

Review policy frameworks (part I) and certifications (part II) used for oleochemical- and lignocellulosic-based biofuel supply chains to identify certification scheme improvement opportunities

Identifying certification scheme improvement opportunities

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Introduction

Review policy frameworks (part I) and certifications (part II) used for oleochemical- and lignocellulosic-based biofuel supply chains to identify certification scheme improvement opportunities



Source: ISCC
November 2020

- > Biofuel markets:
 - Emission reduction & climate mitigation driving force behind production and use of biofuels
 - Overall sustainability and reduced carbon intensity of the final fuel has become increasingly a priority
- > Issues:
 - Market implications of policy requirements (sustainability/GHG) difficult to oversee
 - Concerns on certification integrity limit the commercialization of biofuels
- > What is needed?
 - A better understanding of the mutual coherence (policy/certification)
- > Result:
 - This will support decision making of companies, governments and other parties involved in feedstock-to-biofuel supply chains

The use and certification of feedstocks for non-conventional 'advanced' biofuel production is beneficial in many ways and for different stakeholders



No food versus fuel debate



Supporting the circular economy by reducing the use of finite resources



No land use change issues



Policy incentives by authorities



High life cycle emissions savings potential

- › Overall focus:
 - 'Advanced' oleochemical- and lignocellulosic-based biofuel supply chains
- › 'Advanced' biofuels – what are they?

Definition Task 39: Advanced biofuels use pre-commercial technologies using non-food crops, agricultural and forest residues.....

However, this can vary among policy frameworks

Part I:

Review policy frameworks*

for oleochemical- and lignocellulosic-based
biofuel supply chains
(2021 – *ongoing*)

*The selection of policy frameworks is made on the basis of availability of regional/country specific policy information from Task 39 members.



Focus:

- › Sustainability criteria
- › GHG emission reduction characteristics
- › Requirements for compliance and verification



Questionnaire Format

Review existing and proposed policy frameworks and certifications for advanced biofuels supply chains, to identify certification scheme improvement opportunities

A1. General information	
1. Is there a policy on the sustainability of (advanced) biofuels in your country? If yes, which one?	
2. Is there a definition for 'advanced biofuels' under this policy? If yes, which one?	
3. Which feedstock categories fall under the scope of 'advanced biofuels'?	
A2. Requirements on GHG emission reduction and sustainability	
4. What GHG emission reduction and sustainability requirements are included in the policy, and to which feedstock-to-biofuel chains do they apply? List in particular the requirements for: • <u>Forest</u> : forest residues to ethanol via gasification • <u>Agriculture</u> : ethanol production from cereal straw	

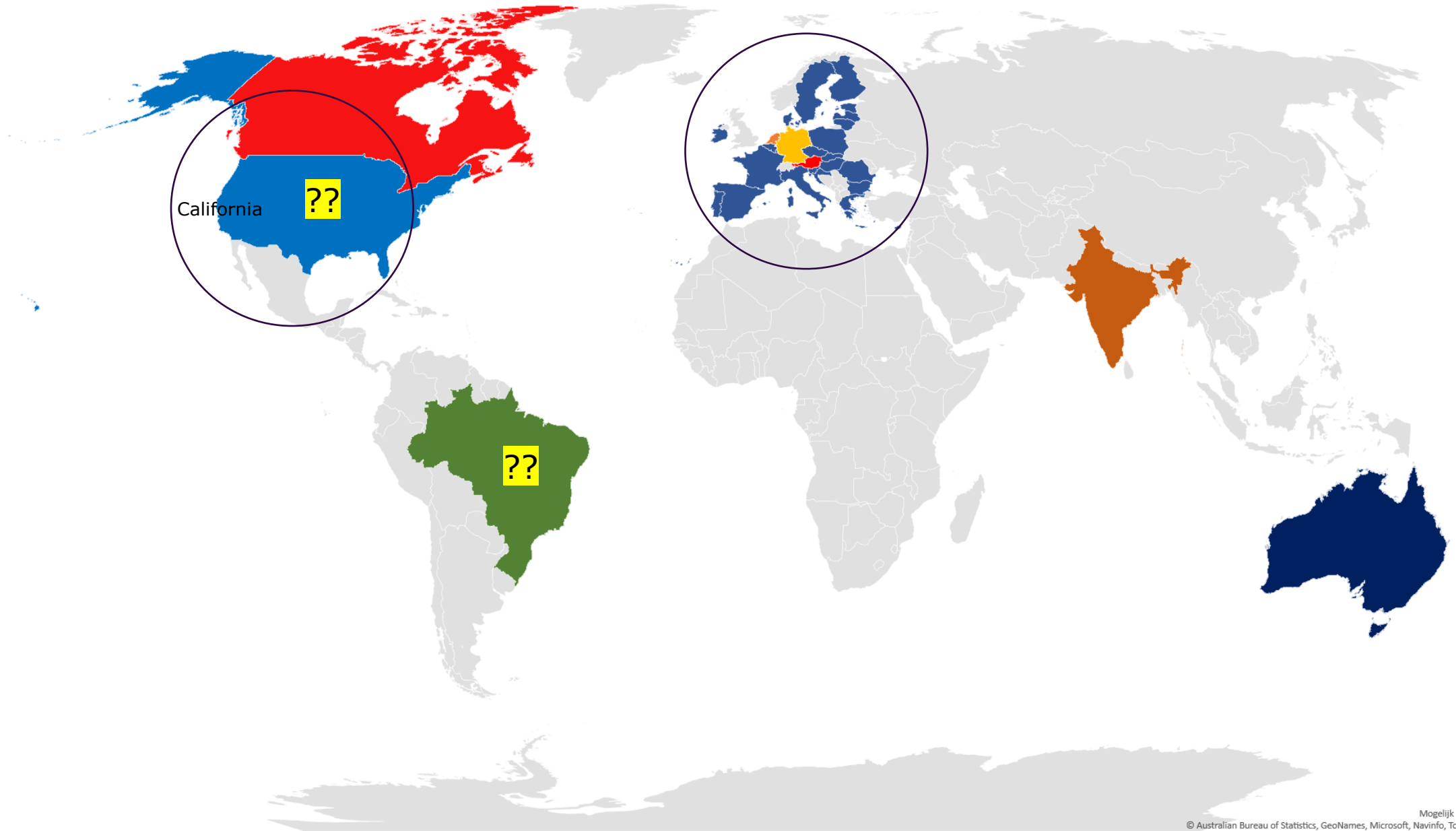
B. Proofing compliance: Information required	
5. Who is the obligated party to report and proof compliance of the sustainability and GHG emission of (advanced) biofuels and at what interval?	
6. What information is required/ needs to be reported about sustainability and GHG emission (reduction) by the obligated party?	
7. What information is required about origin?	
8. What criteria are used to categorize and define feedstock? (See figure 1 for further explanation)	
9. What information needs to be reported about the type of feedstock used?	

Figure 1: Examples of decision trees and guidance developed by RED II and ICAO CORSIA to categorize feedstock



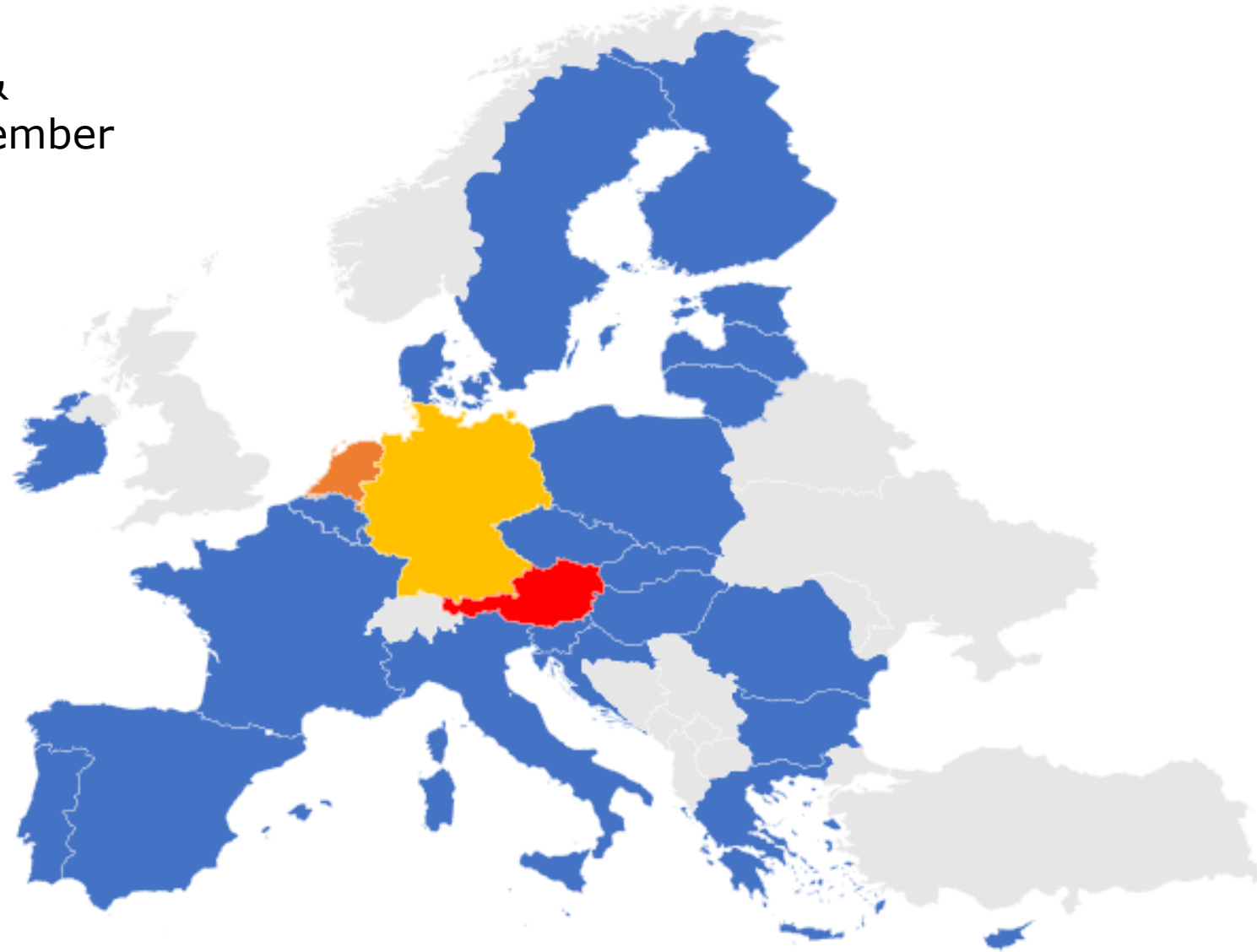
Approach

- Development of questionnaire: which is sent out to IEA Task 39 member with interest for participation - *finalised*
- Filling in and cross-checking information in questionnaires (which will become annexes in the report) - *ongoing*
- Analysis based on information received - *upcoming*





EU overall &
separate Member
States





In addition to Task 39 members: ICAO – CORSIA policy framework on aviation biofuels

Timeline for ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)



- **104 states** (including all EU Member States), representing around **80% of international aviation** participate in CORSIA*
- **The majority of airlines** will be affected by these developments

*Source: ICAO (2021). <https://www.icao.int/environmental-protection/CORSIA/Pages/state-pairs.aspx>



Information gathering and cross-checking – state of play

Policy frameworks included	Status	Pending actions
Australia	Almost completed - minor questions pending	Awaiting response on minor questions
India	Filled in information based on information received	Peer review needed
Brazil	Email exchange ?	Tbd
US - California	Filled in information based on information received	Peer review needed
US	?	Tbd (first complete California)
Canada	Completed	Just received final response
EU RED II	Completed	
- Austria	Completed	Just received final response
- Germany	Almost completed - minor questions pending	Awaiting response on minor questions
- Netherlands	Almost completed 1. Biofuels policy framework 2. Specific section on aviation 3. Specific section: solid biomass	<i>Final input on aviation just received</i>
ICAO CORSIA	Completed	

Analysis is planned for November so input is needed on short notice

FOR EXAMPLE:

The EU-REDII contains some extra requirements for information transfer through the chain of custody (Art. 30.1):

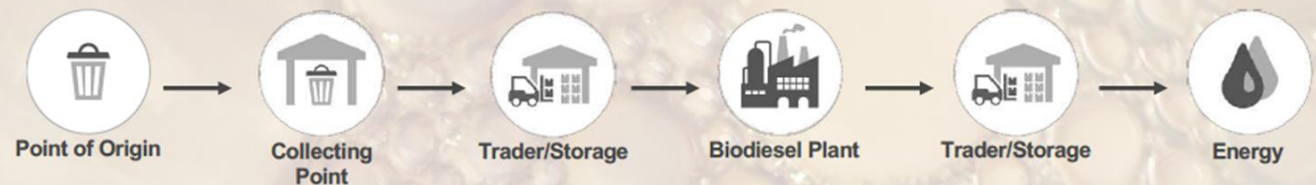
....the mass balance system shall ensure that each consignment is counted only once for the purposes of calculating the gross final consumption of energy from renewable sources and shall include information on whether support has been provided for the production of that consignment, and if so, on the type of support scheme.

Do other legal systems contain the same kind of requirements to avoid double claiming of sustainability in different certification systems?

Analysis - upcoming

- Will look at the different elements that are part of the questionnaire, such as:
 - Proof of verification
 - Traceability
 - Information requirement at end of supply chain

Biodiesel from UCO





Example for aviation:

*Policy
frameworks:*

ICAO CORSIA

EU RED (criteria
recognized for EU ETS)

Each have their own:

- set of sustainability requirements
- set of verification requirements
- Acceptance of certification schemes

*Certification
Systems*

ISCC Corsia
ISCC Corsia Plus

ISCC EU
ISCC PLUS



Part II:

Review certifications*

for oleochemical- and lignocellulosic-based
biofuel supply chains

(2022 – *upcoming*)

*The selection will be made on the basis of availability

Introduction:

- › Public responsibility for monitoring compliance often outsourced to private certification schemes
- › Evolvement of multiple methods for compliance and verification
- › Unclearities:
 - What are the differences?
 - What are the consequences? (risks, reliability, effectiveness)
- › Expected intertask issues - Task 45

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On-site audits



Desk audits



Internal review



Stakeholder involvement



Trainings and System Updates



Sanctions

Focus:

- › Sustainability 'risks' in selected biofuel chains – *case studies***
- › Anticipation of certification schemes on legal requirements
- › Potential risk mitigation in policy-based certification schemes

** following from Part I

Example – potential risk analyses

Risk	Supply chain affected	Level of concern
Unclear Chain of Custody management	Land-based feedstock supply chains.	Large concern for volumes sold wrongly designated as sustainable.
	Biodiesel (UCO) supply chain.	Large concern for materials and documents duplication and fraud (selling certified batch twice, f. ex. to 2 different countries).
	Advance biofuels and complex supply chains	Medium concern for incorrect mass balance and allocation. Expected more complexity in allocation rules due to trade of blends, multiple outputs, and new fuels with complex proof of bio-origin.

Accessibility and traceability in sustainable biofuel supply chains

SQ Consult & Jinke van Dam Consulting
2020



Suppliers that bring renewable fuels to the Netherlands transport market own the sustainability information of these fuels and provide a Proof of Sustainability (PoS) to the Netherlands Emission authority to fulfill their national obligation. What does the information on such PoSs entail? How to judge whether and which risks in the supply exist? The Netherlands Platform Sustainable Biofuels asked SQ Consult to provide insight in the (perceived) risks and how to address them. Their findings are now available in a report.

<https://platformduurzamebiobrandstoffen.nl/infotheek-item/accessibility-and-traceability-in-sustainable-biofuel-supply-chains/>



Example: Anticipation of certification schemes on legal requirements

ISCC offers two options for certifying CEF: ISCC CORSIA and CORSIA PLUS. The systems differ in their sustainability requirements for biomass production



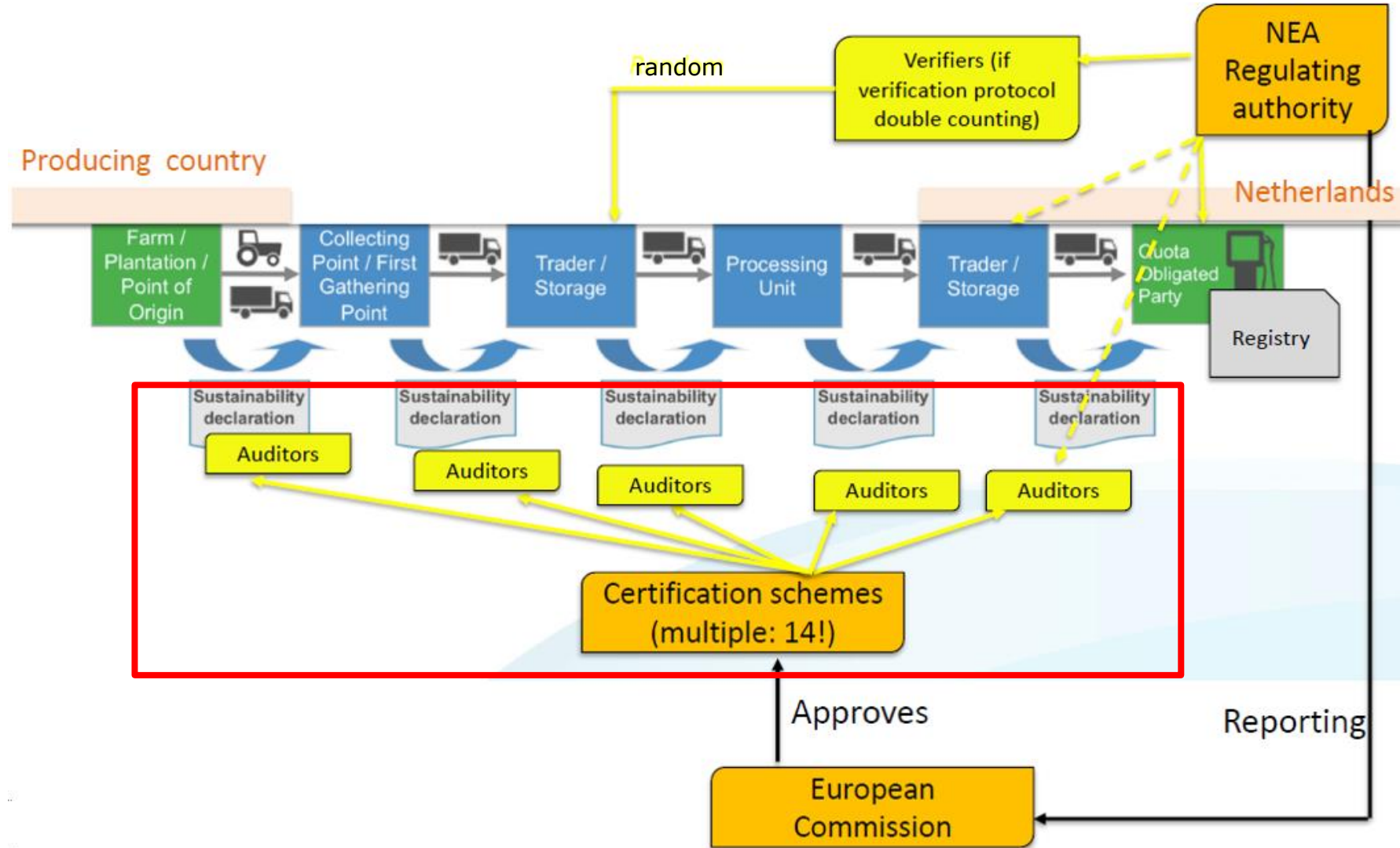
- **ISCC CORSIA** certification shows compliance with the CORSIA Sustainability Criteria for CEF
 - 10% lower GHG emissions on a life cycle basis compared to fossil jet
 - No biomass from high carbon stock lands for CEF production
 - Calculation of direct land use change emissions in case of land use conversion

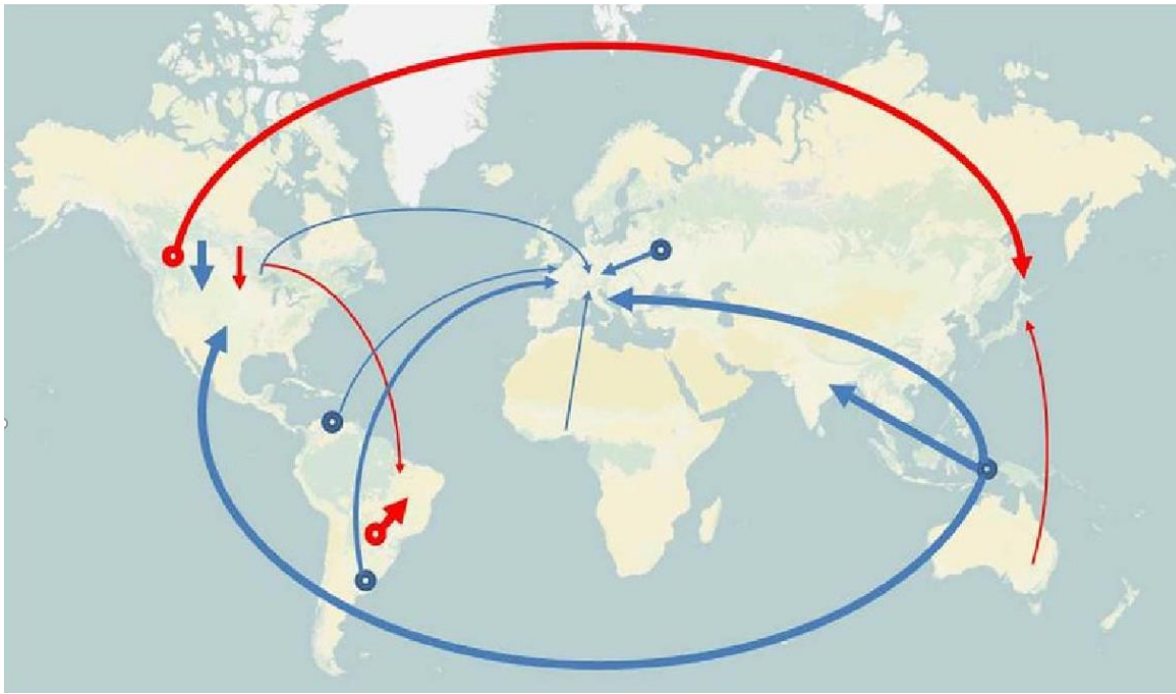


- **ISCC CORSIA PLUS** certification shows compliance with the CORSIA Sustainability Criteria for CEF **plus** additional sustainability requirements for biomass production
- Sustainability requirements under ISCC CORSIA PLUS are divided into the **six ISCC CORSIA PLUS Principles**



Example: governance structure to mitigate risks – role of certification schemes





World map of energy flows related to biofuel trade

Expected outcome:

- › Insight in certification scheme improvement opportunities
- › A better understanding of the mutual coherence of legal requirements, certification and it's effect on biofuel-feedstock supply chains (trade flows)

This will support decision-making of companies, governments and other parties involved in the biofuel market



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Thank you for your attention!

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Extra slide

Figure 1: Examples of decision trees and guidance developed by RED II and ICAO CORSIA to categorize feedstock

