

Certification as a Crucial Element for Sustainable Marine Fuels

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Many markets define sustainability criteria for alternative fuels. Certification often plays a key role in showing compliance

Examples

In regulated markets ...

EU RED II



FuelEU
Maritime



EU ETS



- The **EU RED II** defines sustainability criteria and minimum GHG savings for renewable fuels brought to the EU market. Fuels used in the maritime sector can “opt in”
- **EU-recognized certification schemes**, such as ISCC EU, must be used to prove compliance with RED II requirements
- EU regulations, such as **FuelEU Maritime**, will at least partly be based on the RED II framework
- In the future, certified marine fuels may be used in the **EU Emissions Trading System**

In voluntary markets ...



SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

- The **Science-based targets initiative** (SBTi) provides target setting methods and guidance to companies to set science-based targets in line with the latest climate science, with more than 3,000 companies having set a science-based target so far
- “*The SBTi recommends that **companies using or producing biofuel(s) for transport should support their bioenergy GHG accounting with recognized biofuel certification***” *
- **ISCC certification already explicitly recognized** for sustainable aviation fuels (SAF)**

Sustainable Marine Fuel must live up to its name. Certification ensures key sustainability parameters are met

ISCC Certification ensures



Sustainability in feedstock production











Traceability of sustainable materials through the supply chain

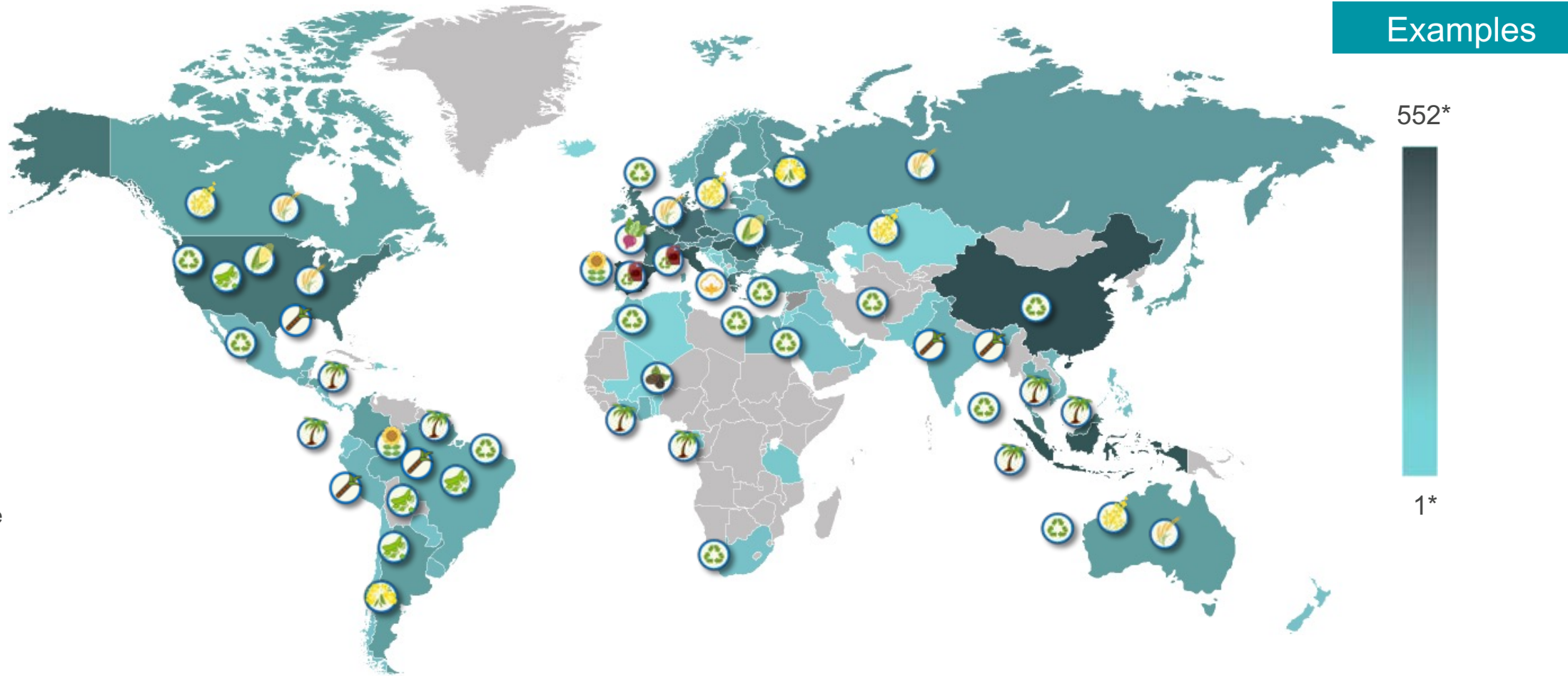


Verified reduction of life cycle emissions

Globally-spanning supply chains need global certification solutions.

Today, almost 6,000 companies in over 100 countries are ISCC certified

-  Camelina
-  Canola
-  Corn
-  Cotton
-  Grains
-  Palm oil
-  Soy
-  Shea
-  Sugarbeet
-  Sugarcane
-  Sunflower
-  Waste
-  Mixed plastic waste



*Colour shade representing number of certified economic operators

Under ISCC, a wide range of different raw materials as well as the resulting fuels can be (and are!) certified

Examples



Corn



Canola

Bio



Sugarcane



Cotton



Tall Oil



UCO

Bio-circular



Forestry residues



Straw



Mixed Plastic Waste



End-of-life tires

Circular (technical)



Waste textiles



CO₂ (post-industrial)



Power-to-Gas

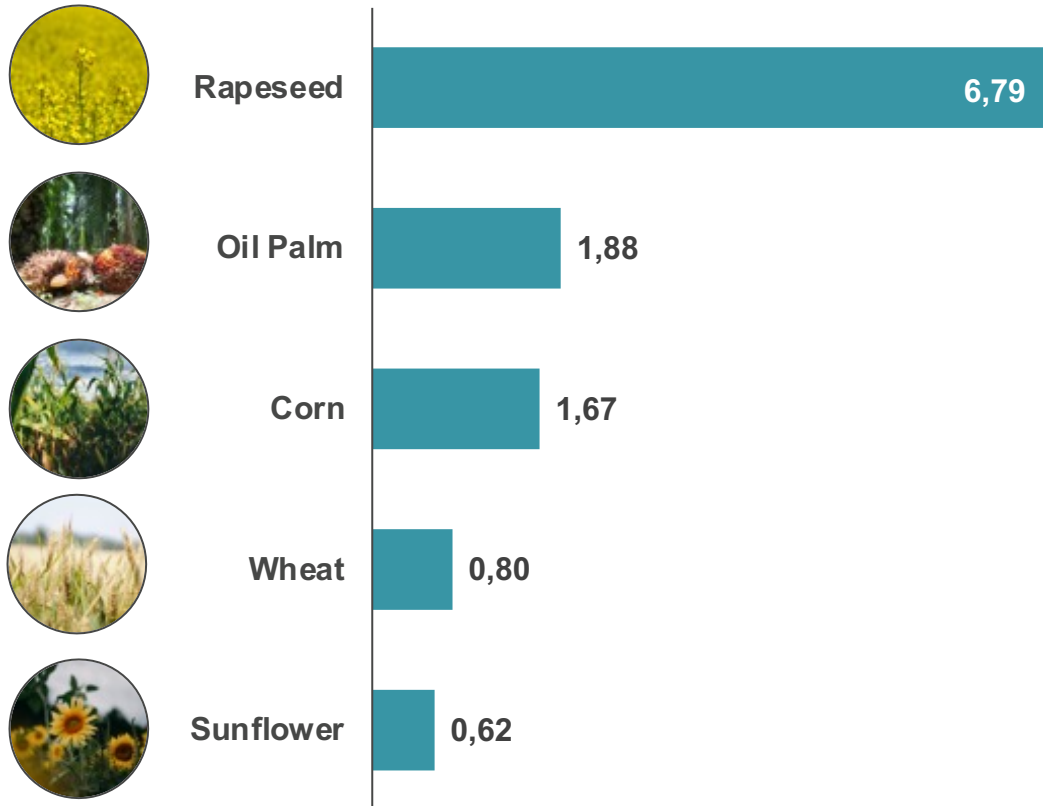
Renewable



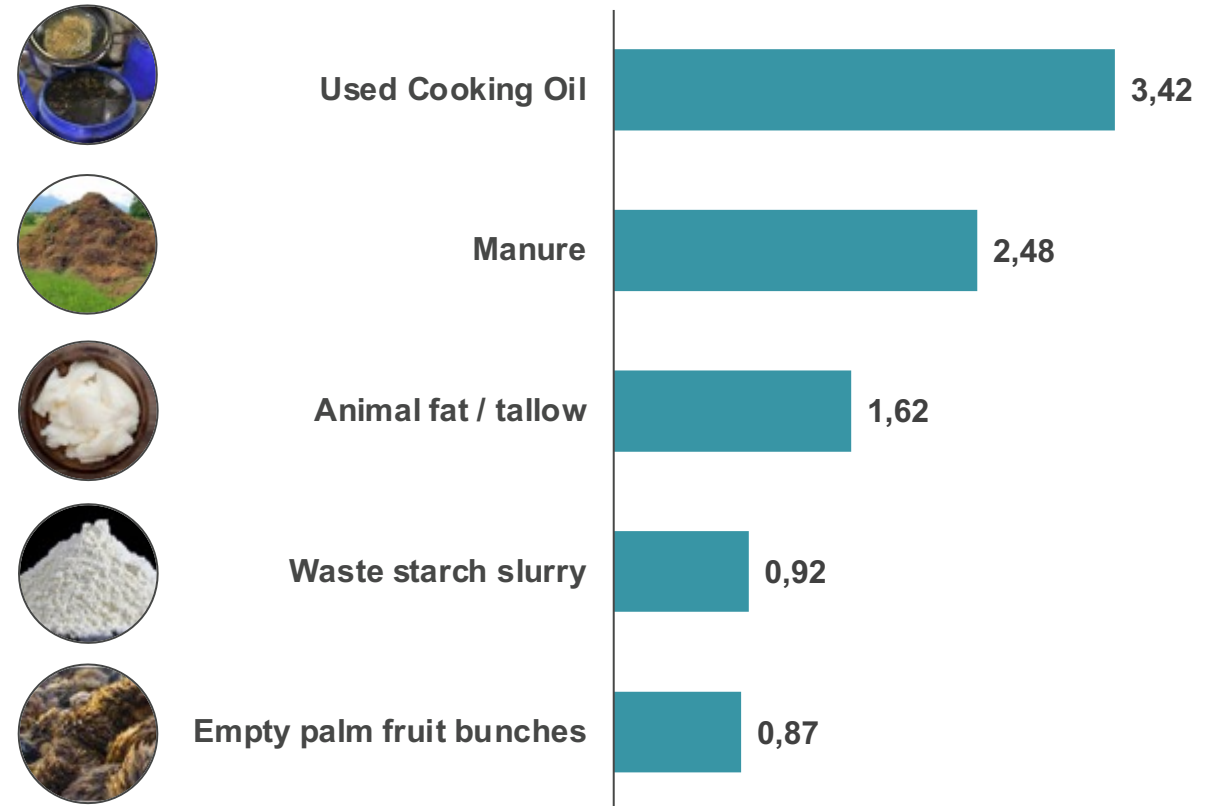
Power-to-Liquid

In 2021, more than 88 million metric tons of raw material were ISCC certified, including more than 16 million metric tons of waste and residues

Crops – Certified Cultivation Area (in million hectare)



Waste and Residues (amount in million MT)*



Under ISCC, sustainability in biomass production is ensured through the application of the six ISCC Principles



Principle 1: Protection of biodiverse and carbon rich areas



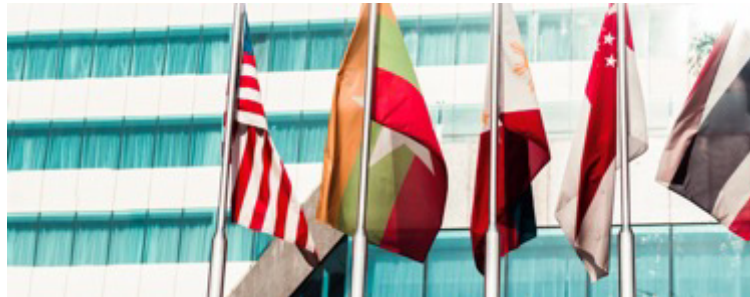
Principle 2: Good Agricultural Practice



Principle 3: Safe Working Conditions



Principle 4: Compliance with Human, Labour and Land rights



Principle 5: Compliance with Laws and International Treaties

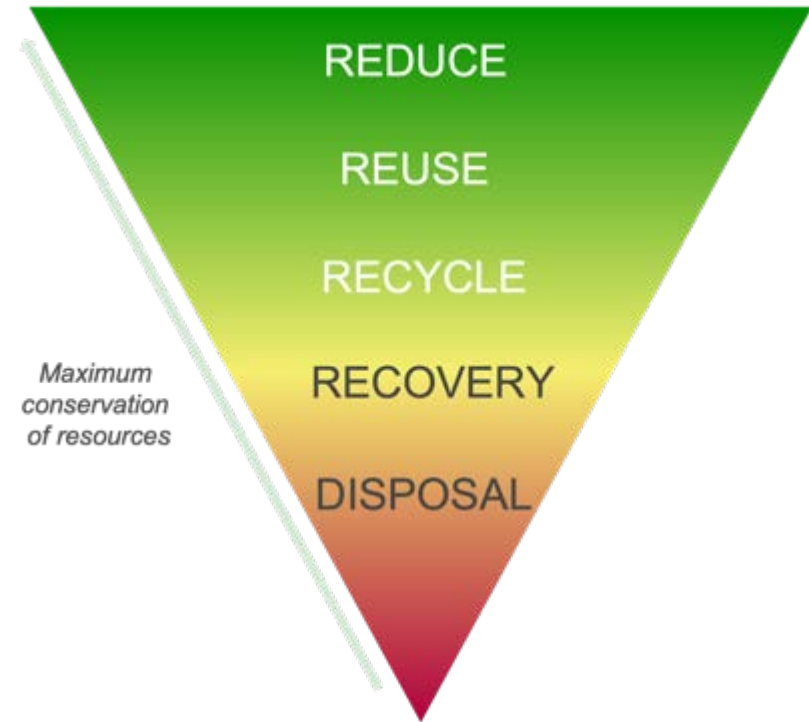


Principle 6: Good Management Practices and Continuous Improvement

Waste and residues must be ***genuine*** waste and residues

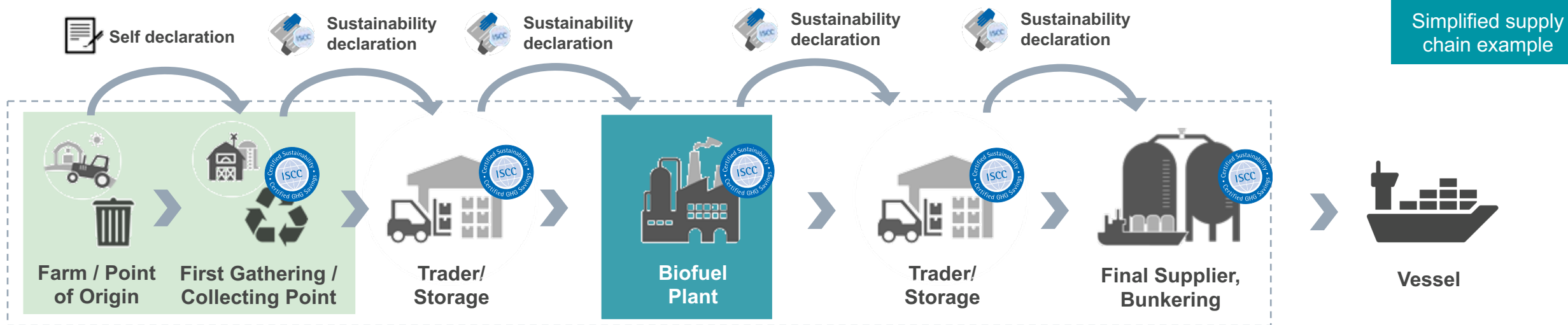


The use of waste and residues must follow the **waste hierarchy**



Source: Own depiction referring to waste hierarchy according to Article 4 Waste Framework Directive

Traceability of sustainable materials as well as accounting of full life cycle emissions of the fuel must be guaranteed



Feedstock production & collection

- Emissions from **feedstock cultivation**
- Emissions from **land use change**
- Emissions savings from **soil carbon accumulation**
- Emissions from **upstream transport** (from collection)

Processing & transport

- Emissions from **processing**
- Emissions from **upstream/downstream transport & distribution**
- Emissions savings from **CCR***
- Emissions savings from **CCS****

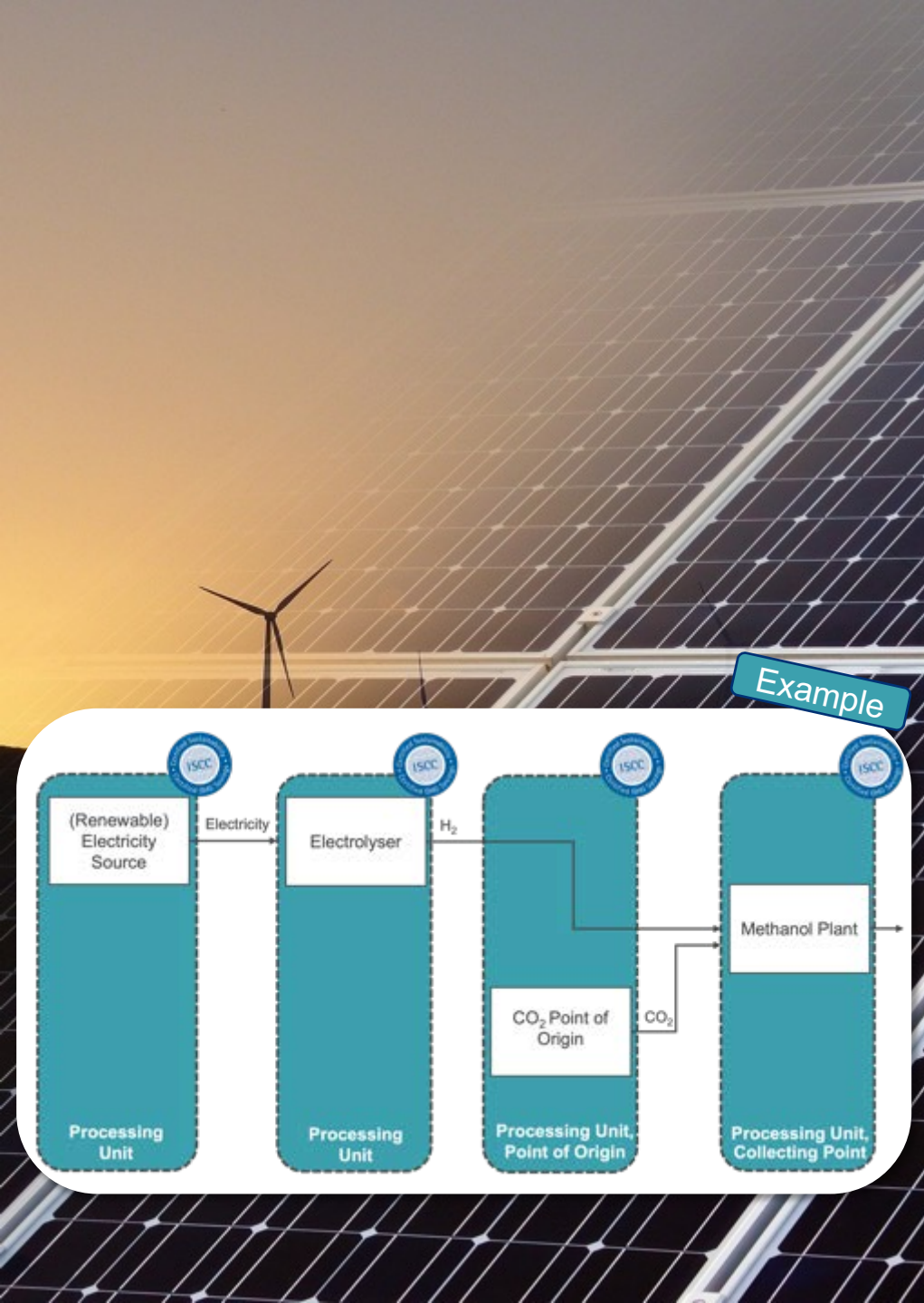
*To calculate the **life cycle emissions value of a sustainable fuel**, GHG values are forwarded in the supply chain step by step*

*CCR: Carbon Capture and Replacement
 **CCS: Carbon Capture and Storage

Powerfuels represent one of the most viable options to defossilise maritime transport

- **Fuels based on (renewable) electricity**, including hydrogen, e-methanol and e-ammonia, represent promising low-carbon options
- Use of a **comprehensive certification system worldwide** can help ensure continuous compliance of global hydrogen and e-fuel production with the desired sustainability & traceability requirements
- Under its ISCC PLUS standard for the voluntary market, ISCC has already **certified both renewable electricity and CO₂**, as well as **green hydrogen, methanol and ammonia**
- Based on its experience under ISCC PLUS and following the rules laid out in the Delegated Act on RFNBOs*, **ISCC is currently developing a certification approach applicable under the REDII framework**

*RFNBOs: Renewable fuels of non-biological origin



ISCC is dedicated to further support certification for sustainable marine fuels

