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Feed-in Tariffs (FIT)

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How to complete your anaerobic digestion (AD) Fuel Measurement and Sampling questionnaire

1. Introduction

From 1 May 2017, new AD generators applying for accreditation must complete and submit a Fuel Measurement and Sampling (FMS) questionnaire at the preliminary, convert-to-full (where the associated preliminary application was made on or after 1 May 2017) and full application stages.

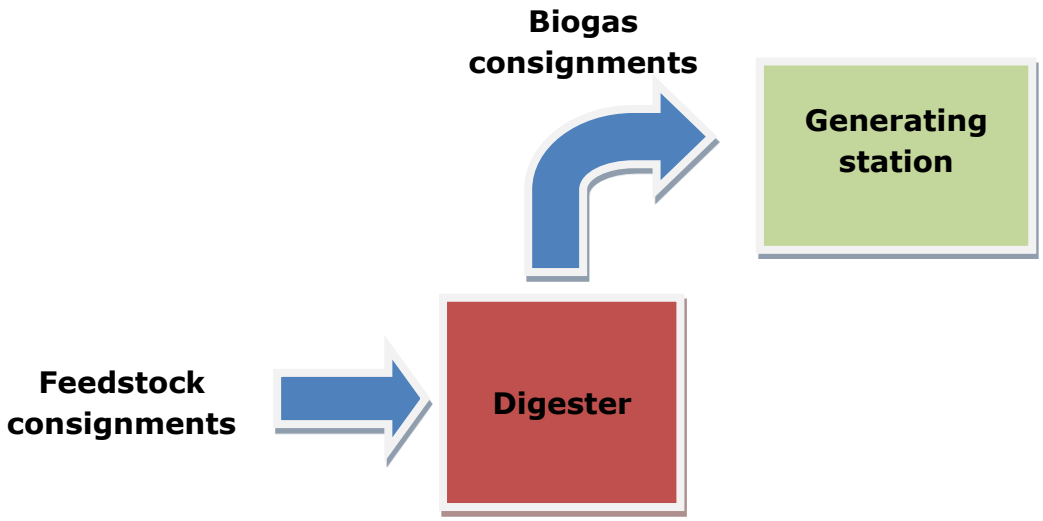
The following guidance will help you better understand the scheme requirements:

- Feed-in Tariffs: Guidance on sustainability criteria and feedstock restrictions
- Feed-in Tariffs: Guidance for Renewable Installations

If you have any questions while you're completing your FMS questionnaire, please get in touch on **0207 901 7310** and ask for a member of the Fuelling and Sustainability team. Alternatively, you can email them at fuellingandsustainability@ofgem.gov.uk.

Fuelling information needed for AD stations

The diagram below shows the various inputs associated with the AD process that are relevant to your FMS procedures.



The FMS procedures allow you to determine:

- the quantity of fuel(s) used in a quarter,
- consignment classification of the fuel(s) used in a quarter for the purposes of sustainability and feedstock restrictions,
- the management of mixed consignments,
- the energy content of the fuels(s) used in a quarter.

Completing and submitting the questionnaire

In your questionnaire, you need to explain the procedures used to measure and sample the fuels used to generate electricity. ROO-FIT accreditation will not be granted unless these FMS procedures are approved.

When completing the questionnaire, make sure you explain how you will undertake your procedures thoroughly. The larger the response text box, the more detailed we expect your answer to be. There is extra space for your answers in **Section I** if you need it. You can also submit additional documents, as long as you refer to them clearly in the questionnaire.

Please submit your FMS questionnaire and any supporting information to Ofgem E-Serve's Renewable Electricity Fuelling & Sustainability team, to fuellingandsustainability@ofgem.gov.uk. This should be submitted when the application for ROO-FIT accreditation is made. We will get back to you with initial comments about your procedures when we have reviewed your questionnaire.

Although the FMS and ROO-FIT accreditation reviews run in parallel, these tend to be dealt with by different members of the team. Therefore, please submit updated versions of the FMS directly to the Fuelling and Sustainability team.

2. How to complete the FMS questionnaire

Sections A to C

The questions in **Sections A** (Applicant Information), **B** (Version History) and **C** (Fuel Classification) are self-explanatory.

Section D – Consignment assessment and tracking sustainability information

What does this section do?

The FIT scheme requires AD installations applying for preliminary or full accreditation on or after 1 May 2017 to report against the sustainability criteria for each consignment. To do this, **Section D** asks you to:

- Assess the consignments of feedstock that were used to produce your biogas.
- Determine whether you are using single or multiple consignments.
- Determine whether consignments are mixed.

If consignments are mixed, either offsite or onsite, you will need to work out how much of each consignment is used.

Tips for completing the section

Chapter 3 of our guidance provides more information on consignments of biomass. We need you to group the feedstocks that make up your biogas into consignments, by looking at the feedstocks sustainability characteristics. These sustainability characteristics are passed from the feedstock to the biogas.

Here's some top tips for **D7 -** When explaining how you will use a mass-balance system, ensure you have covered the following for each mixed feedstock consignment:

- Where in the supply chain and/or generating station the method will be used:
    - For consignments that are mixed in the supply chain, explain what information the supplier can provide to show the proportion of consignments in the mixture, and indicate how this will be presented in the supporting documents (such as in a spreadsheet or supplier declaration on consignment proportions).
    - For consignments mixed at the generating station, explain exactly where the mixing occurs such as storage tanks or feedstock clamps.

- Which consignments the mass balance will apply to:
    - The explanation should only cover the mixed consignments, and does not need to cover consignments that are physically separate and measured just prior to digestion.
- How you will use the system to determine the quantity of each consignment used in each quarter:
    - Clearly explain how a proportionate or non-proportionate system is applied to the data produced by your quantity procedures outlined in **Section E**. It is useful if you state any calculations you intend to use, including the key input values, for example (opening stock X percentage consignment A), plus deliveries of consignment A, minus (closing stock X percentage consignment A).
    - Ensure that your answer builds on, rather than duplicates, the information you will provide about the quantity of feedstock consignments used in **Section E**.
    - Your supporting information spreadsheet should clearly show the formulae that are used as part of the mass balance system and indicate how input values have been measured.

Section E – Determining the quantity of feedstock used

What does the section do?

If you are using more than one feedstock consignment, you will need to work out how much biogas each of these produces so you can report per consignment of biogas. Whether you use Ofgem's Biogas Apportioning Tool or your own method to do this (see **Section F**), you will need to determine the quantity of each feedstock consignment used in a quarter as one of the key input values for your method of choice.

Tips for completing the section

When putting together your answers for **Section E**, please keep in mind that:

- The answers in **Section E** should complement, not duplicate, those in D7 regarding your mass balance system.
- The answers to this section should provide a complete explanation of how you determine the quantity of each feedstock consignment used in a quarter. This should clearly distinguish if some consignments are measured differently to others.
- It is critical that you ensure the wording of your answer allows us to understand which feedstock consignments are being measured, by what pieces of equipment, and whether they are measured before or after mixing. This allows us to understand how you have derived the input values for your mass balance system.

- Even if you are measuring the quantity of consignments just before digestion with a cumulative measuring device, such as a flow meter, then you may still need to consider carryover onsite if this information is needed as part of your mass balance system.
- If measurements are made prior to depackaging, then the quantity of removed packaging should be deducted from the overall quantity of the relevant consignment.
- We understand that some feedstock fed to the digester in the current quarter will be digested the quarter after. For convenience, we assume that all feedstock fed to the digester in the quarter is also digested in the same quarter.

Section F – Apportioning biogas according to the feedstock used

What does this section do?

In order to report per consignment of biogas, you will need to determine the contribution of each feedstock consignment to the biogas used by the station. If you are using more than one consignment, our Biogas Apportioning Tool will allow you to determine the quantity of biogas that comes from each feedstock consignment. You are also free to propose your own method, whether this be by direct measurement and sampling or another approach.

Tips for completing the section

When putting together your answers for **Section F**, please keep in mind that:

- If you are overwriting default values in the apportioning tool, or using your own method and data to determine the quantity of biogas derived from each feedstock consignment, ensure you provide evidence for where you have sourced any key input values (such as moisture content, biogas yield). This could be in the form of lab results or literature values, or based on your own judgement.

Section G – Determining the volume of biogas used

What does this section do?

To determine your station's eligible electricity, we need to know the quantity of biogas used each month. This section asks about the procedures that you will use to measure the quantity of biogas used to generate electricity.

Tips for completing this section

When putting together your answers for **Section G**, please keep in mind that:

- You should refer to the equipment used to determine the volume of biogas and its accuracy.
- If you are back-calculating the volume of your biogas then lay out the calculation you use, and clearly specify any key input values such as engine efficiency, kWh output etc.

Section H – Renewable Heat Incentive

What does this section do?

We need to know whether your installation is already accredited, or is seeking accreditation, for the Renewable Heat Incentive (RHI). This will help us to ensure the information you have supplied is consistent across both schemes.

Tips for completing this section

An RHI number is issued when an application for accreditation onto the RHI scheme has been submitted to Ofgem. You can find your RHI number at the top of your RHI accreditation approval letter. You may also be able to find your RHI number quoted in emails you have received from Ofgem regarding your application for accreditation.

Supporting information

Supporting information submitted alongside your FMS questionnaire helps us get a better understanding of your installation's FMS procedures. You should include these documents as part of your initial submission. Some examples of supporting documentation relevant to your FMS procedures are:

- A process flow diagram outlining the proposed FMS procedures, paying particular attention to key measurement and sampling locations.
- Technical specifications for equipment, such as a gas analyser and weighing device specifications.
- Procedure/instruction sheet to illustrate how measurement/sampling is done.

During the FMS review process, we also agree whether you should submit supporting information each quarter to help verify the submitted sustainability declaration. You should put together an example of the supporting information you will submit as part of the initial submission of your FMS procedures. Some examples of this include:

- Laboratory certificates showing any test results relevant to the procedures. This could include moisture and biogas yield results for use in the Biogas Apportioning Tool.
- The Biogas Apportioning Tool updated to include any data on the quantity of feedstock used, and any calculations undertaken as part of the mass balance system.

3. Checklist

Incomplete or contradictory information in the FMS questionnaire and supporting information can delay the review process. Use the following checklist to ensure the review will proceed smoothly:

Before submitting FMS procedures for review:

- Read the relevant sections of our FIT guidance documents ☐
- Read and complete the FMS questionnaire using this guidance document to ensure you have set out the relevant information as thoroughly as possible ☐
- Get in touch with us to discuss any questions ☐

During the review process:

- Ensure all FMS documentation is submitted for review alongside an application for accreditation ☐
- Ensure all comments raised during our review are fully addressed, and the FMS documentation updated accordingly before each re-submission ☐

After FMS approval:

- Read your FMS approval e-mail ☐
- Carry out FMS procedures as per agreement with Ofgem ☐
- Submit an amended FMS questionnaire if any change is made onsite that affects the agreed FMS procedures ☐