EASA
European Union Aviation Safety Agency

CORSIA Eligible Fuels: Feedstock categories and steps for including new feedstocks

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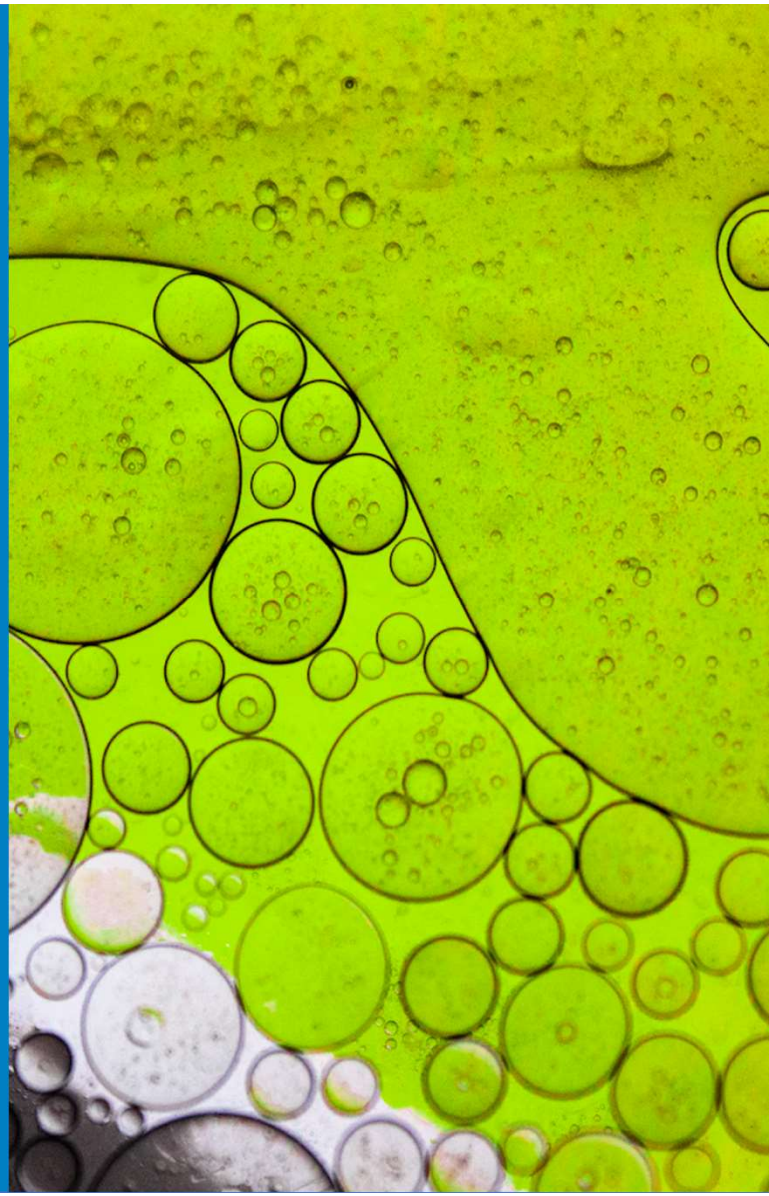
Sustainable Aviation Officer



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Agenda

1. What are the CORSIA Eligible Fuels
2. Types of Eligible Feedstock
3. How can new feedstock be included

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Feedstocks for CORSIA Eligible Fuels

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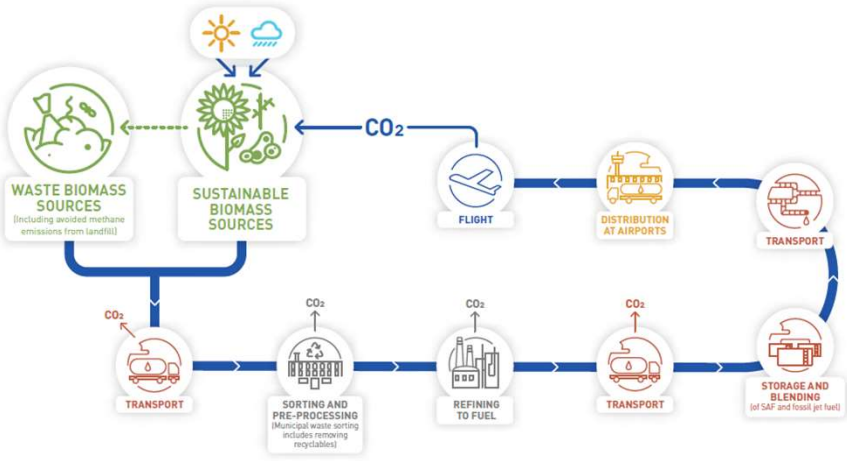
CORSIA Annex 16, Volume IV

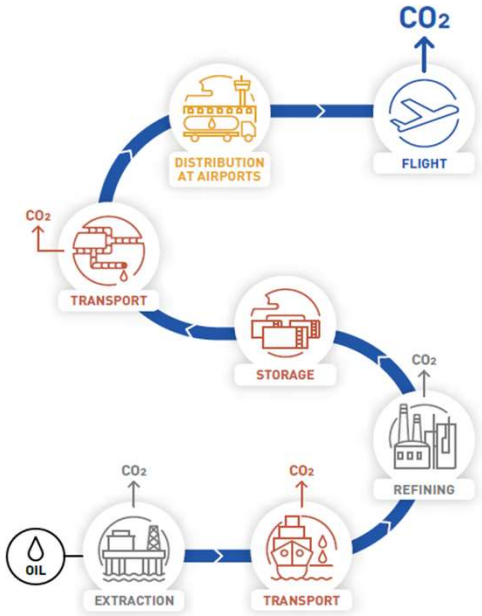
CORSIA sustainable aviation fuel

CORSIA sustainable aviation fuel. A renewable or waste-derived aviation fuel that meets the CORSIA Sustainability Criterias.



CORSIA lower carbon aviation fuel

CORSIA lower carbon aviation fuel. A fossil-based aviation fuel that meets the CORSIA Sustainability Criteria under Volume IV, Annex 16.



- Energy conservation measures (energy efficient design of plans, increased production efficiencies, improved efficiency monitoring)
- Process gas management (flaring management, venting control, fugitive emissions detection)
- Use of renewable/low carbon electricity, gas and hydrogen.
- Use of carbon capture and storage (CCS)

>10% reduction in lifecycle emissions compared to the aviation fuel baseline

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Feedstocks for CORSIA Eligible Fuels

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CORSIA Eligible Fuel - Reference Documentation

Five ICAO documents comprise the CORSIA Implementation Element for CEF, and they define the procedures and requirements needed for CEF consideration under CORSIA:

1 CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes

2 CORSIA Approved Sustainability Certification Schemes

3 Sustainability Criteria for CORSIA Eligible Fuels

4 Default Life Cycle Emissions Values for CORSIA Eligible Fuels

5 CORSIA Methodology for Calculating Actual Life Cycle Emissions Values

CORSIA Eligible Fuels (icao.int)

Feedstocks for CORSIA Eligible Fuels

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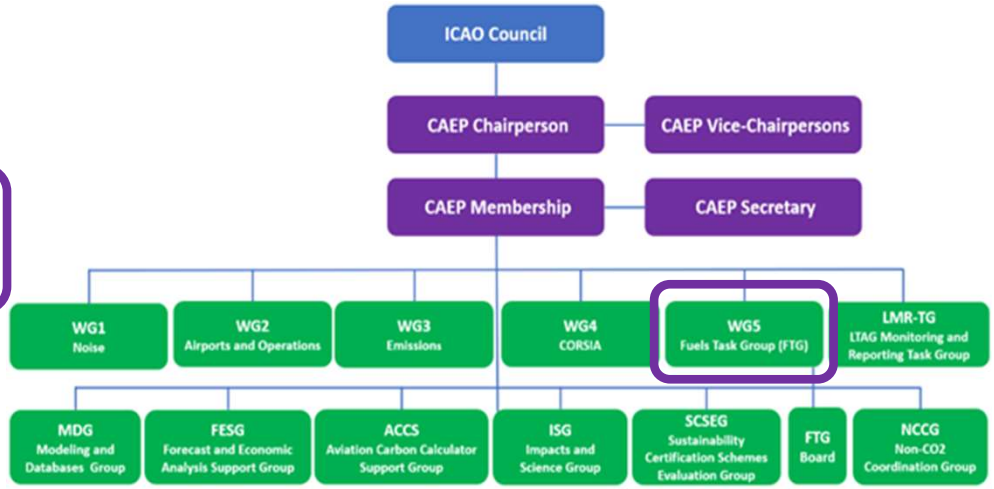
WG5 – CORSIA Eligible Fuels

1. Maintenance of the Five ICAO documents comprise the CORSIA Implementation Element for CEF, including methodological updates

2. Introduction of new feedstocks to produce CEF into the CORSIA Framework

3. Lifecycle Assessment of CEF in the CORSIA Framework

4. Technoeconomic assessment of the evolution of the SAF update at international level (production capacity, rules of thumb, SAF policy guidance..)



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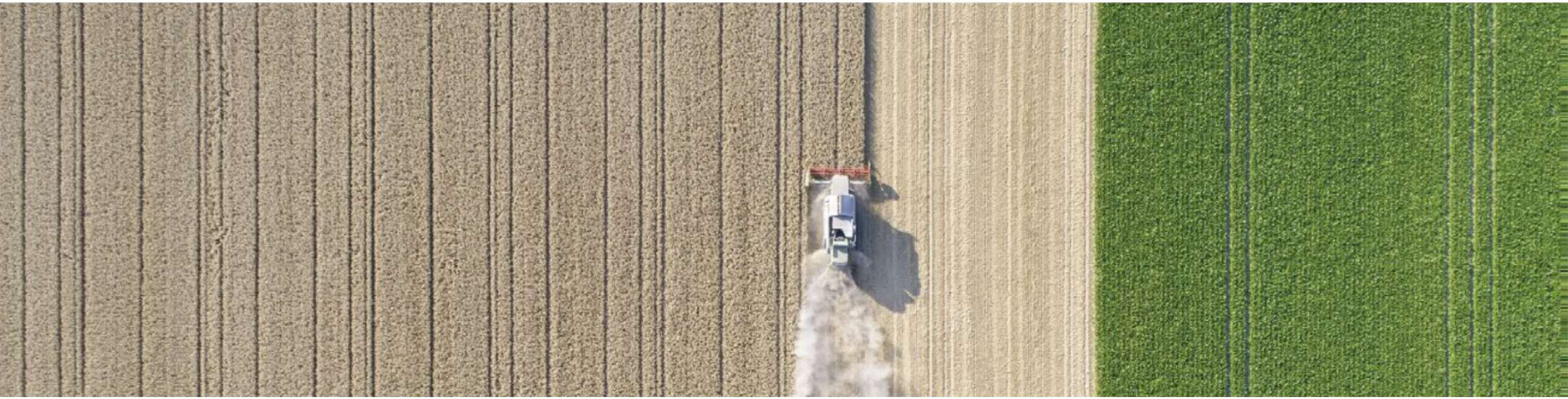

Feedstocks for CORSIA Eligible Fuels

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Sustainable Aviation Fuels

SAFs can be produced from multiple and diverse sources of feedstock.

→ This is crucial to develop regional value chains and promote the uptake of SAF

→ It's an opportunity to valorize the feedstocks that are abundant in a region

→ An economic opportunity for using secondary materials that until now had little economic value

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Feedstocks for CORSIA Eligible Fuels

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CORSIA Eligible Fuel

1. Residues
2. Waste
3. By-products
4. Co-products
5. Main products




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Feedstocks for CORSIA Eligible Fuels

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CORSIA Eligible Fuel

1. Residues
2. Waste
3. By-products
4. Co-products
5. Main products

Primary and co-products are the main products of a production process.

✅ significant economic value

✅ elastic supply

(i.e., there is evidence that there is a causal link between feedstock prices and the quantity of feedstock being produced)

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CORSIA Eligible Fuel

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CORSIA Eligible Fuel

Main Products (2026)	
Poplar	Sugar Beet
Miscanthus	Molasses
Switchgrass	
Soybean Oil	
Rapeseed Oil	
Palm Oil	
Brassica Carinata Oil	
Camelina Oil	
Jatropha Oil	
Sugarcane	
Corn Grain	

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CORSIA Eligible Fuel

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Why the type of feedstock is important

The amount of emissions reductions generated by the use of CEF depends on its **life cycle emissions value (LSf).**

LSf = actual core LCA value + ILUC - emission credits

Table 2. CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels produced with the Hydroprocessed Esters and Fatty Acids (HEFA) Fuel Conversion Process

Region	Fuel Feedstock	Pathway Specifications	Core LCA Value	ILUC LCA Value	LS_f (gCO_2e/MJ)
Global	Tallow		22.5		22.5
Global	Used cooking oil		13.9		13.9

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Source: CORSIA Methodology for Calculating Actual Life Cycle Emissions Values

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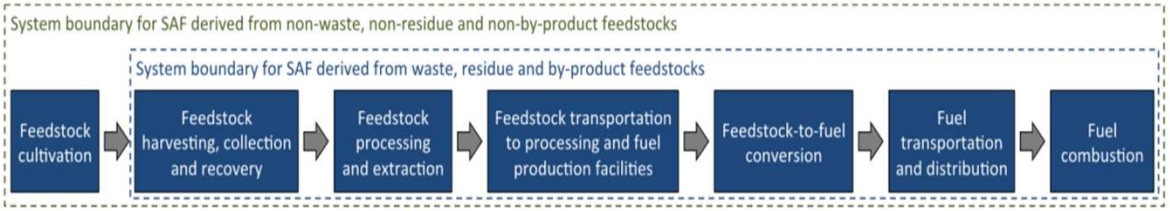
CORSIA Eligible Fuel

1. Residues	core LCA
2. Waste	core LCA
3. By-products	core LCA
4. Co-products	core LCA
5. Main products	core LCA

LSf = **Core LCA value** + ILUC - emission credits

The system boundary of the core LCA value calculation will include the full supply chain of CEF production and use.



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Source: CORSIA Methodology for Calculating Actual Life Cycle Emissions Values

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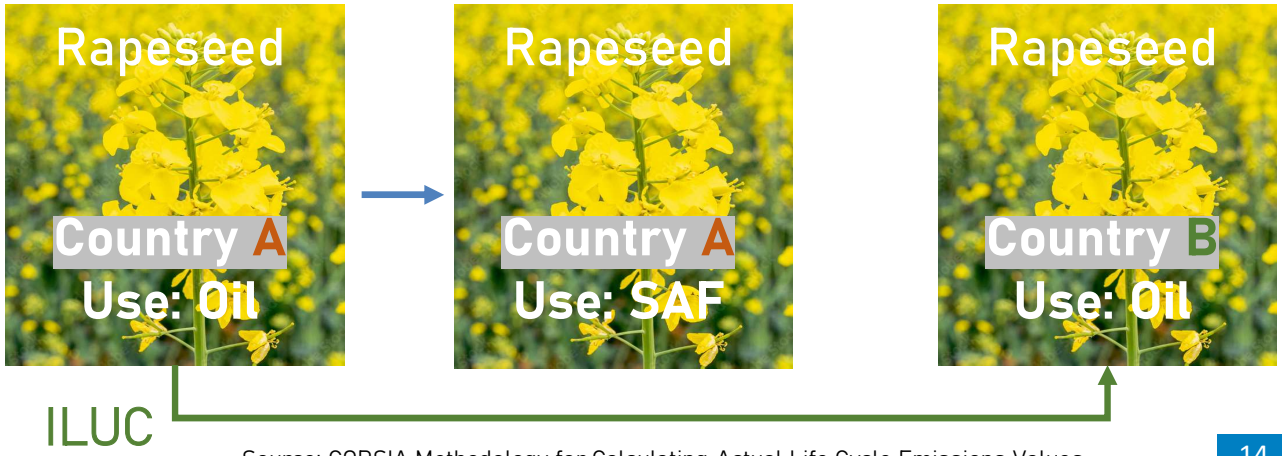
CORSIA Eligible Fuel

1. Residues
2. Waste
3. By-products
4. Co-products **ILUC**
5. Main products **ILUC**

LSf = actual core LCA value + **ILUC** - emission credits

CORSIA Eligible Fuel production may require some additional land to be used, and generate land use change GHG emissions in other locations due to the displacement of crops or animals.



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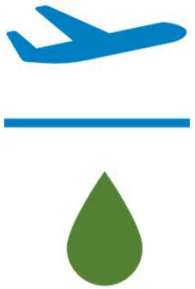
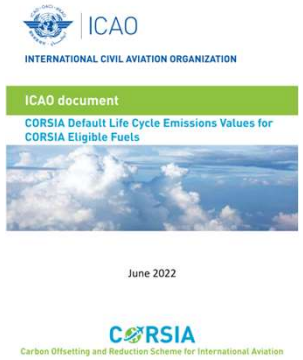
CORSIA Eligible Fuel





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Global	Tallow		22.5		22.5
Global	Used cooking oil		13.9		13.9
Global	Palm fatty acid distillate		20.7	0.0	20.7
Global	Corn oil	Oil from dry mill ethanol plant	17.2		17.2
USA	Soybean oil		40.4	24.5	64.9
Brazil	Soybean oil		40.4	27.0	67.4
Global	Soybean oil		40.4	25.8	66.2
EU	Rapeseed oil		47.4	24.1	71.5

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Webinar: Feedstocks for CORSIA Eligible Fuels

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CORSIA Eligible Fuel (Recent examples WG5)

Sewage Sludge

Residues (ILUC=0)

Coconut Peelings (Testa)

Residues (ILUC=0)

Corn grain (Brazil)

Product (ILUC=9.1 gCO_2e/MJ)

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Feedstocks for CORSIA Eligible Fuels

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CORSIA Eligible Fuel

In general, as the Default Life Cycle Emissions values reflect:

→ **The CEF that uses as a feedstock residues/wastes/by-products have better Life Cycle Emissions [LSf]**

→ The CORSIA scheme, incentivizes the use of these CEFs by allowing them to reduce the Offsetting Requirements

→ The classification of specific feedstocks is subject to later revisions as part of the regular CORSIA review process

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Feedstocks for CORSIA Eligible Fuels

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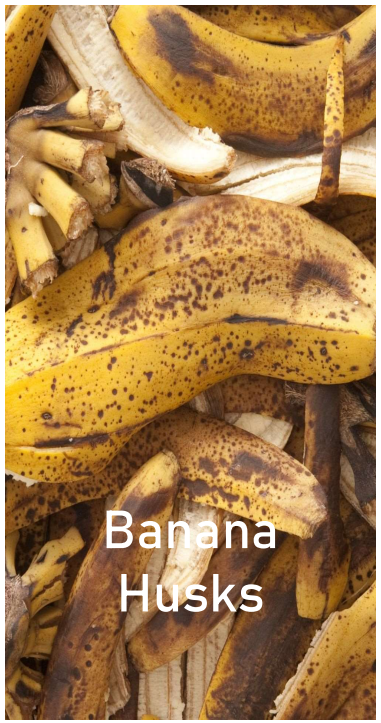
Benefits



Benefits of having feedstocks added to the different categories of feedstock for the CORSIA Eligible Fuels:

(1) It can be a source of socio-economic development, mainly for the primary sector

(2) It is a clear form of application of the principles of circular economy – mainly when the feedstock is a residue/waste/by-product -.

(3) Promoting regional feedstocks allows for the viability of sustainable, regional supply chains for SAF.

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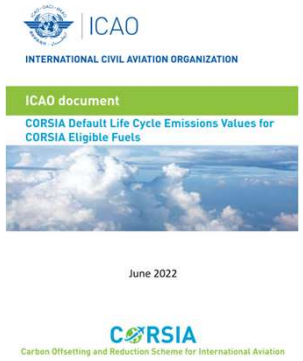
Step 1

How to add a new feedstock into the CORSIA framework

Verify that the identified feedstock is truly out of the CORSIA eligible feedstock lists



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Step 2

How to add a new feedstock into the CORSIA framework

Engage with the ICAO Secretariat, and ultimately the WG5

The WG5 has a dedicated group of experts to assess new feedstock classifications

(AHG Feedstock)

→ Data will be requested, to inform the experts on the characteristics of the feedstock

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Feedstocks for CORSIA Eligible Fuels

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Step 3

How to add a new feedstock into the CORSIA framework

(AHG Feedstock)

[WG5] Determine which type of feedstock category the proposal will fall into:

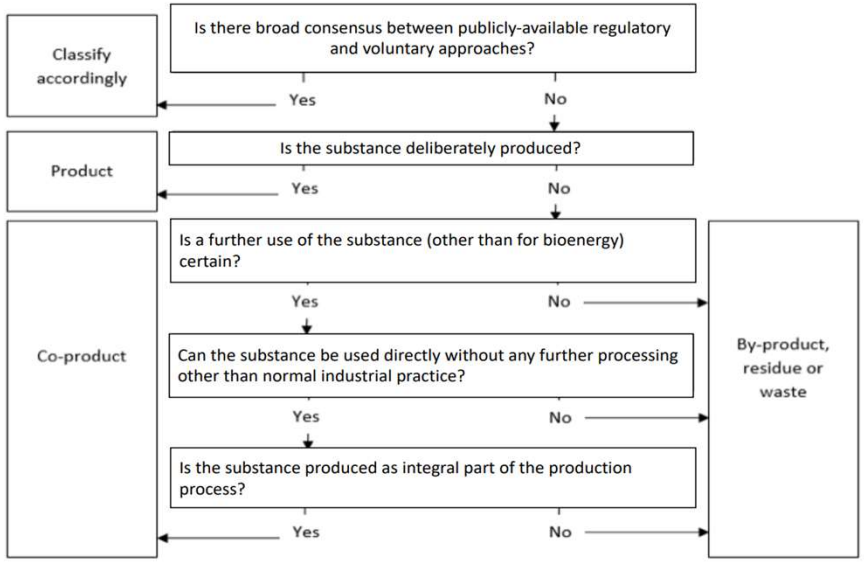

Figure 1. Guidance for inclusion of additional materials in positive list

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Conclusions

(1) The operator reporting the use of CORSIA Eligible Fuels **will be able to reduce its CO2 Offsetting Requirements** under CORSIA.

(2) There **is five categories of feedstocks under the CORSIA Eligible Fuels**, depending on its characteristics, price elasticity and economic value: (i) Residues (ii) Wastes (iii) By-products (iv) Co-products and (v) Main products.

(3) **New feedstock can always be included in the CORSIA documentation**, that is an opportunity for unexplored feedstock that can have potential for Sustainable Aviation Fuel production.