# CORSIA AT A GLANCE SERIES

## CORSIA ELIGIBLE FUELS

An aeroplane operator can reduce its CORSIA offsetting requirements in a given year by claiming **emissions reductions from the use of CORSIA eligible fuels (CEF)** by the following process:

CEF YEAR 20XX

Final $CO_2$ Offsetting Requirement Year 20XX

*See leaflet ❺*

**1** The operator obtains the **life cycle emissions value ($LS_f$) of the CEF**. This is determined during the CEF sustainability certification process (*see back*).

**2** The operator calculates the **CEF emissions reductions ($ER_y$)** as follows:

*Fuel Conversion Factor, fixed value,*
*3.16 for Jet-A/ Jet-A1 or 3.10 for AvGas/ Jet B*
*[kg $CO_2$/kg fuel]*

$$ER_y = FCF \times \left[ \sum_f MS_{f,y} \times \left( 1 - \frac{LS_f}{LC} \right) \right]$$

*Total mass of CEF claimed*
*in the year y, by fuel type f [tonnes]*

*Baseline life cycle emissions,*
*fixed value, 89 for jet fuel or*
*95 for AvGas [$gCO_{2e}$/MJ]*

Example: If, in 2021, an operator uses 10,000 tonnes of Jet-A fuel produced from Used Cooking Oil (default **LSf=13.9 gCO2e/MJ\***), the amount of emissions reductions will be:

$$ER_{2021} = 3.16 \times \left[ 10,000 \times \left( 1 - \frac{13.9}{89} \right) \right] = \textbf{26,665 tonnes of } CO_2$$
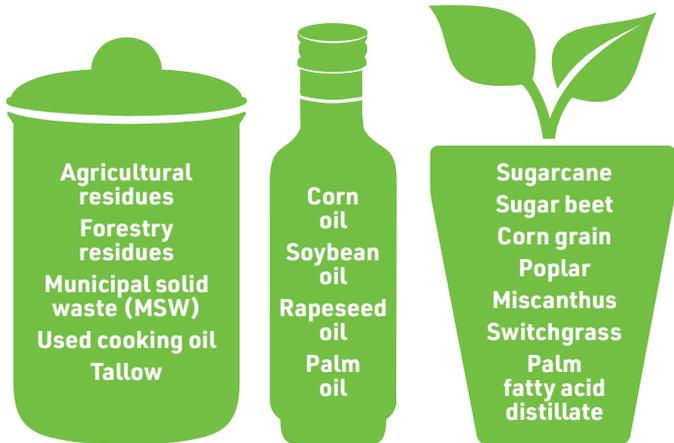
**3** The operator includes information on CEF in its Emissions Report, including:
- **CEF emissions reductions ($ER_y$) claimed**
- Fuel type, mass, and **life cycle emissions value ($LS_f$)**
- Evidence of compliance with CORSIA sustainability criteria (*see back*)

**4** A verification body verifies information on CEF provided in the Emissions Report. (*see leaflet ❽* )

**5** The State collects and aggregates verified information on CEFs from all aeroplane operators attributed to it, and reports aggregated information to ICAO through the CORSIA Central Registry (CCR). (*see leaflet ❻* )

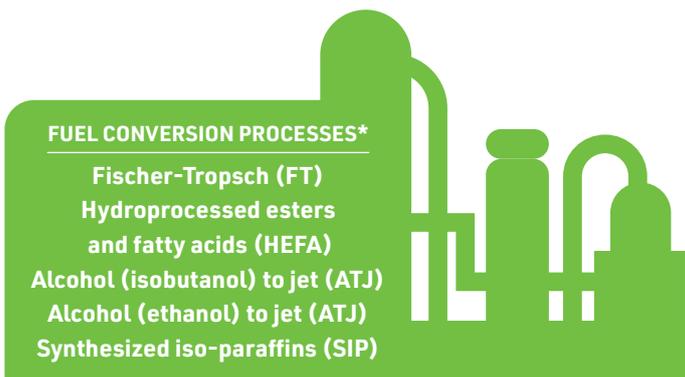\* Default value pending approval by the ICAO Council.

# How does a fuel become a CORSIA Eligible Fuel (CEF)?

Several feedstocks and fuel conversion processes have the potential to produce CEF. A specific CEF sustainability certification process should be followed to determine if the fuel meets the CORSIA requirements.

## FEEDSTOCKS

**Agricultural residues**
**Forestry residues**
**Municipal solid waste (MSW)**
**Used cooking oil**
**Tallow**

**Corn oil**
**Soybean oil**
**Rapeseed oil**
**Palm oil**

**Sugarcane**
**Sugar beet**
**Corn grain**
**Poplar**
**Miscanthus**
**Switchgrass**
**Palm fatty acid distillate**

More feedstocks and fuel conversion processes may become available to Fuel Producers as the CEF industry evolves.

## FUEL CONVERSION

**FUEL CONVERSION PROCESSES***
**Fischer-Tropsch (FT)**
**Hydroprocessed esters and fatty acids (HEFA)**
**Alcohol (isobutanol) to jet (ATJ)**
**Alcohol (ethanol) to jet (ATJ)**
**Synthesized iso-paraffins (SIP)**

*Reference: ASTM 7566 and ASTM 1655 – ensures the technical specifications of the fuel

### CORSIA IMPLEMENTATION ELEMENT FOR CEF

**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**

## CERTIFICATION

**FP**
Fuel producer

**SCS**
Sustainability Certification Scheme

### SUSTAINABILITY CERTIFICATION SCHEMES

**Sustainability Certification Schemes (SCS)** approved by the Council **1**, **2** , will work with the fuel producers to perform the fuel certification with the CORSIA Sustainability Criteria **3**.

## CORSIA ELIGIBLE FUEL

$LS_f$

$LS_f$

$LS_f$

### Life Cycle Emission Value ($LS_f$)

The amount of emissions reductions generated by the use of CEF depends on its **life cycle emissions value ($LS_f$)**. There are two ways of obtaining this value:
Using a **default** value **4** or
Calculating an **actual** value **5**.