

Activities on SAF Certification Guidance (Task 4.4)



Goal

Provide practical guidance for integrating technical qualification and sustainability certification into early-stage research and innovation for novel SAF pathways, supporting their progression towards credible market entry

Process

Developed in close collaboration with expert stakeholders, including 3 webinars, 2 conference presentations, case study co-development, and close collaboration with the sister project SusAlgaeFuel and the RSB certification team.

Contents

1. Novel SAF feedstocks and technologies
2. Technical and sustainability certification pathways
3. Clearing Houses and pre certification readiness
4. Step by step guidance from R&D to market entry

T4.4 Guidance on SAF Certification (D4.3)

Public Engagements & Capacity Building

WEBINAR: SUSTAINABILITY CERTIFICATION OF NOVEL SAF PATHWAYS RECORDING AND PRESENTATIONS AVAILABLE



Date: Thursday, October 02

Time: 14:00 - 15:30 GMT+2

This 1.5-hour webinar, Sustainability Certification of Novel SAF Pathways, will bring together researchers, innovators, and sustainability certification experts to explore how new SAF pathways can meet sustainability standards and assurance requirements.

The session will open with a short introduction to the three innovative SAF pathways under development by ICARUS, before moving into focused expert contributions on the certification landscape—covering global (CORSIA), EU (RED III), and voluntary schemes (such as RSB)—and the practical steps involved, from feedstock validation to lifecycle assessment and compliance auditing. A live case study of the SusAlgaeFuel project, currently pursuing RSB EU RED certification, will illustrate real-world challenges and insights from the R&D context.

The event will conclude with an interactive feedback session, giving participants the opportunity to help shape the ICARUS public study on SAF certification, ensuring it reflects the priorities of technology developers and the broader SAF community ahead of its release in 2026.

Preliminary Agenda

- Welcome & Introduction (Esther Hegel, RSB) - 10 min
- Novel SAF Pathways in ICARUS (Berend Vreugdenhil, TNO) - 15 min
- Understanding SAF Certification: EU RED, CORSIA and Voluntary Schemes (George Deslandes, RSB) - 15 min
- From Innovation to Certification: Insights from the SusAlgaeFuel Project (Darren Carty, SFS) - 15+5 min
- The ICARUS SAF Certification Guidance (Esther Hegel, RSB) - 10 min
- Open Discussion and Online Poll - 15 min
- Closing Remarks and Next Steps (Esther Hegel, RSB) - 5 min

- WORKSHOP RECORDING
- WORKSHOP PRESENTATIONS

First Webinar, October 2025
+ Expert Interviews (SusAlgaeFuel)

EUBCE Workshop, May 2026



Free online seminar series on Recent progress in SAF research

#3/10 – MONITORING OF SAF R&D, DEMONSTRATION PROJECTS AND PRODUCTION DEPLOYMENT | WILL THE GLOBAL MARKET RAMP-UP SUCCEED?
Dec 3rd, 2025 03:30 – 05:30 PM CEST

This free online seminar will highlight recent developments on SAF projects and perspectives.

FRANZISKA MÜLLER-LANGER (DBFZ)
Moderation of this seminar

LÉONIE LAUER (CENA)
CENA SAF-Outlook 2025-2030: Volumes, Technologies, and Market Dynamics

ESTHER HEGEL (RSB)
From Innovation to Certification: Embedding Sustainability in New SAF Technologies

PREETI JAIN (IATA)
IATAs view on SAF deployment on a global level

STEPHEN DOOLEY (EU SAF CLEARING HOUSE)
Drivers and drawbacks for the global market ramp up

Technology Collaboration Programme
by IEA

Registration: https://www.saf-amf.org/content/events/web-seminars/webinars_tas866

+ Presentation for EEAB Meeting on SAF Certification
+ IEA-AMF Presentation (Dec 2025)

ICARUS WEBINAR - SUSTAINABILITY CERTIFICATION FOR EMERGING SAF PATHWAYS - 30 SEPTEMBER 2026, 2:00 PM (REGISTRATION LINK)



Wednesday, 30. September, 2:00 PM

Sustainability Certification for Emerging SAF Pathways: Guidance, Opportunities and Lessons Learned

Sustainability certification plays a critical role in enabling market access, regulatory compliance, investor confidence, and environmental credibility for Sustainable Aviation Fuel (SAF). As new SAF technologies progress from research and development towards commercial deployment, project developers increasingly seek clarity on certification expectations at earlier stages of project development.

This webinar will present the findings from the final ICARUS deliverable, "Guidance on SAF Certification", developed to support researchers and early-stage project developers working on novel SAF pathways. The session will highlight key sustainability certification considerations that should be addressed early in project design and development. In addition, RSB will introduce its Preliminary Certification Framework, which provides project developers with a mechanism to engage with certification requirements during the design and investment stages prior to full certification.

The webinar will conclude with a moderated discussion featuring Darren Carty from Sustainable Flight Solutions, who will share practical insights and lessons learned from the certification journey of the EU-funded SusAlgaeFuel project. This discussion will connect the guidance findings to real project experience, highlighting practical challenges, opportunities, and reflections relevant for researchers and early-stage SAF project developers.

PROPOSED AGENDA

- Welcome and Introduction (Esther Hegel, RSB) - 10 min
- Presentation: Key findings from the final ICARUS deliverable "SAF Development in Africa" (Eduardo Entrena, RSB) - 20 min
- Panel discussion: Turning recommendations into action - Speakers tbc - 15 min
- Audience Q&A - 10 min
- Closing remarks (Esther Hegel, RSB) - 5 min

Final Webinar, September 2026
+ Findings & Recommendations (SusAlgaeFuel)

Findings: SAF Certification Guidance (Task 4.4)

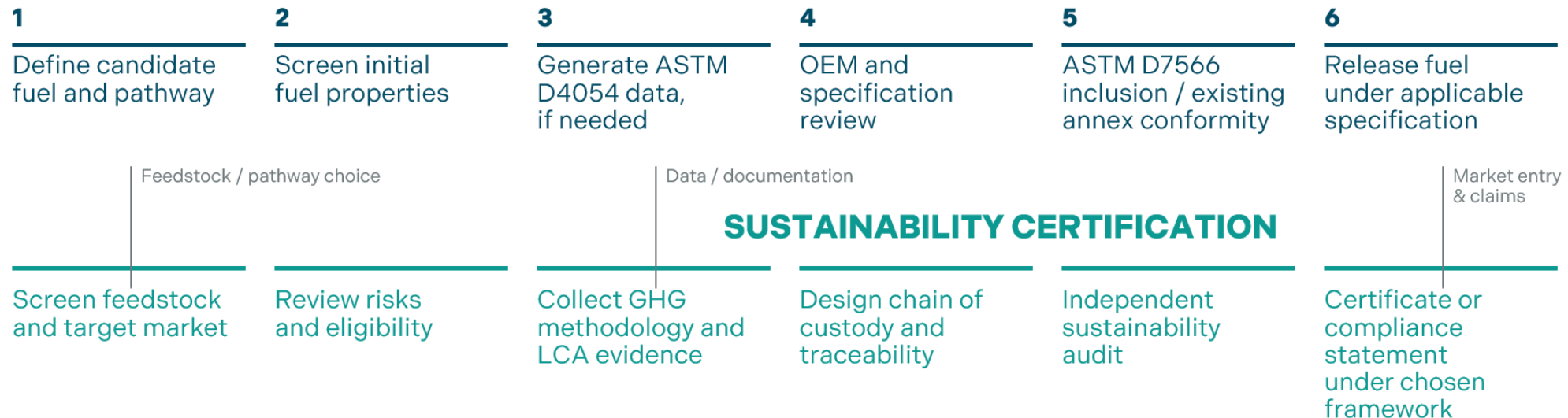


Dual pathways to credible SAF market entry

R&D AND PATHWAY DEVELOPMENT

CREDIBLE MARKET ENTRY

TECHNICAL QUALIFICATION



Market entry requires both fuel safety / compatibility and sustainability compliance.

Findings: SAF Certification Guidance (Task 4.4)



Certification readiness from R&D to scale-up

	TRL 2-3	TRL 4	TRL 5	TRL 6	TRL 7-8	TRL 9
	Concept / lab	Bench validation	Pilot design	Pilot operation	Demonstration	Commercial
Technical data	Composition; key properties	Fuel impurity profile	Test plan; compatibility	Batch consistency	Compatibility evidence ✓	Release and quality control
Sustainability data	Source and eligibility	Land / nature risk; GHG scope	Energy / input sourcing	LCA data; safeguards	Validate GHG and safeguards	Refresh GHG and declarations
Traceability & chain of custody	Supplier records	Mass-balance concept	Batch-tracking design	Tracking and record system	Validate chain of custody	Declarations; record keeping
Governance & review	Assign responsibility	Gap assessment	Readiness review ✓	Internal review	Independent audit planning	Audit; ongoing review
	Identify	Develop	Validate	✓ Milestone review		

Evidence collection starts before formal ASTM evaluation or audit.

Findings: SAF Certification Guidance (Task 4.4)



Certification evidence map for SAF projects

Evidence category	Technical qualification	Sustainability certification	Investor / offtaker due diligence	Project management and risk control
Feedstock eligibility	Feedstock / process relevance to route	RED / CORSIA / scheme eligibility	Supply risk; scalability	Supplier mapping; risk register
Process description	Pathway definition; process evidence	System boundary; input identification	Technology maturity; scale-up assumptions	Process baseline; change control
Fuel properties	Specification and conformity evidence	Link certified output to product records	Buyer requirements; product quality	Sampling plan; data ownership
GHG and LCA data	Not the main focus	Core compliance evidence	Carbon intensity; market value	Data ownership; update cycle
Chain of custody and traceability	Sample / batch identification	Origin and custody evidence	Supply integrity; claims confidence	Supplier and batch records
Quality system	Test controls; consistent results	Document and procedure controls	Reliability; execution risk	Roles, versions and corrective action
Site and operational controls	Operating conditions; process consistency	Safeguard and operational evidence	Operational risk; scale-up readiness	Control owners; monitoring
Claims and communications	Avoid technical overclaims	Use only permitted claims	Credible, clear market messaging	Internal claims approval

Reuse the evidence—not the approval: each process applies its own requirements.

Findings: SAF Certification Guidance (Task 4.4)



Early screening for SAF certification planning

Screening question	If yes	If no / unclear
 Drop-in aviation use?	Continue to route fit	Outside drop-in SAF pathway scope
 Existing D7566 annex or D1655 co-processing route?	Conformity testing and specification evidence	Assess ASTM D4054 pathway needs
 Feedstock eligible in the target market?	Continue to GHG method	Eligibility review; resolve before proceeding
 GHG methodology available?	Begin LCA data collection	Define methodology and data needs
 Chain of custody documentable?	Continue to review readiness	Build traceability and mass-balance system
 Ready for independent review?	Formal qualification and certification planning	Readiness / gap assessment; close gaps and revisit
EXISTING ROUTE	NOVEL ROUTE	NOT YET READY
Certification preparation	D4054 + sustainability readiness	Gap closure before progression

Key Messages: SAF Certification Guidance (Task 4.4)



Key Takeaways

1. Start certification at the start of innovation
2. Treat technical and sustainability certification as two sides of the same coin
3. Build certification readiness alongside technology readiness
4. Use pre-certification to reduce risk and increase bankability
5. Design projects for traceability and compliance from day one
6. Make certification a design parameter, not a final checkpoint