Assure Rulebook & User Guide

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Contents

1. Background and Scope

Assure (the "Registry") has been developed by 4AIR (the "Registry Administrator") to facilitate the documentation, sharing, and reporting around the use of sustainable and low carbon fuels, specifically sustainable aviation fuel ("SAF"). Assure allows for the electronic management of sustainable fuel inventories, the transfer of the sustainability benefits via various chain of custody models, and simplified claiming and reporting of sustainable fuel attributes for related voluntary and regulatory reporting schemes. This handbook will assist you as a user of the Registry and detail certain requirements for using the platform.

2. Dashboard

The Registry Dashboard provides an overview of key metrics and the current inventory for the account of the entity that has registered and opened an account (the "Registrant").

Summary Metrics

- **Blended Volume Owned:** The total volume of blended fuel in the Registrant's inventory.
- **Blended Mass Owned:** The total mass of blended fuel in the Registrant's inventory.
- **Neat Volume Owned:** The total volume of neat fuel in the Registrant's inventory.
- **Neat Mass Owned:** The total mass of neat fuel in the Registrant's inventory.
- **Blended Volume Retired:** The total volume of blended fuel retired by the Registrant.
- **Blended Volume Indirect Retired:** The total volume of transferred attributes (e.g., indirect, Scope 3 emissions) retired on behalf of the Registrant.
- **Metric Tons Reduced:** The total amount of CO2e emissions reduced from retired fuel.
- **Indirect Metric Tons Reduced:** The total amount of CO2e emissions reduced from retired volume of transferred attributes (e.g., indirect, Scope 3 emissions).
- **Blended Fuel Transferred (bar graph):** The last 12 months of inbound and outbound volume of blended fuel transfers in the Registrant's inventory.
- **Fuel Feedstocks (pie chart):** The volume of each feedstock allocated to the Blended Volume Owned

Current Inventory

The current inventory section displays details of fuel batches owned by the Registrant, with the ability to search for specific batches using the provided search functionality. By default, 10 records are displayed per page, but the number of records per page can be changed in the bottom left corner of the table. Page navigation is available there as well. Each batch is accompanied by relevant details, facilitating quick reference and easy management.

3. Register New Fuel

Requirements Related to Fuel Products Eligible for Registration

Fuel Product Criteria

The Registrant's authorized users (each a "User") can register, in the Registrant's name, sustainable fuels, such as Sustainable Aviation Fuel ("SAF"), (such registered fuel is referred to in this User Guide as "the fuel").

The fuel can be registered in either it's neat or blended form and must meet the basic requirements specified by the following ASTM standards:

- **ASTM D1655:** This ASTM standard specifies the requirements for aviation turbine fuels. The fuel must comply with the criteria set forth in this standard, which encompass aspects such as composition, additives, impurities, and performance properties.

- **ASTM D7566:** This widely recognized standard addresses the unique requirements and considerations for SAF to ensure the fuel's compatibility, safety, and performance in aviation applications.

Additionally, the fuel may also meet sustainability and regulatory requirements, such as:

- **International Sustainability and Carbon Certification (ISCC):** ISCC is a certification system for sustainable biomass and bioenergy. It includes criteria for the sustainable production and traceability of biomass feedstocks used in biofuel production. Eligible certifications from ISCC include the ISCC CORSIA, ISCC EU, and ISCC Plus certification schemes.

- **Roundtable on Sustainable Biomaterials (RSB):** RSB is a global multi-stakeholder initiative that sets sustainability standards for bio-based products, including aviation biofuels. Eligible certifications from RSB include the RSB ICAO CORSIA, RSB EU RED, and RSB Global certification schemes.

- **ClassNK SCS:** ClassNK SCS define sustainability certification requirements, set requirements for certification bodies, auditors and accreditation bodies in accordance with ICAO CORSIA requirements, and monitor effectiveness of the assurance system. ClassNK is accredited to ISOs 17029, 14065, 14064-3, 17065 and is the sole ICAO-CORSIA verifier in Japan.

- **European Union Renewable Energy Directive (RED II and RED III):** The RED is a European Union directive that sets renewable energy and sustainability criteria for biofuels, including aviation biofuels. It establishes requirements for greenhouse gas savings, land use, and sustainability certification, among other factors.

- **UK Renewable Transport Fuels Obligation (RTFO) Order:** RFTO is a policy mechanism implemented by the UK government to promote the use of renewable fuels in the transportation sector. It is designed to support the country's commitment to reducing

greenhouse gas emissions, enhancing energy security, and transitioning to a low-carbon economy.

Fuel Verification Documents

The following information must be demonstrated by the documents and information related to the fuel registered:

- Proof of Sustainability (POS) or Proof of Compliance (POC)
- Proof of Blending

The required information for fuel registration can be obtained from various documents provided by the fuel supplier (such documents are referred to as the “Verification Documents”). The following Verification Documents, or combinations thereof, are accepted as valid sources of information for registering a batch of fuel into the registry, provided they contain the required information related to POS or POC and Proof of Blending:

- Proof of Sustainability (POS)
- Product Transfer Document (PTD)
- Certificate of Analysis (COA)
- Certificate of Quality (COQ)
- Bill of Lading (BOL)
- Process Audit (AUD)
- Sustainable Aviation Fuel Certificate (SAFC)
- SAF Delivery Receipt (SAFDR)
- Sustainability Declaration (SD)
- Proof of Compliance (POC)
- Refinery Certificate of Quality (RCQ)

Fuel Information Requirements

During the registration process, various fuel information and details need to be collected and entered into different form fields. This information can be sourced from one or more Verification Documents provided by the fuel producer.

The fuel’s Verification Documents should include at least the following neat fuel batch information. *Note: that fields marked with an asterisk (*) are mandatory, and a detailed explanation can be found in the chapter titled "How to Register the Fuel."*

Producer Details
Producer Name*
Producer Address
Fuel Production Date*
Production Location*
Production Facility*
Tank Unit ID
Full Batch or Partial Batch information*

External Batch ID*
Conversion Process*
Feedstock*
Feedstock Country of Origin*
Pathway Specification*
Total Volume of the Batch (Neat) - Gallons (gal)*
Fuel Type*
Total Mass of the Batch (Neat) - Kilograms (kg)*
Verification that Fuel Meets Sustainability Requirements (Upload)*
CORSIA Eligibility*
EU ETS Eligibility*
UK ETS Eligibility*
Sustainability Document #*
Net Calorific Value (NCV) - Neat (MJ/kg)*
LCA Methodology*
Sustainability Certification Type
Incentive Declaration
Default or Actual*
Life Cycle Emissions Value (LSF)*
Core Life Cycle Assessment Value (LCA)*
Indirect Land Use Change (ILUC) Value*
Fuel Shipper
Shipper Company
Fuel Received by Shipper
Fuel Blender
Blender Company
Blending Location (Country)
Date Neat Eligible Fuel Received for Blending
Total Volume of the Batch (Blended) - Gallons (gal)*
Blend Ratio of Neat SAF & Aviation Fuel (% SAF)
Total Mass of the Batch (Blended) - Kilograms (kg)*
Density of Batch (Blended) (kg/gal)
Producer Chain of Custody
Date Transferred In
Blending Document #
Proof of Blending Document (Upload)

Fuel Regulatory Eligibility

The requirements for claiming emissions reductions vary by regulatory scheme. The requirements for three of the most common schemes, CORSIA, EU ETS and UK ETS are set forth below. Please note that these are not complete summaries and are for informational purposes only. Prior to making a claim for emissions reductions, the Registrant must confirm eligibility for

claiming emissions reductions by referencing the applicable regulatory scheme's rules and regulations.

CORSIA

To qualify for claims of emissions reduction under the CORSIA scheme, the fuel must be certified by a Sustainability Certification Scheme (SCS) approved by the International Civil Aviation Organization (ICAO). Three accepted certification organizations approved for certifying SAF are:

- International Sustainability & Carbon Certification (ISCC)
- Roundtable on Sustainable Biomaterials (RSB)
- ClassNK SCS

This certification information must be included in the uploaded Verification Documents, such as the Proof of Sustainability (POS), Product Transfer Document (PTD), or any similar document. If the certification status is not indicated in the Verification Documents, it is necessary to obtain additional proof of certification from the fuel producer. The fuel must be certified as CORSIA-eligible by one of the auditors mentioned above, and the eligibility status must be clearly indicated in the uploaded Verification Documents in order to list the fuel as CORSIA eligible within the platform. If the registered fuel is CORSIA eligible, it is important to note that all fields in the fuel registration process must be completed, including those that are otherwise not mandatory. The information required for reporting CORSIA-eligible fuel can be found in the ICAO form titled 'CORSIA Eligible Fuels Supplementary Information to the Emissions Report', available at: Standardized templates (icao.int).

EU ETS

To qualify for emissions reduction claims under the EU ETS scheme, the following documents must be provided as part of the Verification Documents:

- Proof of Sustainability (POS), Product Transfer Document (PTD), or any similar document. The Verification Document should include information confirming that the fuel meets the criteria outlined in the latest EU RED Directive. The eligibility status must be clearly indicated in the document disclaimer. If the certification status is not clearly indicated in the document, it is necessary to obtain additional proof of certification from the fuel producer.

UK ETS

To qualify for emissions reduction claims under the UK ETS scheme, the fuel must meet the sustainability criteria set out in the UK Renewable Transport Fuels Obligation Order (RTFO). The following documents can be provided as proof to support eligibility under UK ETS:

- Proof of Sustainability (POS) certificate or proof of purchase marked with ISCC EU or RSB EU RED.
- Report from fuel producer or supplier.
- Proof of successful RTFO claim, e.g., RTFO Operating System screenshot.

How to Register the Fuel

To register new fuel in the Registry, log in to the platform and click on the "Register New Fuel" button. You can choose to register a completely new fuel or continue the registration of a draft. The fuel registration process is divided into four sections:

- Producer Details
- Fuel Shipper
- Fuel Blender
- Review

Each section consists of a combination of mandatory and optional fields that must be completed during the fuel registration process. The required information necessary to register the fuel can be obtained from various documents provided by the fuel supplier. Below, you will find a comprehensive description of the information to be entered, along with examples of potential source documents:

Producer Details

- **Producer Name*:** Select the specific fuel producer from a dropdown list. Other producer details will be populated automatically.

Batch Details

- **Fuel Production Date***: The date when the fuel batch was produced. If an explicit production date is not available, please provide the earliest loading or shipping date as a substitute.

- **Production Location***: The country where the fuel batch was produced. Please note that this field is different from the country of origin of the feedstock. If the explicit country of production is not available, please use the country of loading as a substitute.

- **Production Facility***: The name of the biorefinery where the fuel batch was produced. If the explicit production facility is not available, please use the terminal of loading as a substitute.

- **Full Batch or Partial Batch***: The information indicating whether the batch is a complete production volume from that batch or only a portion of the total volume.
  - Full Batch: This indicates that the registered batch represents the complete volume produced in a single batch by the fuel producer.
  - Partial Batch: This indicates that the registered batch represents only a portion or subset of the total volume produced in a single batch by the fuel producer.

- **Tank Unit ID**: The storage tank identification number as listed in documentation provided by fuel producer or supplier.

- **External Batch ID***: The identification number assigned to the batch. It is mandatory to provide this information if the batch is a partial batch. The external batch ID may also be referred to by different names, such as:

- Batch ID Number
- Batch Number
- Neat SAF ID

If the Batch ID is not provided, an alternative unique identifier can be used. Here are some examples:

- PTD Number
- Delivery Number/Ticket Number
- Proof Of Sustainability (POS) ID Number
- Proof Of Compliance (POC) ID Number
- Bill of Lading (BOL) Number

Note: For the proper identification and traceability of the fuel batch, it is important to enter the Batch ID. If the Batch ID is not provided, it is recommended to contact the fuel supplier and obtain the necessary information. Providing a producer-level batch ID helps ensure that fuel was not cross-registered or sold among multiple platforms.

- **Conversion Process***: The name of the process utilized to convert feedstock into fuel. Select the appropriate option from the dropdown list provided, indicating the specific production pathway employed**.**

- **Feedstock***: The type of feedstock that was used in the production of fuel. Select the appropriate option from the dropdown list provided.

- **Feedstock Country of Origin***: The information about the country or region from which the feedstock used in fuel production originates. Select the corresponding option from the dropdown list provided.

- **Pathway Specification***: Identifying the conversion process as either an integrated or standalone conversion design.

  Note: This is not applicable to all conversion processes.

- **Total Volume of the Batch (Neat)***: The total volume of the neat fuel batch. The default units are measured in US gallons but may be changed in the Profile Settings. See more information in the **Changing Default Unit Measurement** section.

  Note: If the volume is initially provided in liters, it would be converted to US gallons using the conversion factor: 1 liter = 0.264172 US gallons. Neat fuel may be referred to by different names, such as Neat Renewable Fuel (NRF), Synthetic component, Biofuel, or bioquantity.

- **Fuel Type***: Select the specific type of fuel from the dropdown list provided.

- **Total Mass of the Batch (Neat)*:** The total mass of the neat fuel batch. The default units are measured in kilograms but may be changed in the Profile Settings. See more information in the **Changing Default Unit Measurement** section. When the total mass is not explicitly

listed, it can be calculated using the volume and density information provided on other documents such as the BOL.

Note: Regardless of registering a full or partial batch of fuel, the volume entered for "Total Volume/Mass of the Batch" should accurately reflect the total volume of fuel being registered at that time.

- **Verification that Fuel Meets Sustainability Requirements (Upload)***: Upload at least one Verification Document proving the sustainability certification related to the registered batch of fuel.

  Accepted Verification Documents:
  - Proof of Sustainability
  - Product Transfer Document
  - Sustainability Declaration
  - Sustainable Aviation Fuel Certificate

- **CORSIA Eligibility*:** The information regarding the eligibility of the fuel within the CORSIA scheme. Please refer to the "SAF regulatory eligibility" section for further details on determining the eligibility status.

- **EU ETS Eligibility*:** The information regarding the eligibility of the fuel within the EU ETS scheme. Please refer to the "SAF regulatory eligibility" section for further details on determining the eligibility status.

- **UK ETS Eligibility*:** The information regarding the eligibility of fuel within the UK ETS scheme. Please refer to the "SAF regulatory eligibility" section for further details on determining the eligibility status.

- **Sustainability Document #*:** Name of the uploaded sustainability Verification Document (this value will be included on the retirement statement for traceability).

  Note: When structuring the name of the document include relevant information that provides clarity and context. Suggested structure for the name:
  - *[Producer/Distributor/FBO Name]_[Document Type]_ [Batch ID]_[Date or Version]*
  - *Example: WE_SAFc_A1980-22-19_07042022*

- **Net Calorific Value (NCV) – Neat***: The information regarding the energy content of the neat fuel (expressed in megajoules per kilogram – MJ/kg). NCV is also known as the lower heating value (LHV).

<u>Emission Factors</u>

- **LCA Methodology***: The information regarding the methodology of Life Cycle Assessment (LCA). Please select the appropriate option from the dropdown list provided, indicating the specific LCA methodology.

- **Default or Actual Emission Factor***: The information regarding whether the fuel emission factor value is default or actual. If it is actual, please enter the values in the next fields.

- **Life Cycle Emissions Value (LSF)***: The information regarding the Life Cycle Emissions value (expressed in grams of CO2 equivalent per megajoule – gCO2e/MJ) for the specific fuel being registered. The value can also be referred to as Carbon Intensity (CI), Emissions Factor or GHG.

- **Core Life Cycle Assessment Value (LCA)***: The information regarding the Core Life Cycle Assessment value (expressed in grams of CO2 equivalent per megajoule – gCO2e/MJ) for the specific fuel being registered.

- **Indirect Land Use Change Value (ILUC)***: The information regarding the Indirect Land Use Change value (expressed in grams of CO2 equivalent per megajoule – gCO2e/MJ) for the specific fuel being registered.

  Note: Life cycle emissions value (LSF) is a sum of Life cycle assessment value (LCA) and Indirect Land Use Change (ILUC) Value (LSF=LCA+ILUC).

  Note: If only the actual Life Cycle Emissions value (LSF) is available and no Life Cycle Assessment (LCA) and Indirect Land Use Change (ILUC) values are provided, it is acceptable to leave LCA and ILUC as zero. However, it is important to note that if the fuel is listed as eligible for CORSIA, it is necessary to enter values for all parameters, including LCA and ILUC. EU and UK ETS only require LSF.

  Note: If you believe one of the draft life cycle emission values is incorrect, please save and exit the fuel registration process and contact the Registry Administrator.

Fuel Shipper

- **Shipper Company:** Select the specific shipper company from the dropdown list provided. Information for the Shipper Company must be added to the "Linked Companies" section prior to registration.

  Note: This information is optional unless the fuel is CORSIA eligible.

- **Fuel Received by Shipper:** The date when the fuel was received by the shipper.

  Note: This information is optional unless the fuel is CORSIA eligible.

Fuel Blender

- **Blender Company:** Select the specific blender company from the dropdown list provided. Information for the Blender Company must be added to the "Linked Companies" section prior to registration.

  Note: This information is optional unless the fuel is CORSIA eligible.

- **Blending Location (Country):** The country where the fuel was blended.

- **Date Neat Eligible Fuel Received for Blending:** The date when the fuel batch was received by the blender. If the explicit date is not available, please provide the earliest loading or shipping date, post production, as a substitute.

- **Total Volume of the Batch (Blended)*:** Total quantity of SAF batch. The default units are measured in gallons but may be changed in the Profile Settings. See more information in the **Changing Default Unit Measurement** section.

  Note: If registering a neat or unblended amount of fuel, the total volume blended should equal the same value for total volume of batch (neat).

- **Blend Ratio of Neat SAF & Aviation Fuel (% SAF):** Percentage of SAF in the overall fuel mixture, based on the mass of the fuel. This value is automatically calculated based on the mass of the neat fuel divided by the mass of the blended fuel.

- **Total Mass of the Batch (Blended)*:** Total quantity of SAF batch. The default units are measured in kilograms but may be changed in the Profile Settings. See more information in the **Changing Default Unit Measurement** section.

  Note: If registering a neat unblended amount of fuel, the total mass blended should equal the same value for total mass of batch (neat). This will automatically calculate a 100% blend ratio.

- **Proof of Blending Document (Upload).** Upload at least one Verification Document demonstrating the blending ratio of fuel.

  Note: This information is optional but encouraged. Example Documents: Statement of Blend Percentage, Bill of Lading, Certificate of Analysis

Review

Please review and, if necessary, correct the populated fields and uploaded Verification Documents before finalizing the fuel registration. Once you have ensured that all the information is accurate, you can proceed to submit the fuel registration.

Verification

Once the fuel is ready for submission, you must select a verifier to review and validate the information submitted based on the uploaded documentation. The Registry Administrator will be the primary validator to begin and will either approve the registration request, at which point the fuel will be included in the Registrant's inventory in the Registry; or the fuel will be rejected and sent back with comments on the fields needing correction. The Registry Administrator reserves the right to add additional verifiers in the future.

When to Register the Fuel

The fuel can be registered by either the producer, shipper, blender, or consumer based on their desire to tokenize a full or partial batch of fuel, recording it into their digital inventory. It is encouraged to register a batch in its entirety to provide the most robust tracking across registries and down the supply chain. It is important to register the fuel as early in the supply chain as possible for best traceability and auditability. Registering the fuel earlier in the supply chain helps streamline the process and ensures all necessary information regarding the entire supply chain and related documentation are captured accurately.

By registering fuel on the Registry, the Registrant represents and warrants that:

1. The user registering the fuel is an authorized representative of the Registrant and is authorized to register the fuel on its behalf.

2. The Registrant has legal title to the fuel being registered as of the registration date.

3. None of the fuel, nor any environmental attributes of the fuel, have been or are registered on another registry or tracking system that (i) could contradict the current or future chain of custody in the Registry, or that (ii) would invalidate the eligibility of the fuel for a regulatory program marked as eligible.

4. The information and documents uploaded are accurate do not contain any errors or omissions.

Additionally, the Registrant represents and warrants that it will maintain compliance with certain requirements during registration and transfer related to changes in its inventory of fuel that is registered on the Registry, including that:

1. The corresponding amount of fuel registered has been withdrawn from the Registrant's custody tracking and management systems (the "Chain of Custody Tracking and Management System"), and in the case of a non-physical transfer, selling the physical product without sustainability attributes attached. Appropriate documents may include contracts, invoices, and delivery information.

2. The Registrant shall keep record of forwarded certified product in its Chain of Custody Tracking and Management Systems, including the related compliance claims and sustainability characteristics.

3. The Chain of Custody Tracking and Management System balance shall include the certified fuel product acquired and forwarded, as well as batches of material not intended for registration in the Registry. The Registry's auditors shall have access to the complete documentation of acquired and forwarded product and product claims, including appropriate certification documentation.

4. The Registrant shall monitor the balance of the certified material withdrawn from and added to the Chain of Custody Tracking and Management System.

5. Whenever different chain of custody traceability methods is applied (e.g., mass balance and book and claim), the Registrant shall implement systems to avoid double counting, with documentation and the ability for system review at the time of audit.

6. The Registrant shall ensure deficits of certified material do not occur (i.e. the operator shall not forward or deliver greater amounts of certified material than is acquired or produced).

7. Documentation of compliance with these requirements must be kept in accordance with the Assure Terms and Conditions and be ready to be made available to the Registry Administrator, auditors, or other authorities.

4. Transfer the Fuel

To transfer the registered fuel attributes to another user, click on the "Transfer Fuel" button located on the left side menu. The transfer dashboard will then display the available fuel inventory for transfer. To begin the fuel transfer process, select the desired fuel attributes using the checkboxes and click on the "Transfer" button on the right side. At the top of the page is a toggle to see a list of previously transferred fuels. On the Previously Transferred fuel tab, the  icon can be used to download transfer receipts (SAFTRs) for the respective transfer.

Batches can either be transferred individually or together by selecting multiple batches for transfer. Batches are not merged during transfer and will show up individually within the recipient's inventory.

The transfer section includes both mandatory and optional fields that must be completed during the fuel transfer process. Below, you will find a comprehensive description of the information that needs to be entered:

- **Account ID*:** Enter the 8-digit Registry account ID number of the fuel recipient. The company ID number can be found as the Company ID in the "Company Management" section of the registry or in the upper right hand profile name. This Company ID is unique to each registered entity and is not shared publicly within the platform. The ID for the recipient must be shared by them outside of the platform prior to being able to transfer fuel to them.

- **External Reference Number:** Enter the reference number for the transfer. This number is used to link the transfer to an external proof of transfer, such as an Invoice, PTD (Proof of Transfer Document), or BOL (Bill of Lading) number. The reference number should closely correspond to the fuel being transferred. If the entire truckload of fuel is being transferred, the BOL number is usually used as the reference. However, if only a partial batch of fuel is being transferred, the invoice number is used instead. The reference number should enable traceability back to the underlying commercial transaction outside of the registry.

- **Method of Transfer*:** Select the method of transfer. If the fuel was physically delivered to a recipient, please select "Physical". If you are transferring only the fuel's environmental attributes (as book and claim), please select "Non-physical".

- **Transfer Date*:** Select the date of transfer.

  *Notes: The date of transfer of the **non-physical** fuel should represent the date of sale of the fuel to the customer.*

*The date of transfer of the **physical** fuel should reflect the date of actual delivery of the fuel to the customer, along with the transfer of ownership as indicated on the Bill of Lading (BOL).*

- **Aircraft Tail Number:** Enter the tail number or registration mark of the aircraft if the fuel attributes are physically or non-physically transferred to a specific aircraft. This field is optional and only included if desired for specific transfer tracking purposes.

- **Location of Transfer (Airport ICAO Code):** Enter the 4-letter ICAO airport code of the location where the fuel transfer or delivery is taking place. If the fuel is being delivered to the aircraft, please enter the airport code of the uplift location.

  Note: IATA airport codes can be used if that is preferred.

- **Transfer Measure*:** You can select to transfer by volume or by mass. The units used will updated based on the units selected in your Profile Settings.

- **Volume/Mass of Blended Fuel to Transfer*:** Enter the amount of the fuel batch to be transferred or select "Transfer All" if transferring all available fuel.

After completing the Fuel Transfer form, please click the "Review" button to verify if all required fields are accurately filled out and then proceed to initiate the transfer. Once the transfer process is complete, the system will generate the SAF transfer receipt (SAFTR). You can find the details of the transfer and the SAFTR document in the "Previously Transferred" section. Transfers of the fuel represent a transfer of the ownership of the environmental attributes, this means you no longer own claim to any of the environmental benefits (including specifically the voluntary and regulatory end-use claims) from that fuel, no scope claims may be separated, retained, nor transferred separately. Transfers may be irrevocable so take care to ensure that the quantities and the recipient is correct.

The **SAF Transfer Receipt** (SAFTR) is a document that records the transfer of ownership of a specific batch of fuel from one registry participant to another. It serves as an auditable chain of custody, documenting the transition of ownership. This receipt ensures transparency and traceability throughout the transfer process (see sample SAFTR in the Appendix I). The SAFTR does not represent a claim to the fuel, the fuel must be retired before claiming.

5. Retirement

To retire fuel or fuel attributes click on the "Retirements" button located on the left side. The retirement's dashboard will then display the available fuel inventory for the retirement. To begin the fuel retirement process, select the desired fuel attribute(s) and click on the "Retire" button on the right side. At the top of the page is a toggle to see a list of previously retired fuels. On the Previously Retired fuel tab, the  icon can be used to download claim receipts (SAFCRs) for the respective retirement ("Retirement Statements").

Batches can either be retired individually or together by selecting multiple batches for retirement. Batches are not merged during retirement and will show up individually within the prior retirement

list; however, only one SAFCR will be generated and will aggregate or average some information from all of the batches retired together.

The retirement section includes both mandatory and optional fields to be completed during the fuel retirement process. Below, you will find a comprehensive description of the information that needs to be entered:

- **Aircraft Tail Number:** For the physical uplift of SAF into an aircraft, enter the tail number or registration mark of the aircraft. This field is optional and only included if desired for specific transfer tracking purposes.

- **For Further Credit:** Enter the 8-digit Registry account ID number of the user claiming the indirect environmental credit.

  Example 1: An airline assigns additional credits to a corporate customer who would then claim a scope 3 reduction.
  Example 2: An aircraft operator retires the fuel directly but then assigns additional credit to someone who fractionally owned or chartered the airplane who could then claim a scope 3 reduction.

  Note: Any user who has been assigned credit will have access to the same retirement information, in its entirety, in their account and access to download the SAF claim receipt (SAFCR) under the Indirect Retirements Section. However, they will not see any prior transfer information related to that fuel.

- **Country of Claim*:** For voluntary purposes, select the country of location/headquarters or registration of the operator. In the case of international operations, enter the country where you'd like the fuel to be considered consumed.

  Notes: For physical transfers, it is recommended to select the "Country of Claim" as the country of uplift, as it aligns with the physical transfer of the fuel.

  For book and claim transactions, you can choose either the country where the fuel was physically uplifted or, if applicable, the country where regulatory reporting obligations apply. Note that not all schemes will accept fuel transferred through a book and claim chain of custody, some, like EU ETS will only accept a fuel delivered to an airport physically visited by an operator's aircraft.

- **Reference Number*:** Enter the reference number for the retirement, such as an Invoice, PTD, or BOL number. The reference number should tie back to any applicable external documentation for audit purposes.

- **Retirement Date*:** Select the date of the retirement.

- **Retirement Measure***: You can select to retire by volume or by mass. The units used will updated based on the units selected in your Profile Settings.

- **Volume/Mass of Blended Fuel to Retire*:** Enter the volume or mass of the fuel batch to be retired or select "Retire All" if retiring all available fuel from that batch.

After completing the Fuel Retire form, please click the "Review" button to verify if all required fields are accurately filled out and then proceed to initiate the retirement. Please be aware that the retirement process cannot be undone, so ensure all details are correct before proceeding.

Once the retirement process is complete, the system will generate the SAF claim receipt (SAFCR). You can find the details of the retirement and the SAFCR document in the "Previously retired" section.

The **SAF Claim Receipt (SAFCR)** is generated after the fuel is retired. Retiring the fuel means preventing it from being further transferred or used. The SAF claim receipt contains the necessary information to claim the fuel for a voluntary or regulatory program. It confirms the ownership of the fuel as the retiree's and signifies their eligibility to make the claim (see sample SAFCR in the Appendix II).

How to Officially Claim the Fuel

To make a voluntary or regulatory claim based off the fuel attributes, it is essential to follow the retirement process within the Registry first. The right to claim the fuel only exists after the fuel has been retired so the retirement process is a prerequisite for any fuel claim. The Registry and the Registry Administrator explicitly denies any claims of the fuel attributes based solely on a previous transfer or possession of fuel. Once the fuel has been successfully retired, you can proceed with the official claim, and the system will generate the SAF claim receipt (SAFCR) as proof of the claim.

Notes:

Emission reductions are reported on both a Tank-to-Wake (TTW) and Well-To-Wake (WTW) basis. TTW is calculated in line with the ICAO Methodology from Annex 16 Vol IV Section 3.3, using the emissions factor 3.16kg CO2e/kg (or 3.16t CO2e/t). WTW is calculated in line with the IATA SAF Accounting & Reporting Methodology Section 2.2.4, using the baseline emissions factor 3.84kg CO2e/kg (or 3.84t CO2e/t). For more information on reduction calculations, please review the IATA Sustainable Aviation Fuel (SAF) Accounting & Reporting Methodology.

6. Additional Functions

Adding New Users

In order to add new users to the Registrant’s account, you must be the original account creator and thus an admin on the account or have been designated as an admin on the account.

Users can be added under the Company Management section, from the left-hand menu. Click “Invite User” and enter the email address and role designation for the user. An invite link will be emailed to them to finish setting up their account.

Existing users can be deactivated or deleted on this page by the admin.

User Roles

The following user role permissions exist:

User Role	Control User Access	Manage Company Settings	Register Fuel	Transfer Fuel	Retire Fuel	View Inventory	Reporting
Company Admin	X	X	X	X	X	X	X
User			X	X	X	X	X
Read-Only						X	X

Changing Default Unit of Measurement

The Registry provides the opportunity to localize units into your units of preference. To change your units, click your username in the upper right corner and select "Settings". Go to "Unit Preferences", click "Edit Units of Measure", and from there you can select your preferred units from the dropdown menu and click "Update Details" to save your settings.

The current options are:

- Mass: Kilograms (kg), Metric Tonnes (mt), or Pounds (lbs).
- Volume: Liters (l) or Gallons (gal).
- Density: Kilograms/Gallons (kg/gal), Kilograms/liters (kg/l), Pounds/Gallons (lbs/gal), or Kilogram/Cubic Meters (kg/m^3).

Regardless of the unit selected, the base units used for calculations, rounding and registration are kilograms.

Managing Your Company

The following company types and permissions apply, the Registrant's type will be verified during the account creation process.

Company Type	Register Fuel	Transfer Fuel	Retire Fuel	Verify Fuel
Fuel Producer	X	X	X	
Fuel Distributor	X	X	X	
Airline	X	X	X	
Trader	X	X	X	
End Consumer	X	X	X	
Verifier				X

User permissions are managed under the Company Management page, accessed from the main menu.

Registrant settings can be managed from the Settings page, accessed from the user title in the upper right-hand corner. The company address can be updated here. To save changes to the address, make any necessary modifications and click "Update" to save. The Company ID was assigned during the creation of the Registrant's Account and cannot be changed.

Managing Your Linked Companies

Blenders, Shippers, and Verifiers can be managed through the Linked Companies section of the upper left-hand menu. This allows you to auto-populate information repeatedly used during SAF registration for supply chain information. The Verifier Linked Accounts define who will be available to send the fuel registration request to for validation during the fuel registration process.

Enforcement

Your use of the registry must be in compliance with the Assure Registry Terms and Conditions. Failure to adhere to those terms or the requirements of this user guide may result in account suspension or revocation of access to the Registry.

7. Glossary – Terms and Definitions

Biojet fuel: Also known as biomass-derived aviation fuel, renewable jet fuel (RJF), Sustainable Aviation Fuel (SAF), or biofuel, it refers to aviation fuel produced from renewable biomass sources.

Blended SAF: Sustainable aviation fuel that has been mixed or blended with conventional aviation fuel.

Blender Company: The specific company responsible for blending the sustainable aviation fuel.

Conversion Process: The specific method used to convert the feedstock into sustainable aviation fuel.

CORSIA: The Carbon Offsetting and Reduction Scheme for International Aviation is an international program established by the International Civil Aviation Organization (ICAO) to offset carbon emissions from international flights.

Default Induced Land Use Change (ILUC) Value: The value representing the induced land use change impact of the specific sustainable aviation fuel, expressed in grams of CO2 equivalent per mega joule (gCO2e/MJ).

Default or Actual Core Life Cycle Assessment Value (LCA): The value representing the core life cycle assessment of the specific sustainable aviation fuel, expressed in grams of CO2 equivalent per mega joule (gCO2e/MJ).

Default or Actual Life Cycle Emissions Value (LSF): The value representing the life cycle greenhouse gas emissions of the specific sustainable aviation fuel, expressed in grams of CO2 equivalent per mega joule (gCO2e/MJ).

EF (Emission Factor): The value representing the greenhouse gas emissions associated with the production and use of sustainable aviation fuel, expressed in grams of CO2 equivalent per mega joule (gCO2e/MJ) of fuel.

EU ETS: The European Union Emissions Trading System is a cap-and-trade program aimed at reducing greenhouse gas emissions from various sectors within the European Union.

European Union Renewable Energy Directive (RED): An EU directive that sets renewable energy and sustainability criteria for biofuels, including sustainable aviation biofuels, focusing on greenhouse gas savings, land use, and sustainability certification.

Feedstock: The raw material used to produce sustainable aviation fuel, typically derived from renewable biomass sources.

Fuel Type: The specific type of sustainable aviation fuel categorized based on its composition and properties.

Full Batch: Represents the complete volume of sustainable aviation fuel produced by the fuel producer.

International Sustainability and Carbon Certification (ISCC): A certification system for sustainable biomass and bioenergy, ensuring the sustainable production and traceability of feedstock used in biofuel production.

LSF (Life Cycle Greenhouse Gas Emissions Savings Factor): The value representing the greenhouse gas emissions reduction achieved by using sustainable aviation fuel compared to conventional fossil-based jet fuel. It is expressed in grams of CO2 equivalent per mega joule (gCO2e/MJ) of fuel.

Neat SAF: Refers to sustainable aviation fuel in its pure form, without blending.

Partial Batch: Represents only a portion or subset of the total volume of sustainable aviation fuel produced.

Roundtable on Sustainable Biomaterials (RSB): A global multi-stakeholder initiative that sets sustainability standards for bio-based products, including sustainable aviation biofuels.

SAF: Sustainable Aviation Fuel. Aviation fuel produced from renewable or bio-based feedstock, which have a lower carbon footprint compared to traditional fossil-based aviation fuels.

SAFTR: Sustainable Aviation Fuel Transfer Receipt. It is a document that records the transfer of ownership of a specific batch of sustainable aviation fuel from one registry participant to another, ensuring transparency and traceability.

SAFCR: Sustainable Aviation Fuel Claim Receipt. It is a document generated after the fuel is retired, confirming the ownership of the fuel and signifying the retiree's eligibility to claim it for voluntary or regulatory programs.

UK Renewable Transport Fuels Obligation (RTFO) Order: A policy mechanism implemented by the UK government to promote the use of renewable fuels in the transportation sector, aiming to reduce greenhouse gas emissions and support the transition to a low-carbon economy.

8. Appendix

Appendix I: SAF Transfer Receipt Sample (SAFTR)

SUSTAINABLE AVIATION FUEL TRANSFER RECEIPT		
1	Transfer Date:	02/02/2025
2	External Reference #:	Inv2341
3	Unique Transfer #:	26893818_1738875622713

A. PROVIDER	
4	4AIR LLC Inventory
5	26180 Curtiss Wright Parkway
	Cleveland OH 44143

B. RECEIVER	
6	4AIR, LLC
7	26180 Curtiss Wright Parkway
	Cleveland OH 44143

C. PRODUCT INFORMATION		
8	PRODUCT TYPE:	SAF
9	TOTAL VOLUME, BLENDED:	100 Gallons
10	TOTAL VOLUME, NEAT:	34 Gallons
11	TOTAL MASS, BLENDED:	298 kg
12	TOTAL MASS, NEAT:	100 kg
13	TRANSFER LOCATION:	KMMU
14	METHOD OF TRANSFER:	Physical Delivery
15	AIRCRAFT:	N123LL
16	BLEND ATTESTATION:	Blend 12354
17	SUSTAINABILITY ATTESTATION:	PTD

D.	SKU (Batch ID)	Feedstock(s)	Feedstock Region	Producer	Conversion process	Gallons, Blended	Blend %	Gallons, Neat	CI (gCO2 / MJ)
18	661	Forestry residues	Global	Neste (Test)	Fischer-Tropsch (FT)	100	33.62 %	33	8.3

Form Version 202457.4.4.1

Carbon Intensity Values ("LSf") provided in this document are based on the LSf values from ICAO Document "CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels" in g/MJ or using values provided by the Fuel Producer, according to "CORSIA Methodology for Calculating Actual Life Cycle Emissions Values" or the Argonne "GREET" model.

This Transfer Document acts as an attestation to the transfer of the sustainable fuel environmental attributes and their respective emission reduction claims for the fuels listed by the Provider and designated for the Receiver, including both direct ("Scope 1") and indirect ("Scope 3") reduction claims from the combustion of the fuel. This Transfer Document excludes the transfer of ownership of environmental attributes for production, blending, or related upstream support schemes, including but not limited to claims made under the HBE scheme, RED II, RTFO, BTC, RFS, and LCFS. Assure explicitly disclaims any carbon dioxide or emission reduction claim by the receiver or provider based solely on this document.

Transfers of attributes made through Non-Physical transfers or through a Book and Claim chain of custody may invalidate their eligibility for CORSIA, UK ETS, EU ETS or other end-use regulatory programs. The Provider and Receiver shall seek out and take their own legal and tax advice with respect to any use of this Transfer Document. Assure and its affiliates, subsidiaries, or agents, give no warranty, representation or undertaking as to how this Transfer Document may be used by the customer.

Should this information be used for any purpose by the Receiver or be shared with any third parties, Assure does not accept any liability for the accuracy or completeness of the information. Receiver and Provider shall to the fullest extent permitted by applicable law indemnify and hold Assure harmless against any and all claims, actions, proceedings, applications, losses, damages, costs and expenses relating to, or arising in connection with the accuracy and completeness of the information or any use of any information contained in this document.

Appendix II – SAF Retirement Claim Receipt Sample (SAFCR)

SUSTAINABLE AVIATION FUEL CLAIM RECEIPT		
1	Retirement Date:	12/24/2024
2	External Reference #:	Dec 24
3	Unique Retirement #:	11542538_1734549516533

A. RETIREE:	
4	4AIR, LLC
5	26180 Curtiss Wright Parkway
	Cleveland OH 44143

B. FOR FURTHER CREDIT TO	
6	-
7	-
	-

C. SUMMARY PRODUCT INFORMATION		
8	PRODUCT TYPE:	SAF
9	TOTAL VOLUME, BLENDED:	2,000 Gallons
10	TOTAL VOLUME, NEAT:	600 Gallons
11	TOTAL MASS, BLENDED:	5,955 kg
12	TOTAL MASS, NEAT:	1,786 kg
13	TOTAL ENERGY CONTENT, NEAT:	76,465 MJ
14	AVERAGE BLEND:	30.0 %
15	CLAIM COUNTRY:	United States of America
16	NUMBER OF DELIVERIES:	1
17	TRANSFER DATES:	-
18	AIRCRAFT:	-
19	TOTAL EMISSION REDUCTIONS:	4.218 mtCO2

D.	SKU (Batch ID)	POS #	Feedstock	Transfer ID #	Method of Transfer	Airport	Gallons, Blended	Gallons, Neat	CI (gCO2 / MJ)	LCA Model
20	587	PTD 0824N52A	Tallow	-	-	-	2,000	600	22.5	ICAO

Form Version 202457.8.1

Carbon Intensity Values ("LSf") provided in this document are based on the LSf values from ICAO Document "CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels" in g/MJ or using values provided by the Fuel Producer, according to "CORSIA Methodology for Calculating Actual Life Cycle Emissions Values" or the Argonne "GREET" model. Emission reductions are calculated in line with the CORSIA methodology, using the CORSIA Baseline for Jet Fuel of 89gCO2e/MJ, in line with Annex 16 Vol IV Section 3.3.

This Claim Document attests to the final retirement of the emission reduction claims by the Retiree from the use of the listed fuels, including both direct and indirect reduction claims, in collaboration with the party listed under For Further Credit To, if applicable. This documentation makes no attestation to the ownership of any environmental attributes for production, blending, or related upstream support schemes, including but not limited to claims made under the HBE scheme, RED II, RTFO, BTC, RFS, and LCFS.

Purchases of attributes made through Non-Physical transfers or through a Book and Claim chain of custody may invalidate their eligibility for CORSIA, UK ETS, EU ETS or other end-use regulatory programs. LSf factors may vary from reported values under ETS or other programs. No further transfers of this emission reduction claim can be made.

The Retiree(s) shall seek out and take their own legal and tax advice with respect to any use of this Claim Document. Assure and its affiliates, subsidiaries, and agents gives no warranty, representation or undertaking as to how this Claim Document may be used by the customer.

Should this information be used for any purpose by the Retiree(s) or be shared with any third parties, Assure does not accept any liability for the accuracy or completeness of the information. Retiree(s) shall to the fullest extent permitted by applicable law indemnify and hold Assure harmless against any and all claims, actions, proceedings, applications, losses, damages, costs and expenses relating to, or arising in connection with the accuracy and completeness of the information or any use of any information contained in this document.