



RED II Implications and Challenges in Waste and Residue Supply Chains

Advanced Biofuels Conference 2020

Svebio – Swedish Bioenergy Association

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ISCC is a third-party certification scheme. It covers all sustainable feedstocks, i.a. agricultural biomass and biogenic wastes



ISCC is a well established and credible certification standard

**System users in
100+
countries**

**26,900+
certificates
4,000+
system users**

**32 certification bodies
500+
ISCC trained auditors**

**Training Programme
(96 Trainings so far for
auditors and system users)**

**Innovative tools and
procedures to facilitate
audits**



**Use remote sensing to
verify land use change**

**6 Voluntary
add-ons
to address specific
customer requirements**

**Stakeholder dialogue:
nearly 150 ISCC
Association members**

**Discussion platform with
4 Regional
and 3 Technical
Committees**

**Integrity Programme
2 auditors**

ISCC is the leading system for the certification of waste and residue-based supply chains

Examples

Waste and processing residues



UCO



Landfill gas



Tall oil



End-of-life tires



Municipal solid waste / mixed plastic waste



Crude glycerine

Renewable non-bio feedstocks



Power-to-Gas Power-to-Liquid



CO2

Forestry / agricultural crop residue



Forestry residue

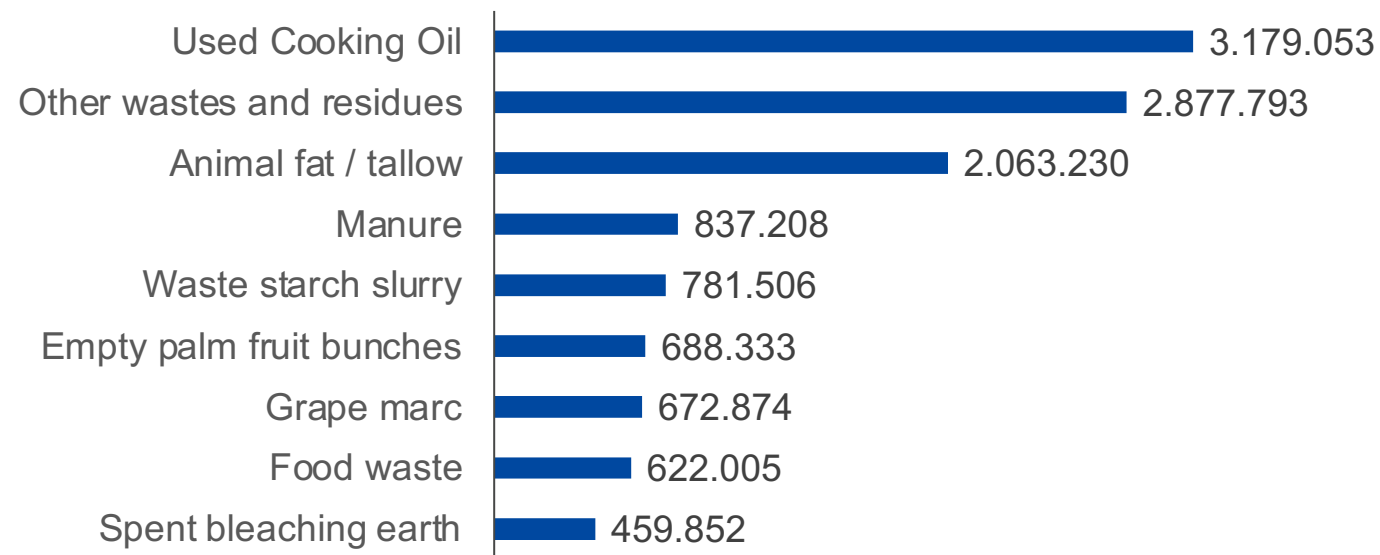


Husks

Straw

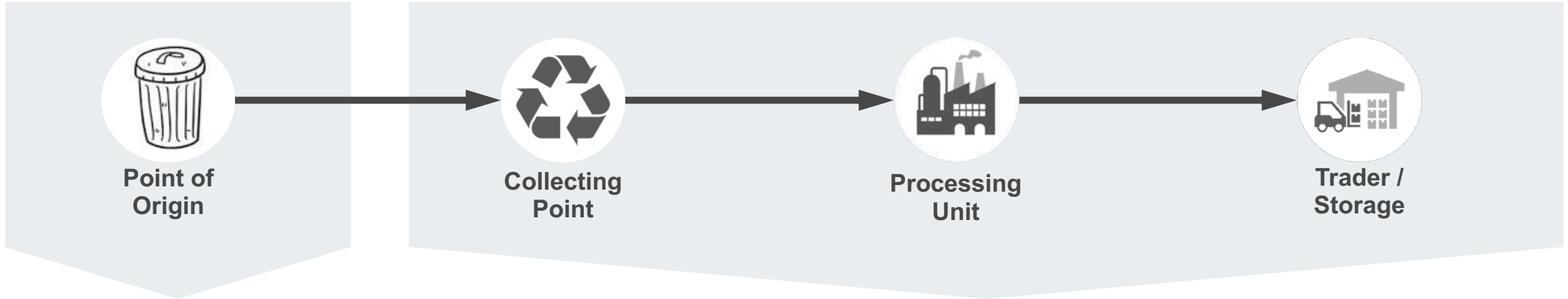


Largest amounts of ISCC certified waste and residues (in MT)



Note: Amounts in MT from EU Reporting 2019.

Potential risks at different elements of a waste and residue supply chain



Risks:

- Intentional production of waste (this includes the modification of products to count as waste)
- Risk is influenced by the price paid for the waste, the amount of waste generated, access to and price of “alternative” raw materials (e.g. fresh oil)

Risks:

- Selling non-sustainable input as certified sustainable waste or waste-based biofuel (Example: buying cheap “virgin” oil and selling it as UCO)
- Re-labelling of material (Example: re-labelling of animal fat category 3 to animal fat category 1)
- “One year companies” and “scheme hopping” with the aim to avoid verification of sustainability claims during the re-certification audit
- “Shadow accounting”
- “Virtual” biofuel production (no actual production taking place on-site)

Measures to further strengthen the ISCC certification particularly for waste and residue supply chains

Implemented

- Automated **notification about withdrawn certificates** and suspended operators
- **Whistle-blower section** on the ISCC website
- Auditors shall **verify the existence of a sample of all points of origin** supplying waste/residues to a collecting point
- **Mandatory surveillance audits** for new ISCC system users in high risk supply chains
- **Mass balances** shall be provided to the auditor to be verified prior to the audit
- **Individual GHG calculations** shall be submitted to ISCC
- New ISCC system users to submit an **excerpt from the commercial register** (indicating the company directors)
- Updated **UCO self-declaration**
- Mandatory **Waste & Residues Online Training** for auditors

In progress

- **Update of ISCC Terms of Use:**
 - Giving further rights to auditors to double-check and verify sustainability claims with (upstream) suppliers and (downstream) recipients
 - Fines for major non-compliance
 - Publishing the reason for suspensions
 - Include measures already implemented
- Promote **scheme hopping restrictions** between different schemes
- **Trace Your Claim (TYC):** Pilot project on database solution to strengthen supply chain traceability

The RED II introduces new binding renewable energy targets for the European Union, including new caps and multipliers



32%

energy from renewable sources until 2030 (EU level)



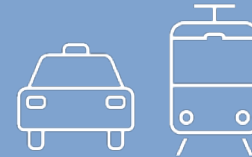
14%

blending obligation for fuel suppliers until 2030



3.5%

Share of advanced biofuels (Annex IX, part A) until 2030 (Part B capped to 1.7%)



Share of renewable electricity can count

4x for road

1.5x for rail



Aviation/ maritime: renewable fuels can count

1.2x

(excl. fuels produced from food/feed crops)

New fuel categories in the RED II will require sustainability certification – ISCC is prepared to cover these new categories

Advanced biofuels

- Annex IX of RED II (Part A)

High iLUC risk biofuels

- Produced from feedstocks with significant production expansion into areas with high carbon stock

Low iLUC risk biofuels

- Food/feed crops can continue to be used if categorised and certified as low iLUC

Renewable fuels of non-biological origin (RFNBOs)

- E.g. hydrogen
- Directly 70% GHG savings required

Recycled carbon fuels

- Fuels produced from e.g. plastics, waste processing gases, exhaust gases
- Counted only for 14% transport target (not for overall renewable energy target)

Annex IX defines advanced feedstocks and fuels. The list can be updated by the European Commission

Annex IX

Part A (“Advanced”) targets: at least 0.2% in 2022, 1% in 2025 and 3.5% in 2030

- | | |
|---|---|
| <ul style="list-style-type: none"> • Algae if cultivated on land in ponds or photobioreactors • Biomass fraction of mixed municipal waste but not separated household waste subject to recycling targets • Bio-waste as defined in Article 3(4) of Directive 2008/98/EC from private households subject to separate collection • 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 • Straw • Animal manure and sewage sludge • Palm oil mill effluent and empty palm fruit bunches • Tall oil pitch | <ul style="list-style-type: none"> • Crude glycerine • Bagasse • Grape marcs and wine lees • Nut shells • Husks • Cobs cleaned of kernels of corn • Biomass fraction of wastes and residues from forestry and forest-based industries, i.e. bark, branches, pre-commercial thinnings, leaves, needles, treetops, saw dust, cutter shavings, black liquor, brown liquor, fibre sludge, lignin and tall oil • Other non-food cellulosic material • Other ligno-cellulosic material (...) except saw logs and veneer logs |
|---|---|

Part B (Not considered as “advanced”) capped to 1.7% but exemption possible

- | | |
|--|--|
| <ul style="list-style-type: none"> • Used Cooking Oil (UCO) | <ul style="list-style-type: none"> • Animal fats classified as categories 1 and 2 in accordance with Regulation (EC) No 1069/2009 |
|--|--|

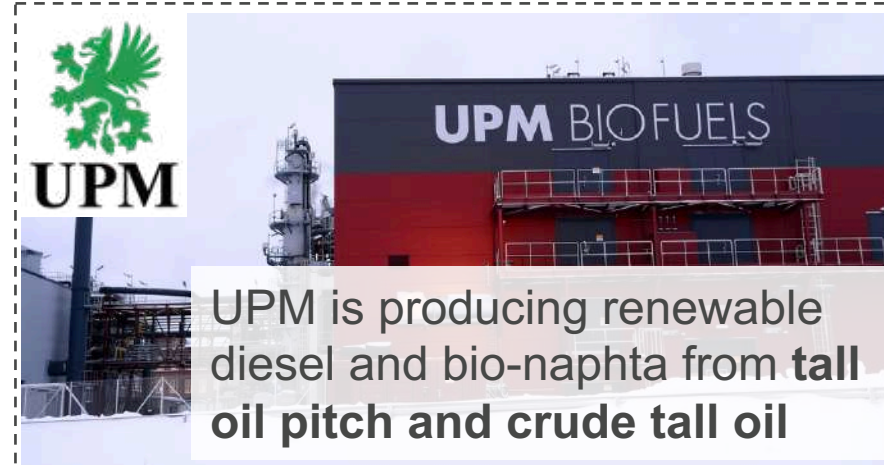
Source: RED II (Directive 2018/2001)

Many ISCC Members and System Users already use Annex IX A feedstocks to produce advanced biofuels



raizen

Raizen produces bioethanol from **bagasse**



UPM

UPM is producing renewable diesel and bio-naphta from **tall oil pitch and crude tall oil**



Logos: Argent Energy, AGRICODE™, ASB biodiesel, Oberösterreichische Biodiesel BULGARIA, ecoMotion SARIA Group, MUSIM MAS, NESTE, REG Renewable Energy Group, Universal Biofuels, wilmar

Companies producing biofuels out of **Palm Oil Mill Effluent (POME)**



Enerkem

Enerkem is producing methanol and ethanol from **municipal solid waste**



BioMCN

BioMCN is converting **waste-based biogas** into bio-methanol



Assessment of the potential for new feedstocks for the production of advanced biofuels

(Renewable Energy Directive – Annex IX)

1st Stakeholder Consultation Results
Updated Shortlist



April 2020

Update of RED Annex IX: Current study to evaluate additional advanced feedstocks

- A consortium currently assists the European Commission in the evaluation of further advanced biofuel feedstocks
- Project is divided into three tasks:
 - Establishment of a **short list of potentially advanced biofuel feedstocks for inclusion in Annex IX**
 - Detailed **assessment of each feedstock in the short list**
 - **Analysis of the risk of fraud** associated with new and existing Annex IX feedstocks, establishment of a set of **fraud risk indicators** and consideration of **options to mitigate identified fraud risks**
- Results from 1st stakeholder consultation were published in the end of July
- Second stakeholder consultation ends on 04 September 2020

Preliminary results of the study to update Annex IX: Many materials that might be added to Annex IX in the future are already certified under ISCC today

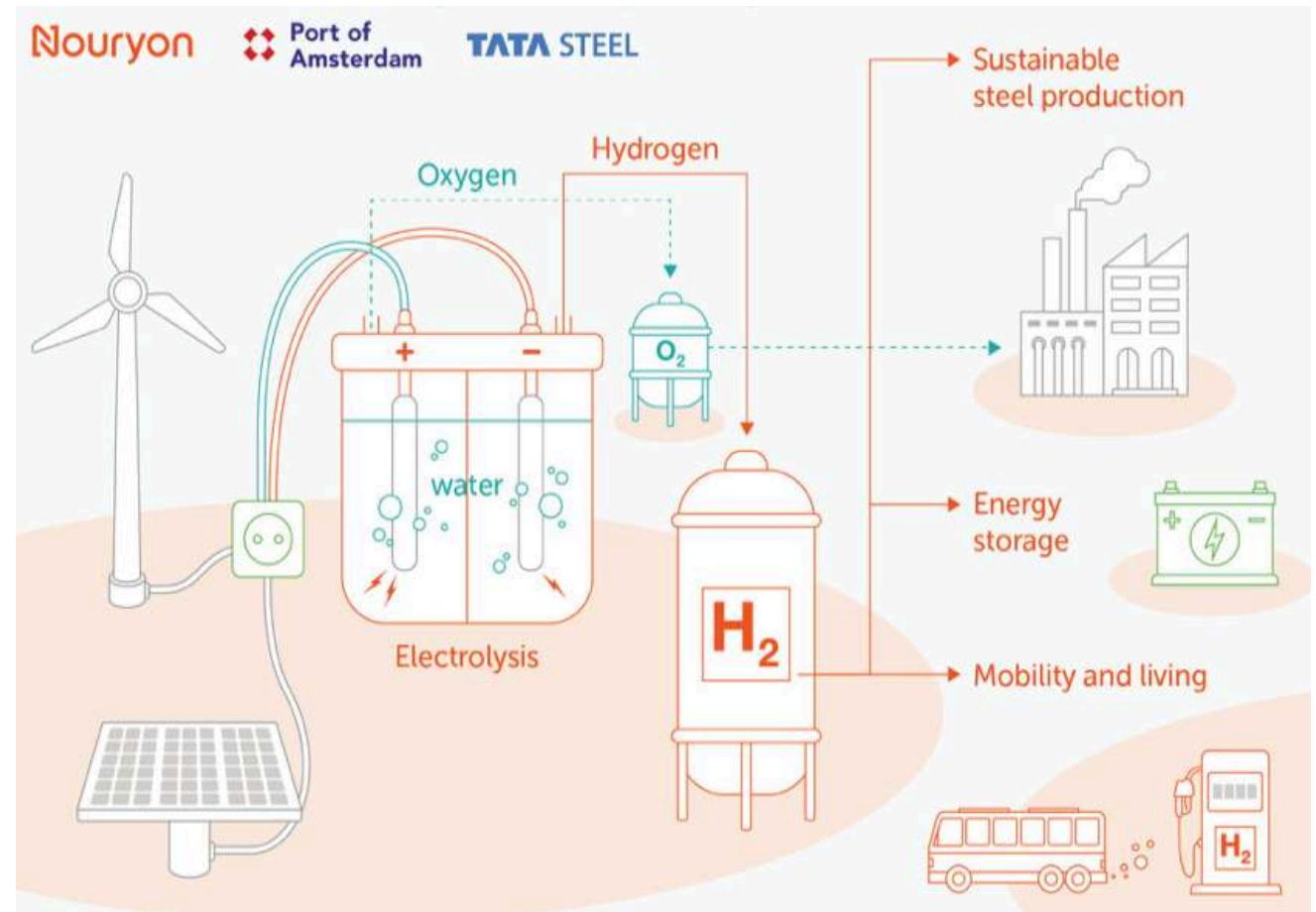
Feedstock status: „Include in short list“*

Potato/beet pulp	Damaged crops
Sugars (fructose, dextrose) refining residues	Animal residues (not fat) Cat 2
Molasses	Animal residues (not fat) Cat 3
Vinasse	Animal fats Cat 3
Spent grains	Municipal wastewater and derivatives (other than sludge)
Whey permeate	Soapstock and derivatives
Olive pomace	Brown grease
Raw methanol	Fatty acid distillates (FADs)
Oil, beans and meals derived from rotation crops	Various oils from ethanol production
Biomass from fallow land	Distillers grain and solubles (DGS)
Biomass from degraded / polluted land	Other biowaste
Mixture meadow	

“Novel Fuels” in RED II: RFNBOs are fuels that get their energy content from renewable energy sources

Renewable Liquid and Gaseous transport fuels of non-biological origin (RFNBOs):

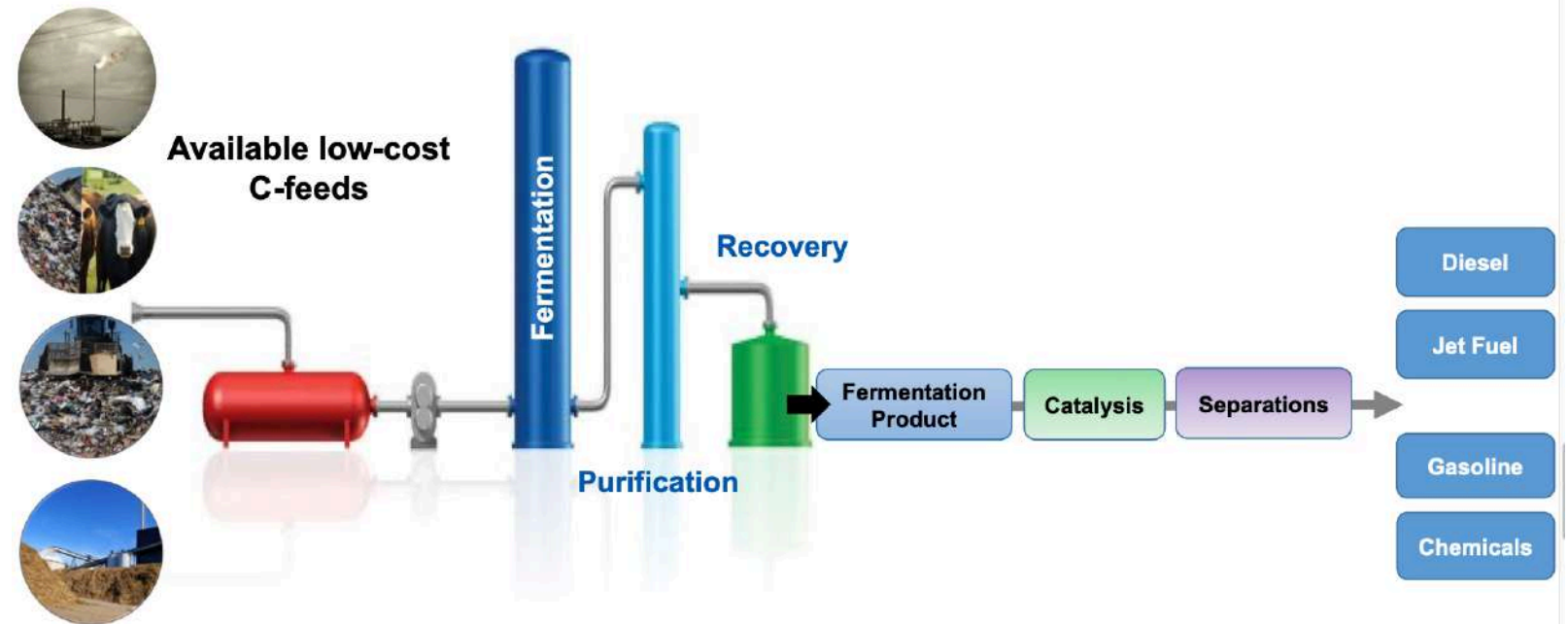
- Liquid or gaseous fuels used for transport whose energy content comes from renewable energy sources other than biomass (e.g. Power-to-X such as hydrogen made from renewable electricity)
- ISCC is currently developing a guidance document for the certification of RFNBOs
- Delegated Act from the COM is necessary to specify details regarding GHG methodology and certification



“Novel Fuels” in RED II: Recycled Carbon Fuels (RCFs) are liquid or gaseous fuels that are produced from non-renewable waste streams

Recycled Carbon Fuels (RCFs):

- Liquid or gaseous fuels that are produced from non-renewable waste streams (e.g. waste plastics, flue gas)
- Delegated Act from the Commission is necessary to specify details regarding GHG methodology and certification





Outlook on the implementation of the RED II

- Transposition of RED II is **due by 30 June 2021**
- **ISCC is currently updating its system documents** to be submitted to the EC for re-recognition
- European Commission (EC) has
 - **yet to adopt several delegated acts** (e.g. renewable fuels of non-biological origin, recycled carbon fuels, co-processing, review of Annex IX, solid biomass)
 - as well as **implementing acts** specifying further rules for VS (EC “intends to adopt such implementing acts well before 30 June 2021”)

Become a member of the ISCC association!



As of 28 August 2020