already covered by ISCC

<table>
<thead>
<tr>
<th>Materials Annex IX, Part A (selection)</th>
<th>No. of ISCC certificate holders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomass fraction of industrial waste not fit for use in the food or feed chain**</td>
<td>579</td>
</tr>
<tr>
<td>Palm oil mill effluent and empty palm fruit bunches</td>
<td>173</td>
</tr>
<tr>
<td>Crude glycerine</td>
<td>71</td>
</tr>
<tr>
<td>Animal manure and sewage sludge</td>
<td>61</td>
</tr>
<tr>
<td>Grape marc and wine lees</td>
<td>40</td>
</tr>
<tr>
<td>Straw</td>
<td>18</td>
</tr>
<tr>
<td>Biomass fraction of mixed municipal waste</td>
<td>21</td>
</tr>
<tr>
<td>Tall oil and tall oil pitch</td>
<td>12</td>
</tr>
<tr>
<td>Biomass fraction of wastes and residues from forestry and forest-based industries</td>
<td>17</td>
</tr>
<tr>
<td>Husks</td>
<td>6</td>
</tr>
<tr>
<td>Bagasse</td>
<td>1</td>
</tr>
<tr>
<td>Nut shells</td>
<td>1</td>
</tr>
</tbody>
</table>

** Includes e.g. FFA, food waste, grape marc, starch slurry, sugar beet residues and others

Numbers as of September 2019
ISCC steps to further strengthen the certification of waste and residue based supply chains

Working Group “waste“ + sub-group palm wastes

Additional Measures communicated

January 2019

June-October 2019

Technical Stakeholder Committee “Waste, Residues and Advance Low Carbon Fuels”

Several ISCC Stakeholder Meetings (TC Europe, CB meeting, Associations, EC, etc.)

January 2020 onwards

Additional Measures to be implemented

Outlook:
- TYC database
- Additional online training
- Review regarding recognition of other schemes for w/r
- ...

July 2018
Different market incentives for waste/residue-based biofuels exist that may trigger fraudulent behavior

- The case of Biodiesel Kampen became public in 2019:
  - Investigation by the authorities is still ongoing, no official information is available
  - ISCC has pressed for criminal charges against Biodiesel Kampen and is waiting to get access to the case files, was suspended by ISCC for 60 months following an Integrity Assessment
  - Biodiesel Kampen was declared bankrupt by a Dutch court

- ISCC has been contacted by different authorities requesting clarification on the scheme set-up
  - Having a detailed and extensive Risk Program in place, ISCC has reacted and developed further measures to strengthen the scheme
In 2018, the ISCC Technical Committee “Waste, Residues and Advanced Low Carbon Fuels” was introduced

- **Important platform for stakeholders** to engage in a dialogue to tackle challenges and opportunities
- **Objectives** of the Committee
  - Discussion of certification of waste and residue-based supply chains
  - Elaboration on advanced low carbon fuels and certification requirements
  - Ensure integrity of supply chains and the certification of feedstocks with a potentially higher risk
  - Particular focus on Europe, Asia and North America
- **Working Group**: Elaboration of **concrete and practical measures** on how to further strengthen the ISCC certification process of waste and residues
To further strengthen the system and to ensure integrity ISCC implements additional measures, developed by the **stakeholder working group**.

- More detailed verification requirements at PoO
- Mass balance verification prior to audit
- Surveillance audit must take place three and six months after initial audit.
- Generally in waste and residue based supply chains: Surveillance audit must take place after six months.
- "Whistleblower Section"
- Notifications about withdrawn certificates
- Mandatory surveillance audit
- Update of self-declarations for w/r materials
- Submitting individual GHG calculation to ISCC
- Waste specific training for auditors
- Additional measures

*Traders and collecting points dealing with both, virgin and waste material: Surveillance audit must take place three and six months after initial audit. Generally in waste and residue based supply chains: Surveillance audit must take place after six months.*
Measures to further strengthen the ISCC certification particularly for waste and residue supply chains are being implemented

- Based on the recommendations by the working group of the TC “Waste, Residues and Advanced Low Carbon Fuels”, ISCC is implementing stricter requirements:
  - Automated **notification about withdrawn certificates** and suspended operators (already in place)
  - Development of a new **whistle-blower section** on the ISCC website (already in place)
  - Update of UCO self-declaration (currently on-going)
  - **Mandatory surveillance audits** after the first certification of a new ISCC system user in a high risk (e.g. waste-based) supply chain (as of 01 January 2020)
  - Auditors shall **verify the existence of a sample of all points of origin** supplying waste/residues to a collecting point (as of 01 January 2020)
  - **Mass balances** shall be provided to the auditor to be verified prior to the audit (as of 01 January 2020)
  - **Individual GHG calculations** shall be submitted to ISCC (as of 01 January 2020)
  - **Further measures** (e.g. additional waste-specific training of auditors, re-evaluation of the acceptance of other certification schemes, update of the ISCC terms of use, pilot on database solutions) will follow soon
Identification of risks: Waste-specific (and general) risk indicators are included in ISCC System Document 204

- ISCC document 204 contains a detailed guidance to **identify and evaluate risk**

- **Typical risk factors** (not concluding):
  - **Type of point of origin** (e.g. restaurants, animal rendering plants, food processors, processors of vegetable oil, etc.)
  - **Size** of the point of origin and amount of waste/residue material generated per month: High amounts of waste/residues may indicate a higher risk
  - **Distance** between collecting point and points of origin
  - **Type of material** (e.g. UCO, animal fat, food waste, fatty acids, etc.) and **acceptance** or recognition of the material by relevant authorities (UCO is widely recognized whereas other materials may be classified differently by individual Member States)
  - Risk of **intentional production or modification** of actual (co-)products to count as waste: e.g. value of the material if sold as a product vs. value if sold as a waste or residue
  - **Declaration** or labeling of the material: official waste catalogues, waste codes, positive lists, etc.
  - Operators **handling waste and non-waste materials at the same time** (e.g. trading in UCO and crude palm oil, or UCO biodiesel and palm biodiesel)
Restaurants usually generate very low amounts of UCO per month (few hundred kilograms at the most). Intentionally generating more UCO does not make much sense for a restaurant as the restaurant would need to buy more fresh oil to be able to sell more UCO (no “business case” for the restaurant). Generally, a low risk can be assumed at restaurant level. Risk may increase for other types of point of origin depending on the amount of oil processed (e.g. producer of French fries using high amounts of fresh oil and thus generating significant amounts of UCO per month).
Risks at individual elements of the UCO-based supply chain: Collecting Point (CP)

- Buying non-sustainable oil (e.g. palm oil) and falsely declaring the oil as sustainable UCO
- This includes the mixing of non-sustainable oils into sustainable UCO and declaring the entire mix as UCO
- Operators might try to cover up non-compliant practices by:
  - Manipulating or forging documents (e.g. creating self-declarations or deliveries from non-existing restaurants, manipulating the list of suppliers, manipulating the amount stated on delivery documents, etc.)
  - Manipulating the mass balance or hiding transactions and evidence from the auditor (keeping two sets of books)
  - Becoming certified for one year only and then not become re-certified to avoid the audit of the fraudulent activities of the previous certification period
Risks at individual elements of the UCO-based supply chain: Traders

- Buying non-sustainable oil (e.g. palm oil) and falsely declaring the oil as sustainable UCO
- Buying non-sustainable biofuel and selling it as sustainable biofuel
- Redeclaration of the raw material (e.g. selling cheap palm biodiesel as UCO biodiesel)

Operators might try to cover up non-compliant practices by:

- Manipulating or forging documents (e.g. sustainability declarations, delivery notes, lists of suppliers, amounts stated on delivery documents, etc.)
- Manipulating the mass balance or hiding transactions and evidence from the auditor (keeping two sets of books)
- Becoming certified for one year only and then not become re-certified to avoid the audit of the fraudulent activities of the previous certification period
Buying non-sustainable input (e.g. palm oil) and falsely declaring the oil as sustainable UCO
Buying non-sustainable biofuel and selling it as sustainable biofuel (potentially pretending that the biofuel was produced on-site)
Redeclaration of the biodiesel raw material (e.g. selling cheap palm biodiesel as UCO biodiesel)
Operators might try to cover up non-compliant practices by:
- Manipulating or forging documents (e.g. sustainability declarations, delivery notes, lists of suppliers, amounts stated on delivery documents, etc.)
- Manipulating the mass balance or hiding transactions and evidence from the auditor (keeping two sets of books)
- Becoming certified for one year only and then not become re-certified to avoid the audit of the fraudulent activities of the previous certification period
Re-labelling or re-declaration of material

- **Re-labelling or re-declaration of material is not allowed** and is a very serious infringement of ISCC requirements (may be considered as fraudulent behavior)

- Examples of **fraudulent re-declaration** (not concluding):
  - Declaring animal fat as used cooking oil
  - Declaring crude palm oil as used cooking oil
  - Declaring crude palm oil as palm oil mill effluent

- Waste and residues must be declared according to:
  - Official waste catalogues or waste codes
  - National positive lists
  - Permits from competent authorities to prove the category of animal fat / tallow according to EU legislation
  - ISCC list of materials

- The information of the raw material at the point of origin must be forwarded through the supply chain
- On ISCC certificates materials must be stated according to the wording of the ISCC list of materials
Consequences of the risk-based approach for conducting audits

- A **consistent and reliable risk assessment** is crucial for the overall integrity of ISCC and for the claims made under ISCC.

- Auditors must be aware of potential (fraud) risks and should describe relevant risk factors in the **audit procedures**.

- Risk factors shall be **evaluated consistently** by different auditors.

- The **risk level** identified for points of origin influences the **audit of the collecting point** (or central office):
  - Points of origin with a **high risk** shall be subject to an audit to verify compliance with ISCC requirements on a sample basis.
  - The risk level is the basis to calculate the **number of sample audits** to be conducted (the higher the risk, the more sample audits to be conducted)*
  - The risk level also influences **the amount of documents to be assessed** during the audit.

- If the audit reveals that a point of origin is not compliant with ISCC requirements, the point of origin cannot supply sustainable material under ISCC and must be **excluded** from the ISCC certification.
Infringements of ISCC requirements

- Consequences of serious infringements of ISCC requirements include the **withdrawal of the ISCC certificate** and a **suspension from re-recertification** of up to 60 months.

- Examples of fraudulent behavior include (not concluding):
  - Fraudulent re-declaration of material with the intention to count as sustainable waste or residue
  - Manipulating or forging of documents (e.g. creating self-declarations for non-existing restaurants)
  - Manipulating the mass balance or hiding transactions and evidence from the auditor (keeping secret books)

- **Withdrawn certificates and suspended companies** are published on the ISCC website.

- **Process to report infringements** of ISCC requirements to ISCC is published on the ISCC website: https://www.iscc-system.org/process/how-to-submit-complaints/
Next Steps to strengthen the Certification Process for Waste & Residues Supply Chains

- **Trace Your Claim (TYC):** Database Solution to strengthen supply chain traceability piloting in Q4/2019
- **Update of Terms of Use** to include the framework and additional requirements set as a result of the working groups' outcomes as well as the extended measures of the integrity program
- Development of a specific **Waste & Residues Online Training** for auditors in addition to the Basic Training
- **Revision of the acceptance of other schemes** for the ISCC certification process for waste & residues
Many thanks for your attention!

Dr Norbert Schmitz, ISCC System GmbH
Hohenzollernring 72, 50672 Cologne, Germany
Email: schmitz@iscc-system.org