



Renewable Fuels
Assurance Scheme

Technical Guidance Document

Date: 7th April 2021

Version 1.1

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1. Introduction

The Renewable Fuels Assurance Scheme (RFAS) has been developed to enable vehicle fleet operators to have independent assurance of the greenhouse gas emission and feedstock sustainability performance of high blend renewable fuels sold in the UK. The scheme aims to verify claims made by companies supplying renewable fuels regarding their product’s GHG emission savings and provenance of raw material feedstocks. The RFAS works alongside the Government’s Renewable Transport Fuel Obligation (RTFO), providing a mechanism for guaranteeing that fleet operators are purchasing bulk supplies of sustainable low carbon fuels. The scheme will facilitate fleet operators receiving renewable fuel supply chain specific GHG emission data, thereby ensuring accurate and representative information for company carbon reporting¹ (Scope 3 Emissions). Furthermore, credible GHG emission data will help inform decision making processes regarding vehicle fleet decarbonisation options by demonstrating the merits of sustainable low carbon fuels.

1.1 Objectives of the scheme

- To encourage greater use of renewable fuels by heavy-duty vehicle operators and establish a unique approach to raising the profile and credibility of sustainable low carbon fuels.
- To ensure the provision of reliable, accurate, robust and transparent GHG emissions data reported to vehicle fleet operators by renewable fuel suppliers.
- To give independent assurance of the GHG emissions and sustainability performance of high blend renewable fuels available supplied to the heavy-duty vehicle sector.

1.2 RFAS Scope

The RFAS is open to companies who supply renewable fuels to public and commercial fleet operators. Example renewable fuel types include - biodiesel (FAME), hydrotreated vegetable oil (HVO), biomethane, renewable hydrogen, bio-propane and various advanced renewable fuels. The scheme specially covers renewable fuels supplied through the RTFO, and as such open to producers and suppliers of renewable fuels, including traders and distributors. Transport sectors covered by the scheme are road vehicle and heavy duty off high-way, notably non-road mobile machinery. The RFAS encompasses the complete renewable fuel supply chain from feedstock cultivation or waste raw material collection, production and distribution of the final product to the customer. This is commonly referred to as the well-to-tank (upstream fuel production) pathway, see Figure 1. In the case for hydrogen produced from electrolysis using renewable electricity the fuel pathway could start from the production/manufacture.

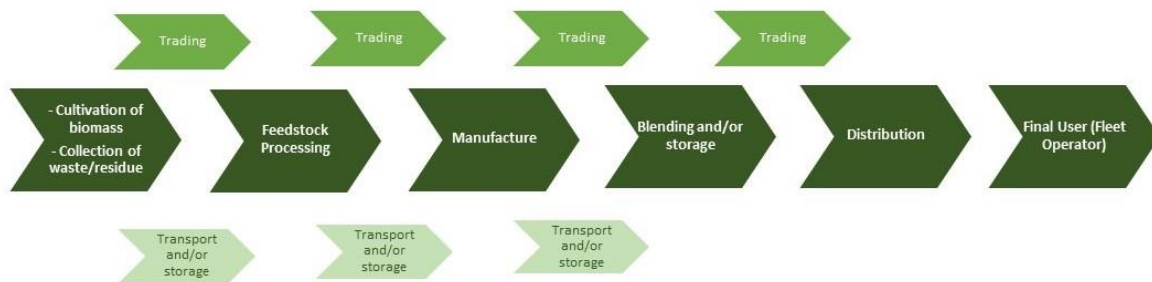


Figure 1: Example renewable supply chain (well-to-tank)

¹ <https://ghgprotocol.org/corporate-standard>

1.3 RFAS Performance Standards

The RFAS comprises of three performance standards which companies approved under the scheme are required to meet.

Greenhouse gas (GHG) emission savings threshold:

Renewable fuels shall meet the following minimum GHG emission savings threshold compared to the fossil fuel comparator:

- 65% GHG savings for the renewable fraction, aligning with current obligation targets.
- 70% GHG savings for development fuels (such as renewable hydrogen)
- 10% GHG savings for the total blend, ensuring significant savings are achieved and limiting the use of high emissions fuels, such as synthetic fuels, in blends.

Calculations must be based the fuel supply chain (lifecycle) methodology; refer to Appendix F for details. Fossil fuel comparator carbon intensity is 92.8 gCO₂e/MJ.

Feedstock Sustainability

- Protection of land: Energy crops shall not be cultivated on land of high biodiversity value or high carbon stock such as wetlands and peatland.
- Use of waste as a resource: A chain of custody will be required to demonstrate provenance of the biomass waste and residues and exclusively those covered under the 'RTFO list of feedstocks including wastes and residues'.²
- Use of renewable energy and resources for renewable fuels of non-biological origin (RFNBOs): These fuels shall only be produced using energy from renewable sources. Production of renewable hydrogen via electrolysis shall demonstrate additionality with regards to renewable electricity supply. In the case of CO₂ as a feedstock this shall arise from waste fossil sources, biological or atmospheric or naturally-occurring geothermal sources.

Supply Chain Traceability

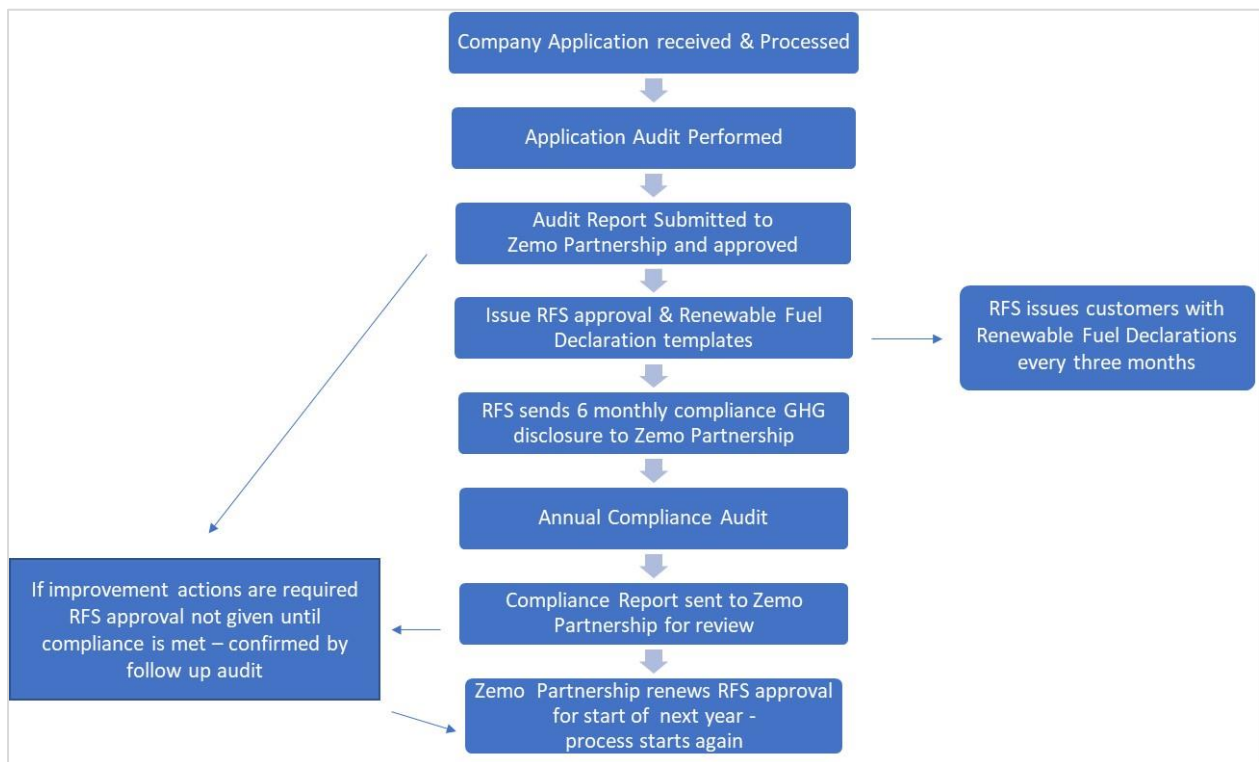
- The renewable fuel supply chain shall be traceable from feedstock origin to customer refuelling depot in terms of greenhouse gas emission and sustainability performance (See Figure 1).
- There shall be alignment between greenhouse gas emission and sustainability performance of verified renewable fuel reported under the RTFO and batches of renewable fuel sold to fleet operators.

² <https://www.gov.uk/government/publications/renewable-transport-fuel-obligation-rtfo-guidance-2020>

2. RFAS Application Process and Compliance Requirements

Companies selling renewable fuels are required to make an application to Zemo Partnership to become an approved Renewable Fuel Supplier (RFS) and submit evidence demonstrating compliance with the RFAS's performance standards – section 2.2. This will require independent verification by an approved auditor. Once approved, the RFS will be required to submit on-going evidence of compliance with the scheme performance criteria, including an annual audit report and a six-monthly 'GHG emission and sustainability disclosure'. The RFS is required to issue their customers with Renewable Fuel Declarations in accordance with batches of renewable fuel sold. Figure 2 shows how the scheme operates.

Figure 2: Renewable Fuels Assurance Scheme Process Flow Diagram



2.1 RFAS Application

To become an approved Renewable Fuel Supplier, a company will need to complete the RFAS application form and sign the RFAS agreement once approved.

An 'Application Audit' against the RFAS performance standards will be undertaken by the approved auditor appointed by Zemo Partnership. The 'Application Audit' will be arranged between the Renewable Fuel Supplier and the auditor within one month of submitting the application. The aim of the audit will be to assess the capacity and readiness to comply with Performance Standard.

Once the audit is completed an RFAS Application Audit Report will be sent to the RFS and Zemo Partnership. The application audit will entail a review of the RFS records for the last six months.

Zemo Partnership will approve the application within two weeks of the paperwork being submitted. The following will be issued to the RFS once the application is approved:

- RFS approval document including a unique identified for the company (Appendix C). - This document shall identify the type and blends of renewable fuels supplied by the supplier.
- RFAS agreement letter signed by Zemo Partnership and the RFS. This document will present a set of conditions that the supplier is requested to agree to.
- Renewable Fuel Declaration templates for each renewable fuel and blend supplied, with unique reference numbers for each customer (Appendix D).

2.2 Compliance Audits and Ongoing Monitoring

Renewable Fuel Supplier Compliance Monitoring

'Compliance Audits' against the RFAS Performance Criteria will be conducted on an annual basis by Zemo's appointed auditor. The aim of these audits will be monitoring compliance against the RFAS performance standard and will include a sample of the declarations issued to customers. Compliance Audit Report will be prepared by the auditor and sent to Zemo Partnership and the RFS within one week following the audit. Zemo Partnership recommends the compliance audit is undertaken between ten and twelve months after the RFS approval document has been issued.

If non-conformities are raised, the RFS has 40 days to take action. An improvement plan will be issued by Zemo Partnership. A follow up audit, and report, will be required to demonstrate compliance. If action is not taken, approval under the RFAS can be terminated.

Zemo Partnership shall issue each company a new RFS Approval Document at the start of the second year of RFAS, once the compliance audit has been reviewed and approved. This process will continue each year. The information to be provided during compliance audit can include:

- Written procedures.
- Mass balance of RTFO verified renewable fuel against customer sales.
- Mass balance of incoming Renewable Fuel Declarations against customer sales.
- GHG emissions of renewable fuel blends.
- Proof of sustainability documentation.
- Voluntary sustainability scheme certification.
- Sales documents -supplier and sales invoices.
- Incoming documents, including renewable fuel purchases (if applicable).
- HMRC records for duty payment.
- Duty payment confirmation.
- RTFO reported quantities and RTFCs issued.
- RFAS claims and logos.
- Renewable Fuel Declarations.

Six-month GHG and Sustainability Disclosure

Once approval is awarded it is the responsibility of the RFS to send a 'GHG and Sustainability Disclosure' to Zemo Partnership every six months. Zemo Partnership will send an acceptance email following review and follow up on any queries. The information to be submitted is presented in Appendix C. This information will assist Zemo Partnership monitor the UK high blend renewable fuels market as well having robust well-to-tank GHG emission data for their internal analytical work.

2.3 Renewable Fuel Declarations

Once approved under the RFAS, Zemo Partnership will issue Renewable Fuel Declaration templates with unique reference numbers specific to RFS for each renewable fuel type and blend supplied. RFS are required to have a record keeping system that enables customers to be matched with these specific numbers. New reference numbers will be generated each year of RFAS participation.

The declarations will be issued per customer and per quarter for batches of renewable fuel sold for the full year.

The declaration shall reflect the lifecycle GHG emissions and feedstock sustainability performance of the renewable fuel sold. The information to be included covering each three-month period: customer name and address, renewable fuel sold and proportion of renewable fuel (blend), GHG emission savings, GHG emission intensity, description of feedstocks and status regarding voluntary sustainability scheme certification. Example declarations can be seen in Appendix B. These declarations shall be raised for all batches over 10,000 kgs or 16,000 litres. Zemo Partnership's approval shall be sought if any deviations are needed.

It is essential that the most recently issued declarations are communicated with customers to provide the robust and representative GHG emissions data, in order that they can be used in company carbon reporting.

RFS can only issue Renewable Fuel Declarations to their customers, they cannot be traded or transferred to another renewable fuel suppliers. Declarations are only valid for the periods they cover and specific to each customer. In the event of a RFS selling renewable fuel to a fuel distributor and/or trader, the distributor and/or trader will need to become an approved RFS in its own right if it wishes to benefit from the scheme, and issue declaration to their customers. Fleet contractors and/or logistics companies can become approved under RFAS if declarations are required to be raised for individual customers.

The RFS mass balance and record keeping system shall allow traceability throughout the process for each declaration raised. The declarations shall be made available to the auditor at the time of the compliance audit for a sample to be taken and assess compliance.

3. RFAS Performance Standard – Compliance Requirements

A company’s capability to successfully comply with this standard will be verified as part of the ‘Application Process’. ‘Compliance Audits’ will be conducted annually and actual performance against the RFAS will be assessed.

The RFAS focuses on the volumes of renewable fuel reported under the RTFO, therefore the reporting periods and submissions will be based on a calendar year.

3.1 Renewable Fuel Supplier Operations

In order to allow characterization within the RFAS and assess compliance requirements, as part of the initial RFS application companies shall define their RFAS category type, operations and fuels as follows:

Table 1 - Category type

Category A	Category B	Category C
Company is registered and reporting under the RTFO; distributing fuel directly to fleet operators or distributing to fuel traders.	Company is purchasing sustainable low carbon fuel from an approved RFS and distributing fuel directly fleet operators. Company is a fuel trader.	Company is not registered or reporting under the RTFO, distributing renewable fuel to fleet operators or fuel traders.
Basis of Evidence For Compliance		
Evidence of compliance will relate information pertaining to RTFO reporting, issuance of RTFCs and mass balancing of verified renewable fuel against customer sales.	Evidence of RFAS approval will be required. Declaration(s) supplied from the existing RFS, and declaration(s) issued to customers shall be clearly traceable through record keeping and mass balance.	Evidence of compliance is required for the entire supply chain, or from the point in the supply chain when RTFCs have been granted.

Renewable fuels and blends

Biodiesel	Bio-propane
Bioethanol	Hydrotreated Vegetable Oils (HVO)
Compressed Biomethane (CBG)	Renewable hydrogen
Liquified Biomethane (LBG)	Others not already listed

Processes related to their business activities

Cultivation of feedstocks	Renewable fuel production
Collection of feedstocks	Storage
Feedstocks Processing	Blending
Feedstocks Transport	Distribution
Trading	Customer/Refuelling Station

If any changes occur during participation in the scheme regarding category type, renewable fuels and blend supplied and supply chain specific process – Zemo Partnership shall be notified in writing.

3.2 System procedures, responsibilities and record control

The RFS shall implement and maintain written procedures appropriate to its size and complexity to ensure its continuous conformity with the RFAS. These shall include but might not be limited to activity procedures, renewable fuels, blends and key responsibilities.

Records relevant to demonstrate the LCF conformity with the scheme criteria shall be up-to-date and maintained for a period of at least seven (7) years or longer as defined by legislation.

3.3 Greenhouse Gas Emission Performance

The RFS shall provide GHG emission intensity and emission savings figures for renewable fuels, and blends, covered by the scheme.

The methodology used to calculate the GHG emission and supporting data shall be aligned with the Lifecycle Analysis (LCA). See Appendix F.

The RFS shall define the process in place for GHG emission calculations per products and maintain all relevant records.

3.4 Feedstock Sustainability Performance

Protection of land

Evidence of RTFO approved voluntary sustainability scheme certification shall be provided for energy crop cultivation. The approved schemes are listed in the RTFO under 'Table of voluntary schemes for RTFO'.

Use of biomass waste as a resource

Identification of biomass wastes and residues used for producing renewable fuels is required. Traceability of wastes and residues needs to cover the whole chain of custody, going back to the origin of the material. This could include voluntary sustainability scheme certification and 'Proof of Sustainability' documentation. Categorization of wastes and residues shall be aligned with the RTFO 'List of feedstocks including wastes and residues'.

Use of renewable energy and resources for RFBNOs

Identification of RFBNO feedstocks is required including type of renewable energy for power, heat and/or cooling and provenance of CO₂. Evidence of development fuel RTFCs will suffice as evidence for compliance with requirements for 'additionality' with regards to renewable electricity generation.

3.5 Supply Chain Traceability

To maintain traceability of GHG and sustainability of renewable fuel throughout the supply chain from the point of origin to the customer's depot (refuelling station), the following shall be met:

3.5.1 Supplier Control

The RFS shall maintain an approved supplier list for their inputs, including:

- Supplier name;
- Applicable registration identifier;
- Feedstocks and/or renewable fuel supplied;

The approved supplier list shall be monitored at least on an annual basis to ensure the information is up to date.

Incoming transaction documentation shall be checked upon receipt for completeness. Information relevant to the applicable scheme(s) shall be included, or as minimum:

- Supplier's name and address;
- Date and location when the document is issued;
- Quantity and type of feedstock and renewable fuel;
- Land criteria compliance if applicable;

If supplier documentation is not compliant, a complaint shall be raised with the fuel supplier.

Fuel supplier confirmation the fuel bought has not been used to report under other any other initiative schemes and measures to prevent double counting had been taken shall be sought.

3.5.2 Mass balance

The RFS shall establish a mass balance system to ensure:

- Output quantities of sustainable material sold do not exceed input quantities;
- Total blend volumes sold to commercial fleet operations are aligned with the material reported under the RTFO (if applicable) and HMRC (i.e. sales documents);

The mass balance shall:

- Be per site;
- Reconciliation period be a maximum of three months and in line with RTFO reporting (if applicable);
- Allow consignment identification per feedstock, origin, blend (if applicable) and carbon intensity;

The following data shall be used for the mass balance:

- Input inventory;
- Output inventory;
- Conversion factor (if applicable);
- Stock levels (if applicable);

The data used shall be accurate, consistent, and reliable in terms of source and measurement units.

3.5.3 Renewable Fuel GHG Emission Declarations

Renewable Fuel Declarations shall be issued to customers as per RFAS Guidance section 2.3. The RFS shall use the Renewable Fuel Declaration templates issued by Zemo Partnership and complete the required fields.

Declarations shall cover information pertaining to volumes renewable fuel which has been approved under the RTFO scheme three months previous. GHG emission intensity and saving will be presented as three-month average figures. Companies are permitted to transfer over batches for RTFO verified fuel from one period to next, the mass balancing of this renewable fuel with customer sales must be completely transparent.

Declaration Recall Process

Where renewable fuels have been delivered and or/sold with an inaccurate information, the RFS shall:

- Notify the customer and Zemo Partnership within 5 business days;
- Analyse the root cause and implement corrective action;

- Implement measures to avoid reoccurrence.

The RFS shall maintain records of all sustainability declarations and recall situations. These will be subject for inspection during compliance audit.

3.6 Logos and Claims

3.6.1 Product and Company Statements

Renewable Fuel Suppliers might be interested in marketing their RFS status and renewable fuels approved under the RFAS. In order to do this, the following disclaimers can be used:

- Company 'x' is an approved Renewable Fuel Supplier under the RFAS, our reference number is XXXXX.
- Company 'x' follows the RFAS requirement to supply renewable and/or low carbon fuels. Our RFAS reference number is XXXXX.
- The 'RFAS APPROVED FUEL' supplied conforms to RFAS requirements. Our Renewable Fuel Supplier reference number is XXXXXX.
- Our 'RFAS APPROVED FUEL' is assured under RFAS. Our Renewable Fuel Supplier reference number is XXXXXX.

3.6.2 RFAS Logo Use

The RFS will be issued with the RFAS logo. The following requirements shall be met:

- The RFS reference number shall be included wherever the logo is used to allow a validity verification.
- The following actions are not allowed:
 - Changing the proportions of the design, the content, or the colour.
 - Changing the logo orientation.
 - Combining any logos or designs in a way that implies association.

The logo can only be used by the RFS and signposted on their company website and reports such as corporate sustainability reports.

3.7 Complaints

The RFS shall ensure that complaints received regarding the RFAS compliance are adequately considered, processed, and monitored, including the following:

- Acknowledge receipt of the complaint to the complainant within five (5) business days of receiving the complaint.
- Investigate the complaint and specify its proposed actions in response to the complaint within one (1) month. If more time is needed to complete the investigation, an agreement between relevant parties shall be reached.
- Take appropriate actions with respect to complaints and any weaknesses found in processes.
- Notify the complainant and Zemo Partnership when the complaint is successfully addressed and closed.

Records of complaints to demonstrate appropriate action was taken shall be maintained and will be subject for inspection during compliance audits.

4. Governance

Zemo Partnership is responsible for managing the day-to-day delivery of the scheme and engagement with companies approved under the scheme. Zemo Partnership is working in collaboration with an auditor to deliver all required audits associated with the RFAS for the first year of implementation.

The scheme delivery will aim to -

- Maintain integrity, transparency and robustness in the supply of renewable transport fuels.
- Ensure a homogeneous audit approach.
- Easily embed compliance requirements in common systems and processes.
- Establish a harmonised and consistent approach for RFS to report renewable fuel GHG emissions and sustainability information to their customers.

4.1 Record Retention

Zemo Partnership will keep all documents and records related to RFAS scheme for at least 7 years, including but not necessarily limited to:

- Scheme Membership Application
- Complaints and appeals
- Ongoing Monitoring
- RFAS audits
- Termination documentation
- Withdrawal

Zemo Partnership will keep all information submitted by RFS as confidential, unless advance agreement is made regarding how to share and use specific information.

4.2 Complaints and Appeals

Zemo Partnership will ensure that complaints and appeals received in relation to audit check results, fees, termination and withdrawals are considered, processed and monitored. The following steps will be followed:

- Acknowledge receipt of the complaint or appeal to the complainant within five (5) business days of receiving the complaint.
- Investigate the complaint and specify its proposed actions in response to the complaint within one (1) month. To cater for a situation in which an agreement cannot be reached, an agreement between relevant parties should be sought.
- Take appropriate action with respect to complaints and any weaknesses found in processes.
- Notify the complainant when the complaint is successfully addressed and closed.

4.3 Renewable Fuel Supplier Termination and Withdrawal

Termination

The Renewable Fuel Supplier approval will be automatically terminated if any of the following scenarios arise:

- Renewable fuels sold by RFS are no longer in compliance with the RFAS. This can be due, but not limited to, failure to close corrective action requests or the fuel no longer meeting the RFAS criteria.

- Evidence of serious misuse and/or fraudulent behaviour against RFAS requirements during verification audit checks, or ongoing monitoring.
- Failure to provide the documents required for on-going monitoring.

Zemo Partnership will update their records to show 'termination date DD/MM/YYYY'. The RFS will remove all logos and RFAS references from all marketing material within 7 days of the date of the signed withdrawal letter from Zemo Partnership. The RFS's termination date will be shown on Zemo Partnership website for a period of six month.

Withdrawal

In the event a Renewable Fuel Supplier does not intend to continue being approved under RFAS, written notification shall be sent to Zemo Partnership. The withdrawal will be processed within 10 days. Zemo Partnership will update their records to show the RFS has withdrawn its participation in the scheme 'withdrawn date DD/MM/YYYY'. The RFS will remove all logos and RFAS references from all marketing material within 30 days of the date of a signed confirmation of withdrawal letter from Zemo Partnership. The RFS's withdrawal date will be presented on Zemo's website for a period of six months.

4.4 Public information - Website

Zemo Partnership will make the following information publicly available on their website:

- Renewable Fuel Supplier company name and renewable fuel blend(s) sold;
- Renewable Fuel Supplier reference number and approval date.

4.5 RFAS Application and Participation Fees

The RFAS requires companies to pay an application fee and annual participation to maintain on going approval under the scheme. This includes the auditor compliance checks. As of 2021/22 the application fee is £2500 and annual participation fee £2000.

5. Responsibilities and Competencies

5.1 Zemo Partnership

- Processing RFS application approval.
- Processing RFS termination and withdrawal.
- Liaising with relevant stakeholders to harmonise the approach with RFAS.
- Remaining up to date with legislation and applicable standards.
- Providing and/or engaging with technical support when required.
- Processing complaints and appeals as per RFAS procedure 2.4.
- Undertaking application and compliance audits (for the first year only)
- Managing public information shared in website.
- Appointing audit providers.
- Ongoing monitoring, which includes 6 monthly checks and compliance audit checks.

5.2 Renewable Fuel Supplier

- Making its application to the scheme.
- Engaging with the audit provider.
- Ensuring on-going compliance with RFS performance standards.
- Informing Zemo Partnership about any changes affecting their status, such as contact personnel, company name, change in operations or similar.
- Ensuring 'Compliance audit checks' and six-month reporting are conducted within the timeframes.
- Determining corrective actions and sending evidence to the auditor for nonconformity closure.
- Reporting to Zemo Partnership any complaints received related to the compliance and performance within the scope of the scheme operations.

5.3 Approved Audit Provider

- Conducting application and compliance audits.
- Providing opportunities for improvement.
- Raising nonconformities when RFAS requirements are not met.
- Reviewing corrective actions and related evidence for nonconformities closure within 40 days of issuance.
- Reporting to Zemo Partnership any complaints or concerns relating to the scheme, that could compromise the reputation of the RFAS and/or Zemo Partnership.

Audit Provider Competencies

- Knowledge and skills regarding the RTFO, including GHG calculations, mass balance and chain of custody requirements.
- Knowledge and audit skills (Lead Auditor Certificate).
- Experience in conducting audits following assurance engagement standard (ISAE 3000, AA1000).
- Audit experience for bespoke schemes and standards in line with RFAS

Appendix A. Renewable Fuel Supplier Approval Document



Renewable Fuel Supplier Approval

Company x, registered address x, has been approved as a Renewable Fuel Supplier.
Renewable Fuel Supplier reference number x.

The following renewable fuel is covered under the scheme:



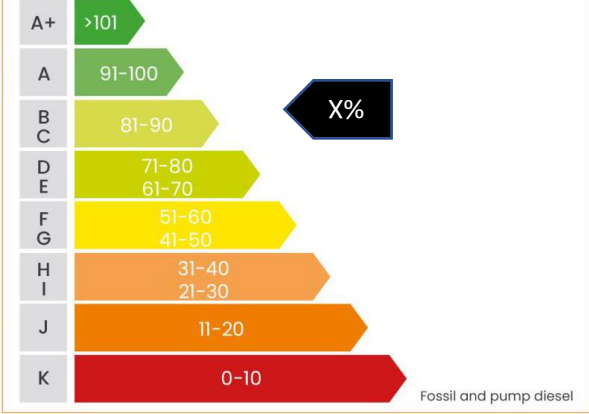
Compressed Biomethane at a blend of 100%.

Approval Period: 1st March 2021 - 2021


Zemo Partnership- signature

Date of Approval: x 2021


Appendix B. Renewable Fuel Declaration Example 1 – Liquid or Gaseous Biofuels

		<h3>Renewable Fuel Declaration</h3>																													
Fleet Operator & Supplier Information																															
Customer name		Customer address																													
Renewable Fuel Supplier		Renewable fuel supplier identifier																													
Category of renewable fuel supplier		Declaration period																													
Declaration number		Date declaration issued																													
Renewable Fuel Description			Greenhouse Gas Emission Performance																												
Renewable Fuel			GHG emission intensity of renewable fuel supply chain																												
Renewable fuel blend supplied			GHG emissions savings																												
Volume of renewable fuel sold																															
Production process																															
Country of production																															
Distribution to refuelling station																															
Feedstock Sustainability			GHG Emission Savings Compared to Fossil Fuel																												
Renewable fuel feedstocks			<p>GHG savings %</p>  <table border="1"> <thead> <tr> <th>Category</th> <th>GHG savings %</th> </tr> </thead> <tbody> <tr> <td>A+</td> <td>>101</td> </tr> <tr> <td>A</td> <td>91-100</td> </tr> <tr> <td>B</td> <td>81-90</td> </tr> <tr> <td>C</td> <td>71-80</td> </tr> <tr> <td>D</td> <td>61-70</td> </tr> <tr> <td>E</td> <td>51-60</td> </tr> <tr> <td>F</td> <td>41-50</td> </tr> <tr> <td>G</td> <td>31-40</td> </tr> <tr> <td>H</td> <td>21-30</td> </tr> <tr> <td>I</td> <td>11-20</td> </tr> <tr> <td>J</td> <td>0-10</td> </tr> <tr> <td>K</td> <td>Fossil and pump diesel</td> </tr> </tbody> </table>			Category	GHG savings %	A+	>101	A	91-100	B	81-90	C	71-80	D	61-70	E	51-60	F	41-50	G	31-40	H	21-30	I	11-20	J	0-10	K	Fossil and pump diesel
Category	GHG savings %																														
A+	>101																														
A	91-100																														
B	81-90																														
C	71-80																														
D	61-70																														
E	51-60																														
F	41-50																														
G	31-40																														
H	21-30																														
I	11-20																														
J	0-10																														
K	Fossil and pump diesel																														
Country(s) of origin																															
Traceability from feedstock origin																															
Supply Chain Voluntary Sustainability Scheme Certification(s)																															
Further information																															
<p>GHG emissions relate to Scope 3 emissions in corporate GHG emission reporting (Greenhouse Gas Protocol) GHG emission savings of more than 100% means that the renewable fuel is carbon negative.</p>																															
Zemo renewable supplier approval date:			RFAS website: www.zemo.org.uk																												

Appendix B. Renewable Fuel Declaration Example 1 – Renewable Hydrogen



Renewable Fuel Declaration



Fleet Operator & Supplier Information			
Customer name		Customer address	
Renewable Fuel Supplier		Renewable fuel supplier identifier	
Category of renewable fuel supplier		Declaration period	
Declaration number		Date declaration issued	

Renewable Fuel Description	
Renewable Fuel	
Renewable fuel blend supplied	
Volume of renewable fuel sold	
Production process	
Depot based or centralised production	
Country of production	
Distribution to refuelling station	

Greenhouse Gas Emission Performance	
GHG emission intensity of renewable fuel supply chain	
GHG emissions savings	

Feedstock Sustainability	
Renewable fuel feedstocks	
Method of renewable electricity generation	
Country(s) of origin	

Further information
<p>GHG emissions relate to Scope 3 emissions in corporate GHG emission reporting (Greenhouse Gas Protocol) GHG emission savings of more than 100% means that the renewable fuel is carbon negative.</p>

Zemo renewable supplier approval date:

RFAS website: www.zemo.org.uk

GHG Emission Savings Compared to Fossil Fuel	
GHG savings %	
A+	>101
A	91-100
B C	81-90
D E	71-80 61-70
F G	51-60 41-50
H I	31-40 21-30
J	11-20
K	0-10
	Fossil and pump diesel

X%

Appendix C: GHG and Sustainability Disclosure

The RFS shall submit the following information per renewable fuel approved under RFAS to Zemo Partnership on a six-monthly basis.

Greenhouse Gas and Sustainability Disclosure Report	
Renewable Fuel Supplier Name	
Renewable Fuel Supplier Identifier	
Company contact name	
Company contact email	
Date of submission	
Declaration Reporting Period	
Renewable fuel types and blends sold	
Volumes of each renewable fuel type and blend sold or dispensed	
Average GHG emission intensity for each renewable fuel blend	
Average GHG emission savings for each renewable fuel blend	
Number of customers receiving different renewable fuel blends	
<p><i>Note: this report should be email to Zemo Partnership every six months. Gloria.esposito@zemo.org.uk</i></p>	

Appendix D: Fuel Lifecycle Greenhouse Gas Emission Calculations

The following values are required for the RFAS:

- Renewable fuel: GHG emission intensity (gCO₂e/MJ) and GHG emissions savings (%)
- Renewable fuel blend: GHG emission intensity (gCO₂e/MJ) and GHG savings (%)

This can entail using a default value for the renewable fuel or for calculating fuel lifecycle GHG emission applying actual values. The parameters in Table A shall be used and calculated in accordance with D1 – D4. These are based on the RTFO Guidance 2³, therefore refer to the guidance for further details.

Table A – Fuel Supply Chain Parameters for Calculating Total GHG Emissions (E)

Eec	Extraction or cultivation of raw materials.
Ei	Annualized over 20 years GHG emissions from carbon stock change due to land use change
EP	Renewable fuel production process
Etd	Transport and distribution - includes downstream emissions for distribution up to and including the filling station. Compression of gaseous fuels and distribution by road tanker, and/or distribution through the gas grid shall be taken into account.
Esca	Savings from soil carbon accumulation via improved agricultural management
Eccr	Savings from carbon capture and replacement
Eccs	Savings from carbon capture and geological storage, this shall take into account GHG emissions associated with abatement technology and transport and distribution of CO ₂ to storage.
Eee	Savings from excess electricity from cogeneration. Emissions from the manufacture of machinery and equipment shall not be taken into account

- Assumes use of renewable fuel in the vehicles is associated with zero GHG emissions.

Calculating GHG emission intensity of renewable fuels

GHG emission intensity calculation: $E = (E_{FF} \times FF\%) + (E_{RW} \times RW\%)$

- E_{FF} : GHG emissions intensity from fossil fuel used. See table D1.
- $FF\%$: Fossil fuel blend fraction.
- E_{RW} : GHG emissions from renewable fuel used.
- $RW\%$: Renewable fuel blend fraction.

Table B: Fossil Fuel GHG Emission Intensities

Fossil Fuel	Carbon Intensity (Nett CV) CO ₂ e/MJ
CNG*	67.4
LNG*	76.4
Diesel (100% mineral diesel)*	92.1
Petrol (100% mineral petrol)*	88.7
Gas-To-Liquid (Synthetic Diesel)**	94

* BEIS (2020) GHG conversion factors (Scope 1+ Scope 3)

** JEC (2020) Well-To-Tank Report V5

³ <https://www.gov.uk/government/publications/renewable-transport-fuel-obligation-rtfo-guidance-2020>

In relation to fossil synthetic fuels not listed, the source of the fuel lifecycle carbon intensity shall be identified. Evidence shall be provided of the final GHG emission savings for different GTL and renewable fuel blends following the same calculation.

D.1 Biofuels

GHG emission intensity calculation: $E = E_{ec} + E_i + E_p + E_{td} + E_{sca} - E_{ccs} - E_{ccr} - E_{ee}$

D.2 RFNBO Fuels

GHG emission intensity calculation: $E = E_{ec} + E_p + E_{td} - E_{ccs} - E_{ee}$

D.3 Part RFNBO, part non-RFNBO fuels

The RFNBO and non-RFNBO fractions of the fuel are required to take the same GHG intensity value (due to sharing the process energy inputs during the consignment time period). This should be calculated according to the methodology for RFNBOs, with 'EP' including all process energy going into the plant, including the non-renewable portion.

D.4 Default & Disaggregated GHG values

The RTFO Guidance 2 allows for use of default and disaggregated default values as long as these are available for the renewable fuels, feedstock and specific processes. Please, refer to the guidance for further details. However, when these figures are not available, actual calculations will be required.

- Any direct land-use change must be taken into account and the additional emissions added to the default value.
- Any fuel comparator not listed in this appendix, will need a LCA for savings calculation purposes.
- There are no default factors under RED and RTFO for liquified biomethane, only compressed. Therefore, a separate calculation shall be performed for bio-LNG. A GHG intensity value for liquification and road tanker distribution to a refuelling station will need to be determined, with the fuel life cycle calculation evidenced. This shall be added to the GHG intensity for CBG, taking into account AD plant operation, grid injection and any grid fugitive losses, in cases where biomethane is mass balanced through the gas grid.

Calculating GHG emission saving

$$\text{GHG savings} = \frac{(FFC_{CI} - F_{CI})}{(FFC_{CI})} \times 100$$

- FFC_{CI} : Fossil Fuel Comparator Carbon Intensity.
- F_{CI} : Carbon Intensity for fuel to be reported under RFAS (as a blend or as 100% renewable).
Fossil Fuel Comparator (FFC)

The FF is the average carbon intensity of fossil fuels, which can include petrol, diesel, CNG, LNG, GTL.

- $FFC = 92.8 \text{ g CO}_2\text{eq/MJ}$

Appendix E: Definitions

Batch: Specific amount of material with the same sustainability characteristics within a mass balance period.

Feedstock: Raw material used to produce renewable fuel. Approved feedstocks under this scheme are aligned with the RTFO.

Mass balance: Monitoring system to ensure renewable fuel quantities are controlled. Please refer to RTFO Guidance 2 Section 8 for a detailed explanation.

Organisation: The person or legal entity applying for compliance with RFAS.

Renewable Fuel: A fuel from a source that is either inexhaustible or can be indefinitely replenished at the rate at which it is used. For the purposes of this document, it refers to biofuels, advanced fuels and renewable fuels from non-biological origin (RFNBOs).

Renewable fuels of non-biological origin (RFNBOs): A type of renewable fuel where all the energy of the fuel comes from the input process energy (with no feedstock energy), and all of this process energy is from renewable sources other than bioenergy. A partially renewable fuel is one where part of the energy content of the fuel is from renewable sources and part is from non-renewable sources. Wholly and partially renewable fuels can be either liquid or gaseous.

Renewable Transport Fuel Obligation (RTFO): Government's low carbon fuel policy for reducing greenhouse gas (GHG) emissions from road transport.

Renewable Transport Fuel Certificates (RTFC): Obligated fuel suppliers under the RTFO are required to redeem a number of RTFCs in proportion to the volume of fossil fuel and unsustainable renewable fuels they supply. RTFCs may be earned by any company supplying sustainable renewable fuels. They may also be bought or sold on an open market.

Site: one geographical location with precise boundaries within which products can be mixed.

Supplier: An individual, company or other legal entity providing feedstocks or low carbon fuels to an organisation.

Renewable Supplier Identifier: This is a unique reference number linked to one operator traceable to a validity status under a certification or a scheme.