

Smart Export  
Guarantee (SEG)

## **SEG: How to complete your anaerobic digestion (AD) Fuel Measurement and Sampling Questionnaire**

## 1. Introduction

Anaerobic digestion installations that wish to receive SEG (Smart Export Guarantee) Payments must complete and submit a Fuel Measurement Sampling (FMS) Questionnaire to us in order to comply with the sustainability and reporting requirements under the scheme.

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

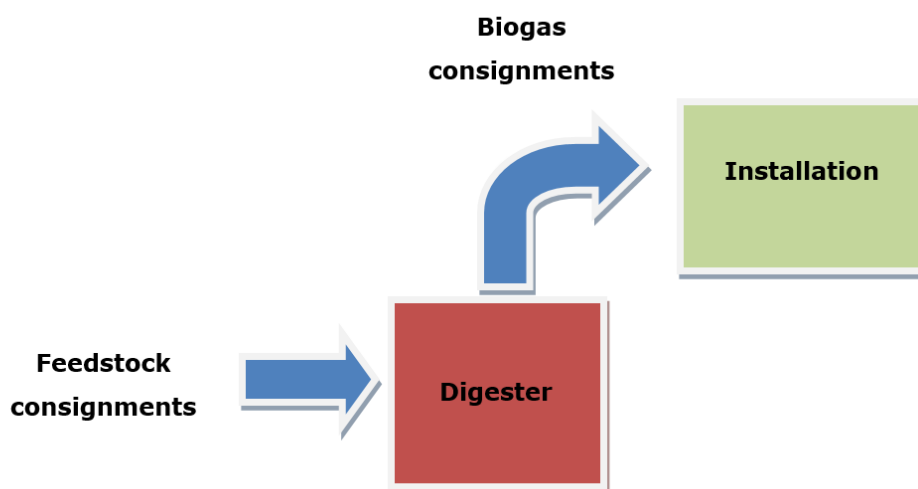
- [Smart Export Guarantee: Guidance on sustainability and reporting requirements](#)
- Smart Export Guarantee: Guidance for generators

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](mailto:fuellingandsustainability@ofgem.gov.uk).

### Fuelling information needed for AD installations

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 period,
- consignment classification of the fuel(s) used in a quarter for the purposes of SEG reporting requirements
- 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. You will not be able to comply with your ongoing sustainability and reporting requirements if you do not complete this questionnaire.

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's Fuelling & Sustainability team, to [fuellingandsustainability@ofgem.gov.uk](mailto:fuellingandsustainability@ofgem.gov.uk). This should be submitted when you inform us of your intent to seek SEG Payments. We will get back to you with initial comments about your procedures when we have reviewed your questionnaire.

## 2. How to complete the FMS questionnaire

### Sections A to C

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

### Section D - Consignment assessment and tracking sustainability information

#### What does this section do?

Under SEG, AD installations are required to report against a set of requirements 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 in each reporting period.

#### Tips for completing the section

Chapter 4 of our document [SEG anaerobic digestion: sustainability and reporting requirements](#) 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 installation 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 installation, 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 this 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 the Ofgem biogas apportioning tool or your own method to do this, you will need to determine the quantity of each feedstock consignment used in a period as one of the key input values for your method of choice.

### Tips for completing this 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 period. 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 period will be digested the period after. For convenience, we assume that all feedstock fed to the digester in the period is also digested in the same period.

## Section F – Apportioning biogas according to the feedstock used

### What does this section do?

In order to report the proportion of biogas not derived from waste or residue that was used by your installation to generate electricity, you will need to determine the contribution of each feedstock consignment to the biogas used by the installation. 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. If you are using a single feedstock to produce the biogas used at the installation then this section does not have to be filled in.

### 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 whether each consignment meets the Greenhouse Gas (GHG) criteria, and to calculate the proportion of biogas not derived from waste or residue that was used by your installation to generate electricity, you will need to know the quantity of biogas used in each period. 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.

## Section H – Determining the GCV of the biogas

### What does this section do?

To calculate the GHG emissions per megajoule of electricity you will need to know the GCV of the biogas produced by your anaerobic digestion installation. The section asks about the procedures that you will use to determine the GCV of biogas used to generate electricity.

### Tips for completing the section

- It is important for you to record the volume and GCV of biogas at the same temperature and pressure conditions. If you are multiplying out the standard GCV of methane (provided at Standard Temperature and Pressure, or STP), against a measured methane content percentage, then you also need to determine the quantity of your biogas at STP.
- If you intend to use a value from literature, please ensure that you explain why this value is appropriate for your installation and provide relevant supporting information

## 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 will also discuss and agree with you the type of records that should be held to back up the information provided on the declarations or to support audit processes.



### 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 SEG 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 ☐
- 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 ☐