

SAF Sustainability Certification

The Roundtable on Sustainable Biomaterials (RSB)



Global Biofuels Alliance, 25 July 2025 (*Online webinar*)
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Agenda

- 1** Who we are
- 2** RSB certification system
- 3** How RSB supports economic operators
- 4** SAF in emerging markets: SEA, India & Brazil
- 5** Key take aways
- 6** Q & A





RSB®

RSB: Who we are

- **Mission:** to promote the transition to a biobased economy (sustainable biofuels and beyond)
- **Recognized by the European Commission** for certifying compliance EU RED III
- **Governmental recognition for ICAO CORSIA**, Japan FIT (+ RSB scheme)
- **Variety of sectors:** Sustainable aviation fuels, maritime, biomass sector, chemical industry.
- Strong presence in the US, Canada, LA and SEA markets.



Our global membership is highly diverse



Holistic approach to driving a positive impact



RSB certification globally

RSB is an international certification scheme with a global application, with strong presence in Sustainable Aviation Fuels supply chains. RSB has a diverse scope of implementation also covering, bioenergy, maritime, chemical and other sectors.



- US
- Canada
- EU
- South East Asia
- Latin America
- Other



RSB Certification System



Certification schemes

	RSB Global Fuels & Advanced Products 	RSB EU RED 	RSB CORSIA 	Japan FIT 
Sustainability requirements	RSB Principles and Criteria 			
Type of claim	Voluntary	Regulatory; linked to EU RED targets	Regulatory; linked to ICAO CORSIA targets	Regulatory; linked to METI targets
Scope	Fuels and materials produced from biocircular feedstock	Renewable fuels and energy produced with bio-based feedstock and RCF/RFNBOs	SAF from bio-based feedstock and waste gases	Bio-based wastes and residues from agri industry for energy production
Renewable input allocation	Across all outputs, based on energy or economic value. Flexible attribution options.	Across all outputs, based on energy value (LHV).	Across all outputs, based on energy value (LHV).	Across all outputs, based on energy value (LHV).
GHG reduction threshold	Fuel: 50% (60% after 2015) Products: 10%	60% (65% after 2021) RCF/RFNBO: 70%	50% core LCA (10% LCA+ILUC)	50% (70% after 2030)
Fossil baseline	Fuel: 90g CO ₂ e/MJ Products: fossil comparator	94g CO ₂ e/MJ RCF/RFNBO:	89g CO ₂ e/MJ	180 g CO ₂ /MJ electricity
Book and claim allowed?	Yes	No	No	No



Pillars of sustainability certification

Management system

- **Clear responsibilities of staff pertaining to all relevant RSB requirements** (e.g. record keeping, GHG calculation, forwarding of sustainability documents)
- **Yearly internal audit** conducted and results kept for check by auditor
- **Written commitment by Management** to comply with relevant rules

Sustainability

- **Meet the RSB 12 Principles and Criteria – Industrial and Agricultural sites**
- Meet social, legal & rights-based, environmental and management practices for sustainable production in a bio-based supply chain

GHG emissions calculation

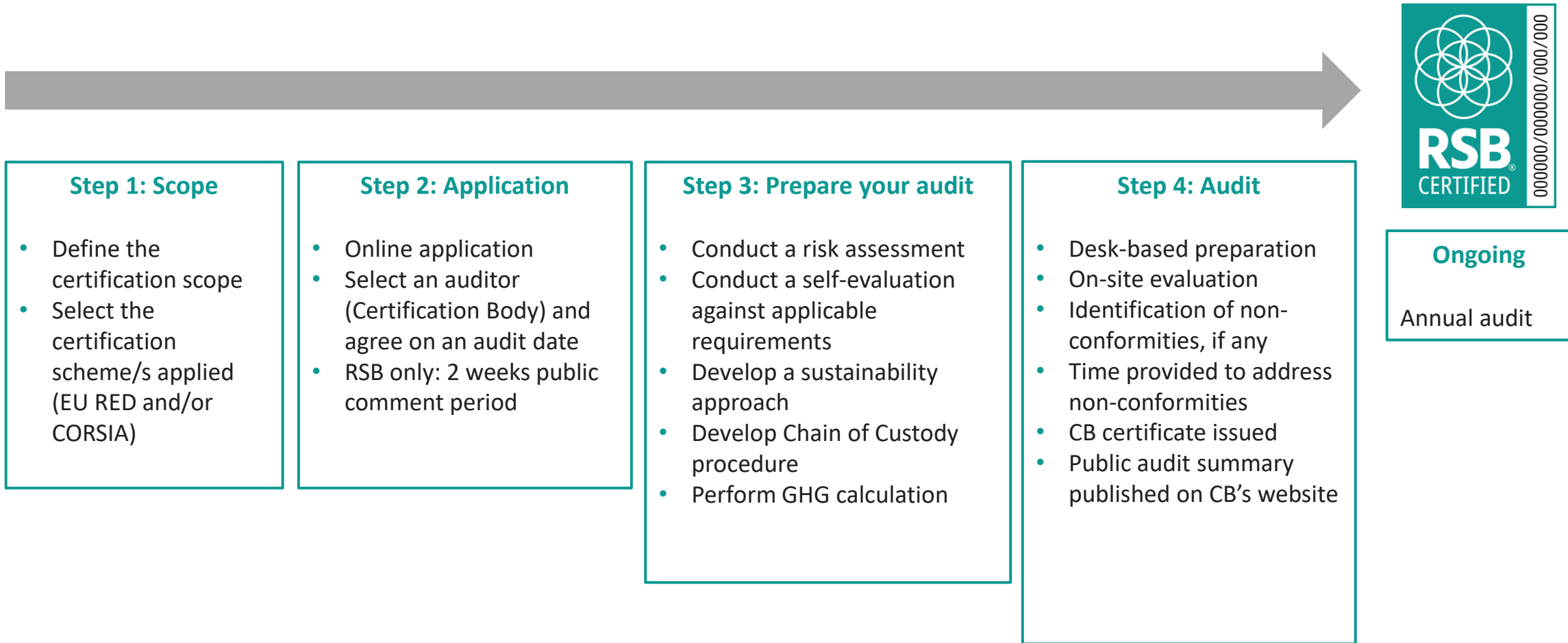
- **Availability, completeness and correctness of GHG calculation**
- Appropriate use of **emission factors**
- **Correct indication of GHG emission value on sustainability documents** (e.g., on Proof of Sustainability)

Traceability and chain of custody system

- **Record of documentation** (e.g. Proofs of Sustainability documents, delivery documents, contracts, weighbridge tickets, etc.)
- Fit-for-purpose **traceability and mass balance system**



RSB certification process



Risk based approach: due diligence prior to the audit



① **Self-Risk Assessment**

Self-risk assessment using RSB's **Risk Assessment Tool**: **identify your risk class** and **audit frequency**



② **Screening Exercise**

Risk Screening Tool to identify social and environmental risks (P&C), **inform the measures in MP**.



③ **GHG calculation**

Calculate GHG emissions (RSB GHG Calculator Tool available). **Minimum 50% reduction from fossil fuels (P3)**



④ **ESMP**

Environmental & Social Management Plan (ESMP) describing how you will adhere to RSB P&C

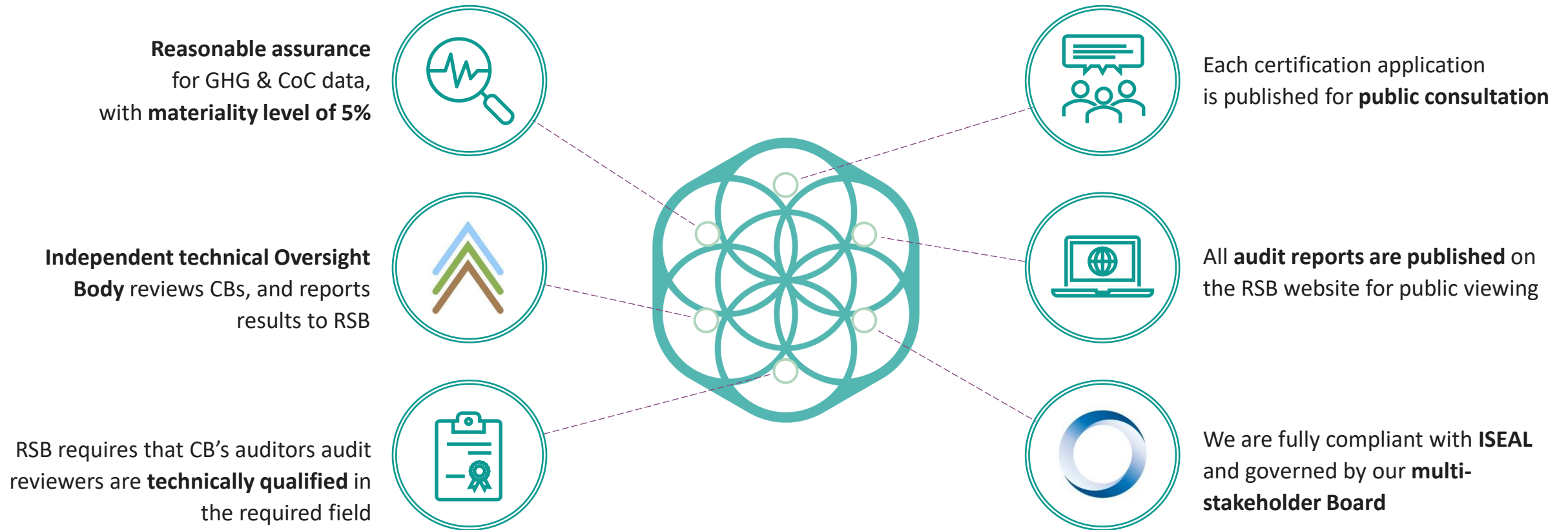


⑤ **Ensure traceability**

Need for **traceability systems** and procedures in place to trace material across supply chain.



RSB Certification: Investing in System Integrity



How can RSB support operators in overcoming these challenges?



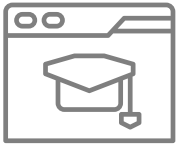
Clear set of rules and requirements

- EC recognized Standards
- Comprehensive language translating complex EU Directives into more a user-oriented understandable package of rules



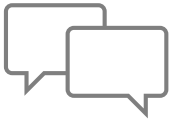
Hand-holding in the certification process

- Client oriented support in the certification process
- Advisory services



Tools & Training

- RSB Academy
- GHG Calculator tool
- Feedstock assessments



Stakeholder dialogue platforms and international events

Promote communication and exchange among industry partners and interested stakeholders (SAF and beyond)



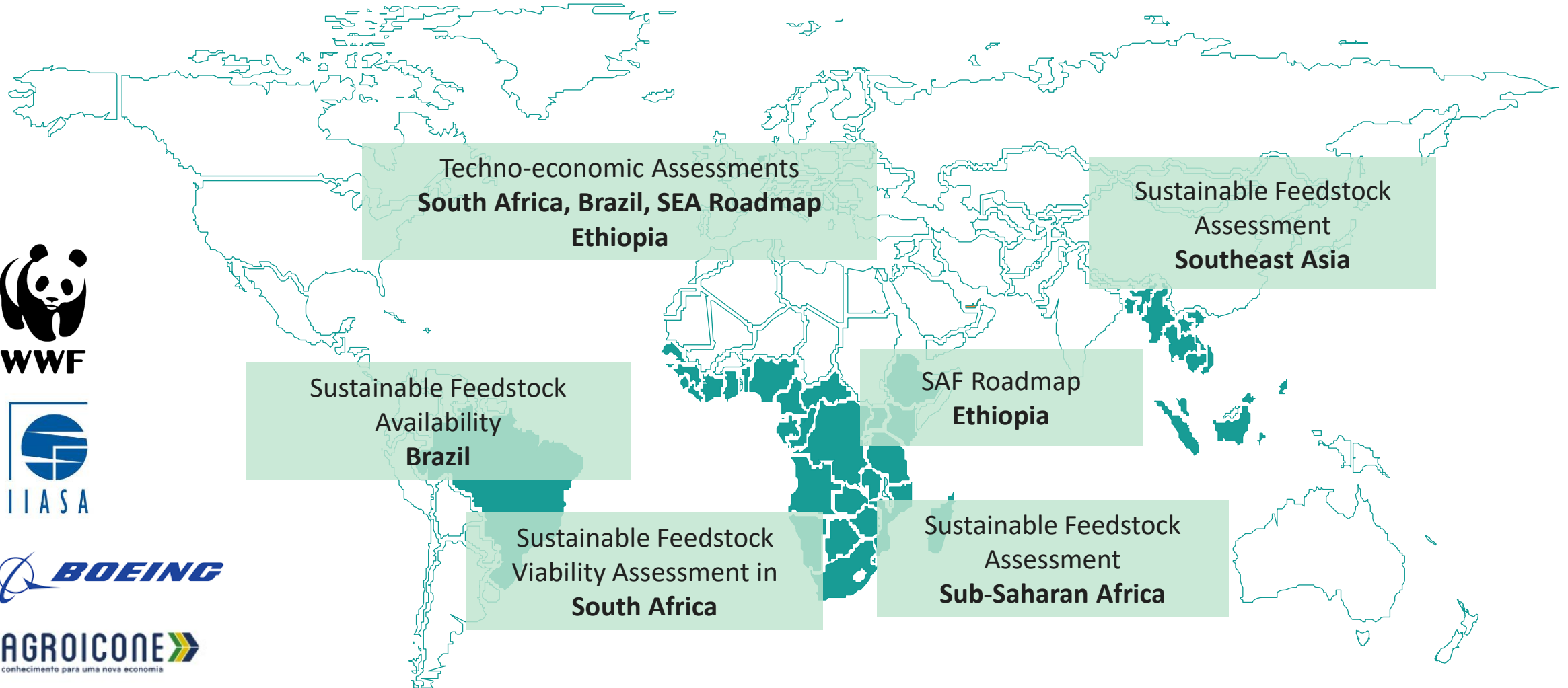


SAF emerging markets

Feedstock assessments & capacity



RSB research on feedstock availability



Brazil & LATAM region: Feedstock assessment



- By 2050, **36 - 43% of the total jet fuel** could be met by **RSB-compliant** biofuel produced in **South America**
- **Brazil's SAF potential:** 61% of South America's total SAF potential is concentrated in Brazil.
- **Energy cane** is the largest contributor for biofuel production (high yield)
- **Intercropping:** **macauba palm with Brachiaria** grass
- **Sustainability challenges:** deforestation, biodiversity loss, and land degradation.



Southeast Asia: Feedstock Assessment

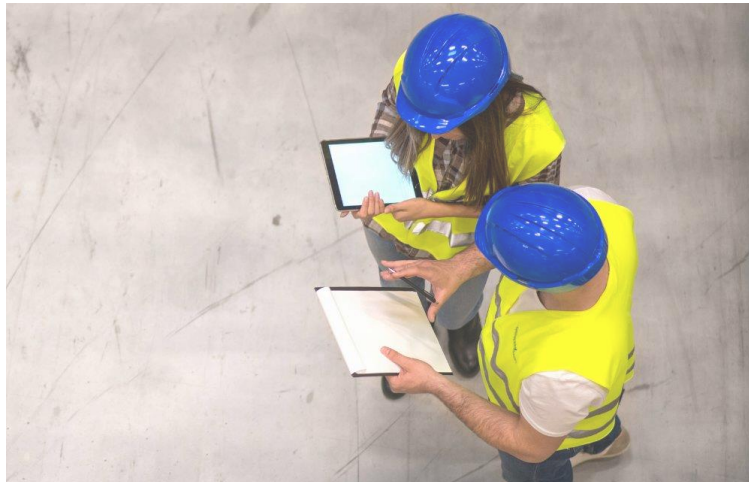
		Indonesia	Thailand	Vietnam	Malaysia	Philippines	Feedstock (%)
Crops for energy use	Palm oil (CPO)	9.5	1.2	-	1.0	-	3.1
	Sugarcane (for ethanol)	-	5.7	-	-	0.1	1.5
	Corn (for ethanol)	-	3.7	2.6	-	-	1.7
	Coconut oil	-	-	-	-	0.2	0.1
	Cassava roots and starch	20.5	9.5	5.0	-	-	9.3
Agricultural residues	Palm oil residues (PKS, EFB, etc)	27.6	6.5	-	10.1	-	11.8
	Palm oil mill effluent (POME)	2.8	-	-	-	-	0.7
	Rice husks, rice straw	46.0	23.0	34.5	2.1	10.8	36.9
	Sugarcane bagasse, tops & leaves	2.8	14.9	3.0	0.1	2.1	6.4
	Sugarcane molasses	1.2	4.0	0.6	-	1.0	1.9
	Cassava residues (pulp, stem)	5.3	4.5	2.2	-	-	3.2
	Maize cob/husk/stover/straw	-	3.5	10.6	-	0.8	4.0
	Coconut shell, front, husk, bunches	-	-	0.7	0.9	5.4	1.9
	Coffee husk	-	-	0.9	-	-	0.2
	Peanut (groundnut) shell, husk	-	-	0.6	-	-	0.2
Forest and wood industry residues		13.1	3.7	5.3	8.2	-	8.4
Post-consumer waste	UCO	0.2	-	-	0.1	-	0.1
	MSW	13.5	5.6	6.5	2.2	2.9	8.6
Country contribution (%)		38.0	22.9	19.3	6.6	6.2	

- **SEA feedstock potential:**
12% SAF demand by 2050
- **Indonesia, Thailand, and Vietnam:** leading feedstock producers
- **Rice husks & rice straw** most available feedstock
- **Palm oil residues, cassava roots and starch (2nd)**
- Sustainability risks: deforestation and water availability.

*Available feedstock per country and feedstock type (Mt/year dry mass)



India: SAF Mandate in emerging market



- India's Ministry of Civil Aviation is *discussing* a SAF (Sustainable Aviation Fuel) blending target for aviation of:
 - **1% SAF** blend with jet fuel for international flights by **2027**
 - **2% SAF** blend by **2028**
 - **5% SAF** blend by **2030**
- An ambitious target, this will apply initially only to international routes
- **Potential pathways:** Alcohol to Jet and HEFA (UCO among other feedstocks)



Challenges: Scaling SAF industry in India

- ④ **Limited availability:** Currently* no commercial-scale production in India yet.
- ④ **Infrastructure:** Need for more refueling and production infrastructure.
- ④ **Cost of Production:** SAF currently costs 3–4 times more than traditional jet fuel.
- ④ **Mandate not finalised:** SAF Mandate still in planning phase.

*Facilities in process of being built, coprocessing using already existing production facilities in the meantime



Overcoming
Road
Blocks



BENEFITS OF SUSTAINABILITY CERTIFICATION FOR THE INDUSTRY

Meets consumer demands

Combines the sustainable sourcing and GHG calculations



Drives improvement in industry performance:

traceability systems, advanced technology, local sourcing, awareness raising, higher soc. & env. STDs



Tool to build a strong reputation: Recognition from official institutions (ICAO, EC & Japan FIT) and impartiality in auditing



Promotes innovation: increasing investments and interest in renewable energies and biofuels globally

Key Takeaways

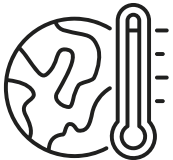


Biofuels key to reach global Climate targets

Scaling the SAF industry is a fundamental element in the global energy transition.



RSB develops feedstock assessments & capacity building projects To identify key emerging markets in the SAF industry and implements projects **promoting the transition to a biobased economy** (SEA, Brazil, India).



Sustainability standards strengthen reputation

By obtaining third party RSB certification, organisations build **credibility** and contribute towards a **climate positive biobased economy**.



Questions?



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