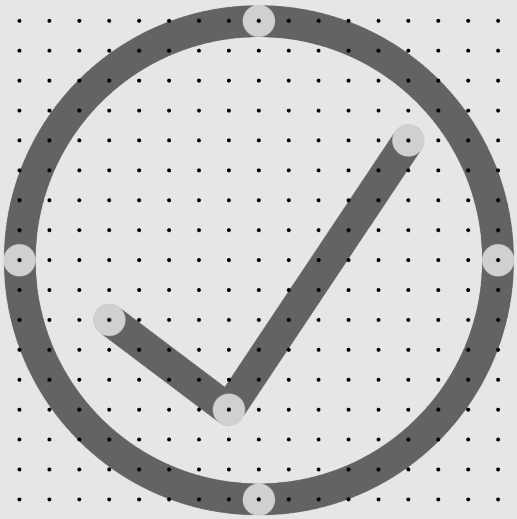
STANDARDS DOCUMENT

MCS 001-1 ISSUE 4.1

The MCS Contractor Standard

Part 1: Requirements for MCS Contractors



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ABOUT MCS

Giving you confidence in home-grown energy

With energy costs constantly rising and climate change affecting us all, low-carbon technology has a bigger and bigger role to play in the future of UK energy.

We're here to ensure it's a positive one.

Working with industry we define, maintain and improve quality – certifying products and installers so people can have confidence in the low-carbon technology they invest in. From solar and wind, to heat pumps, biomass and battery storage, we want to inspire a new generation of home-grown energy, fit for the needs of every UK home and community.

About

The Microgeneration Certification Scheme Service Company Ltd (MCSSCo Ltd) trades as MCS and is wholly owned by the non-profit MCS Charitable Foundation. Since 2007, MCS has become the recognised Standard for UK products and their installation in the small-scale renewables sector.

We create and maintain standards that allow for the certification of products, installers and their installations. Associated with these standards is the certification scheme, run on behalf of MCS by Certification Bodies who hold UKAS accreditation to ISO 17065.

MCS certifies low-carbon products and installations used to produce electricity and heat from renewable sources. It is a mark of quality. Membership of MCS demonstrates adherence to these recognised industry standards; highlighting quality, competency and compliance.

Vision

To see MCS certified products and installations in every UK home and community.

Mission

To give people confidence in low-carbon energy technology by defining, maintaining and improving quality.

Values

1. We are expert – ensuring quality through robust technical knowledge
2. We are inspiring – helping to reshape energy in UK homes and communities
3. We are collaborative – working with industry and government to create positive change
4. We are principled – operating in a way that's clear, open and fair
5. We are determined – supporting the UK's drive towards a clean energy future

CHANGES TO STANDARDS

When MCS Standards are revised, the issue number is also revised to indicate the nature of the changes. This can either be a whole new issue or an amendment to the current issue. Details will be posted online, www.mcscertified.com

Technical or other significant changes which affect the requirements for the approval or certification of the product or service will result in a new issue. Minor or administrative changes (e.g. corrections of spelling and typographical errors, changes to address and copyright details, the addition of notes for clarification etc.) may be made as amendments.

The issue number is given on the left of the decimal point, and the amendment number on the right. For example, issue 3.2 indicates that it is the third significant version of the document which has had two sets of minor amendments.

Users of this Standard should ensure that they are using the latest issue.

Issue No.	Amendment Details	Date
1.0	First Publication	
2.0	Standard re-ordered to aid understanding. Enhanced requirements around contracting and sales activities	01/12/2011
3.0	Updates to Clauses 2.1, 2.2, 3.0, 10 sections 2: MCS Contractor Responsibilities, 7: Software Control, 10: Subcontracting, 12: Control of work in progress; 15: Records,16: Complaints, 17: Training and Competence.	16/12/2016
4.0	Significant update to simplify requirements around QMS to be less prescriptive and allow non-documented systems.	22/06/2020
4.1	Minor amendment regarding implementation.	16/07/2020

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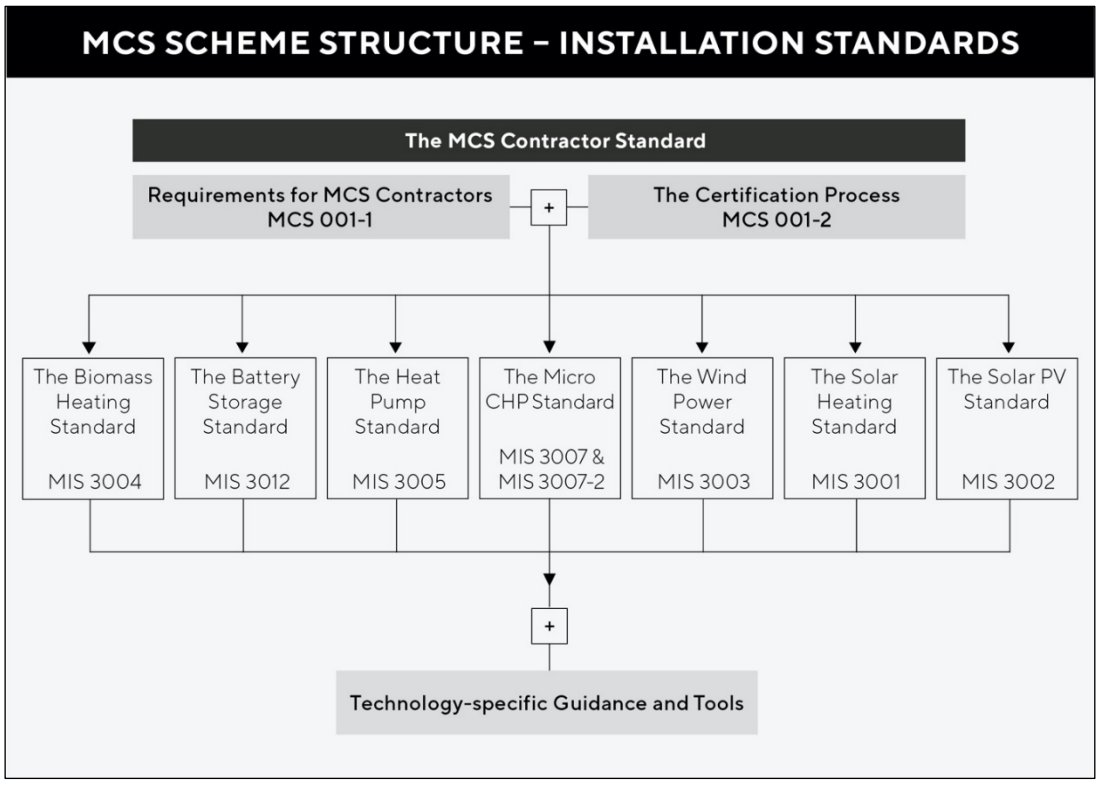
FOREWORD

This document contains references to other documents which may be either normative or informative. At the time of publication any editions of those documents, where indicated, were valid. However, as all documents are subject to revision, any users of this document should apply the most recent editions of those referenced documents (unless a dated version is specified).

This issue 4.1 is a minor update to issue 4.0 published on 22/06/2020. MCS Contractors certified in accordance with MCS 001 **may** start working in accordance with this update from the date of publication. Compliance with the requirements in this update is **mandatory** for MCS Contractors from the date of implementation (22/06/2021) except clause 4.4.1. Membership of any relevant CTSI approved Consumer Code will remain compliant until 31/3/2023. Compliance with clause 4.4.1 (membership of RECC) becomes mandatory from 1/04/2023.

This Standard is published in two parts, MCS 001-1 describes the requirements that MCS Contractors shall meet at an organisational level and MCS 001-2 describes the process that Accredited Certification Bodies must follow to ensure the compliance of MCS Contractors with the Scheme requirements. Both parts of this Standard, read together, constitute MCS 001 and should be viewed as a single Standard. Certification must not be awarded against a single part of this Standard, but against MCS 001 in its entirety and hence certification documentation must refer either to "MCS 001" or to "MCS 001-1 and MCS 001-2".

The diagram below shows the relationship between this document and others published by MCS.



1 INTRODUCTION

This Certification Scheme provides an ongoing, independent, third party Compliance Assessment of MCS Contractors, and the microgeneration technologies that they install, to ensure that the requirements of the appropriate standards are met and maintained. The procedural and system requirements to be met by MCS Contractors is described below, while the certification process is described in MCS 001-2.

2 SCOPE

The scope of this Scheme covers the requirements for MCS Contractors undertaking the supply, design, installation, set to work, commissioning and handover of the following microgeneration technologies:

- Solar Heating
- Solar PV
- Micro Wind
- Biomass
- Heat Pumps
- Micro Cogeneration (includes heat-led and electricity-led systems)
- Electrical Energy (Battery) Storage Systems

This Scheme is open to any contractors undertaking the above.

3 DEFINITIONS

The definitions given here are used within this Standard. Definitions for each of the Scheme technical Standards are given in the appendix.

Term	Definition
Accredited Certification Body	A body that is accredited in accordance with ISO / IEC 17065 conformity assessment by UKAS or an equivalent (i.e. a member of the International Accreditation Forum (IAF), Multilateral Recognition Arrangement (MLA)) and undertakes the Compliance Assessment of MCS Contractors against the requirements of this Scheme.
Contract	An undertaking for the design, supply, installation, set to work, commissioning and handover of systems covered by the MCS Installation Standard. All contracts must be written to be compliant with MCS requirements.
Contract Personnel	Individuals engaged by and under the direct day-to-day control of an MCS Contractor under a contract to supply services as opposed to being directly employed.
Compliance Assessment	The evaluation by an Accredited Certification Body which demonstrates the MCS Contractor complies with the requirements of this and the relevant MCS Installation Standards.
Customer	The end-user of the microgeneration installation. For domestic properties this may be the householder or landlord (social or private). Where the end-user is not known (e.g. speculative new-build developments) the customer would be the entity instructing the MCS Contractor.
Design	The formulation of a written plan including a specific list of products and fixings to form a completed system for a defined microgeneration or storage technology. Including extensions and alterations to existing microgeneration or storage systems.
Installation	The activities associated with placement and fixing of a microgeneration or storage system.
Set to work	The activities necessary to make the installed equipment function as a completed system prior to commissioning.

Term	Definition
Commissioning	The advancement of an installation from the state of setting to work of an installation, the regulation of the system and the fine tuning of the static completion to full working order to the specified requirements. Commissioning includes recording all relevant measurements, flow rates and / or test results, and includes the preparation and submission of a commissioning report or certificate as required by the relevant technology standard that shall confirm that the system is capable of delivering the performance quoted to the customer.
Handover	The point in a contract where commissioning and certification of the system have been satisfactorily completed to the contract specification so enabling the installation to be formally explained and handed over to the client. Including all relevant documentation required by the relevant technology standard.
MCS Contractor	An organisation that is responsible for all of the following activities: supply, design, installation, set to work, commissioning and handover of microgeneration systems and technologies. An MCS Contractor will either employ, or engage as subcontractors, installers.
Nominee	The Nominee as defined in MCS 025.
Nominated Technical Person	The Nominated Technical Person(s) (NTP) as defined in MCS 025.
Subcontracting	Where the MCS Contractor enters into a contract with the customer and then uses subcontractors to undertake some or all the activities of: supply, design, installation, set to work, commissioning and handover of microgeneration systems and technologies.
Third-Party Funding	Funding provided for a domestic installation by a third party which may influence the specification of the installation (such as the product used) and/or benefit financially from savings or revenues generated by the installation. This definition excludes providers of loan finance to the customer regulated by the Consumer Credit Act.

4 REQUIREMENTS FOR THE MCS CONTRACTOR

4.1 QUALITY MANAGEMENT SYSTEM

The MCS Contractor shall operate a Quality Management System (QMS) which ensures every installation meets MCS requirements as described in the relevant MCS Installation Standard. This system shall be proportionate with the needs of the contractor's MCS business size and activities.

4.2 MCS LICENCE

4.2.1 At initial certification, the MCS Contractor shall be eligible for a licence to use the MCS Certification Mark.

4.2.2 Once a licence is awarded, the MCS Contractor shall retain that licence by complying with the terms therein (which include the Mark Regulations and Brand Guidelines).

Note: The MCS Licence is awarded, suspended or terminated at the discretion of the MCS Licensee (the MCS Service Company Ltd). Where the licence to use the MCS Mark is declined, suspended or terminated by the Licensee then certification by the Accredited Certification Body may also be declined, suspended or terminated.

4.3 TRADING ADDRESS

The MCS Contractor shall operate from an identifiable physical trading address and the Accredited Certification Body shall verify this (verification may be via credit reports, Companies House, site visit, address section of a bank statement or similar).

Note: Depending on the nature of the MCS Contractor this address may be either a commercial or a residential address.

4.4 CUSTOMER CARE & LEGISLATION

4.4.1 The MCS Contractor shall be a member of, and when dealing with domestic customers, comply with the Renewable Energy Consumer Code (RECC).

4.4.2 Regardless of, or in addition to, the requirements of RECC, the MCS Contractor shall comply with the following when dealing with domestic customers:

a) Any cash or cheque deposits shall be insured.

Note: insurance is not required where deposits are not taken, deposits are paid by credit card or placed in an escrow account, for example Bondpay.

b) Claims of energy benefits used in the sales process shall be calculated in line with the prescribed methodology in the relevant MCS Installation Standard (MIS) and, when converted to financial benefits, should be based on customers' actual energy

tariffs. Any values used in the conversion (such as inflation or future energy costs) must be from a cited, reputable source. Any energy or financial benefits of any additional products or services offered together with the certified technologies shall be supported by independently verifiable evidence (i.e. not based on information from the Contractor or product manufacturer).

c) Customers shall be treated fairly and with respect. Additional precautions should be taken when dealing with customers who may be considered vulnerable.

d) Sales agents shall not place customers under pressure to sign orders or contracts at any meeting in the customer's home by, for example, overstaying their welcome or offering excessive discounts off inflated prices.

e) Contracts or order documents should be clear, written in plain English and any exclusions of liability must be highlighted.

f) Contracts should clearly state the make, model number, power rating and storage capacity (where applicable) of the equipment to be supplied along with the estimated delivery/installation dates.

g) All performance claims made in marketing material (including website and company brochures) shall be based on a reputable source and verifiable.

h) Workmanship shall be guaranteed for at least 2 years following installation. Customers shall also be given an insurance policy which covers workmanship in the event the contractor ceases to trade during the term of their guarantee.

i) Where complaints arise, MCS Contractors agree to participate in Alternative Dispute Resolution (ADR) if the customer requests it.

4.4.3 The MCS Contractor must comply with all relevant consumer protection legislation currently in force.

Note: Particular attention is drawn to The Consumer Contracts (Information, Cancellation and Additional Charges) Regulations 2013 and The Consumer Rights Act 2015.

When supplying goods to consumers in the process of installing a microgeneration system, MCS Contractors are acting as traders as defined by the Consumer Rights Act 2015 and therefore must ensure such goods are of satisfactory quality, fit for their particular purpose and as described. Where a product is MCS Certified it should not be presumed to satisfy the Consumer Rights Act in all circumstances and so use of such products does not derogate the MCS Contractor's obligations under the Act.

4.4.4 Where the MCS Contractor obtains sales (signed orders) or leads (prospects) from any third party, the MCS Contractor shall ensure the third party complies with MCS requirements including those of RECC. (See paragraph 4.10.1 below regarding contracts.)

4.5 MCS CONTRACTOR PERSONNEL

4.5.1 The MCS Contractor shall specify both a named individual "Nominee" and a named individual "Nominated Technical Person (NTP)". This can be the same individual if the Nominee is technically competent. The responsibilities of the Nominee and the Nominated Technical Person(s) are set out in MCS 025.

4.5.2 The MCS Contractor shall document who is responsible for each of the above roles and their deputy, where appropriate.

4.5.3 The MCS Contractor shall employ sufficient competent resources to satisfy all MCS requirements. Resource under the direct control of the MCS Contractors can be engaged as employees or as contract personnel (the use of external personnel under contract is not subcontracting in accordance with clause 4.10).

4.6 CONTINUAL IMPROVEMENT

The MCS Contractor shall have procedures in place for continual improvement which ensure non-conformities are corrected and prevented (so not repeated).

Note: Non-conformities may be identified in a variety of ways including:

- *Personnel training*
- *Internal review*
- *External audits or Compliance Assessments*
- *Inspection and measurements*
- *Complaints*
- *Health and Safety incidents*
- *Product recall or rectification notices*
- *Changes to Standards or Regulations*

4.7 EXTERNAL DOCUMENTS

The MCS Contractor shall hold or have access to current editions of external documents relevant to the scope of approval to include:

- MCS Scheme and installation documents, guides and tools
- Building Regulations and supporting documents/handbooks (as applicable)
- Planning Regulations
- Health & Safety Regulations

4.8 SOFTWARE CONTROL

Where software is used for calculation or verification, the MCS Contractor shall ensure that the correct version of software is being used for the intended application.

4.9 CUSTOMER REQUIREMENTS

The MCS Contractor shall review orders, contracts and tenders to ensure that:

a) The requirements are adequately defined for each installation.

b) The MCS Contractor has the resource and capability to meet the order/contract requirements. Where the time scales cannot be met, the MCS Contractor shall notify the customer when the order/contract can be fulfilled.

c) Responsibility for obtaining planning and building control approvals is clearly identified.

4.10 CONTRACTS

4.10.1 A contract for the sale and installation of a system shall be entered into only between an MCS Contractor certified for the technology type(s) in the contract, and a customer; and only this MCS Contractor shall register the system on the MCS Installation Database (MID) under their user account.

4.10.2 An MCS Contractor may carry out work under subcontract to another MCS Contractor in which case the requirements in clause 4.11 shall be satisfied.

4.10.3 Where the installation is carried out on a domestic property but involves Third-Party Funding arrangements the MCS Contractor shall:

- issue a zero/nominal value contract to the customer setting out the MCS Contractor's responsibility for commissioning the system and registering it on the MID and confirming that the installation will be fully compliant with the relevant MCS Product and Installation Standards

- ensure that the work is covered by a separate commercial contract between itself and the Third-Party Funder, setting out each party's responsibilities in respect of the installation and also confirming that the installation will be fully compliant with the relevant MCS Product and Installation Standards

4.11 SUBCONTRACTING

4.11.1 In installations for domestic customers, any work within the scope of the Scheme not undertaken by employees or contract personnel of the MCS Contractor may be delivered by subcontractors provided that:

a) There is a formal written subcontract agreement clearly setting out the scope of work to be undertaken by the subcontractor and the standards expected.

b) The MCS Contractor ensures the subcontractor has the necessary capacity and competency for their scope of work.

c) The subcontractor possesses the appropriate insurances for their scope of work (e.g. Public Liability Insurance, Professional Indemnity Insurance etc.)

4.11.2 In other limited situations (i.e. new-build projects where the contract is with the builder or developer, and commercial installations), it is permissible for the physical installation, setting to work and commissioning to be undertaken by others **not** subcontracted to the MCS Contractor provided that a contract between the MCS Contractor and the commercial client details the parties involved and the obligations of each.

4.11.3 In all situations the MCS Contractor shall:

a) Ensure all personnel involved have received relevant training (including relevant product specific training), can demonstrate competence for their scope of work and records are maintained in accordance with clause 4.17.

b) Supervise and assess the work undertaken to ensure the requirements of the MCS Installation Standard for the technology installed are met. The number of installations assessed should not be less than the square root of the total number of installations rounded up to the nearest whole number (e.g. a new build site of 50 installations then a minimum of 8 should be assessed).

Note: Where the number of installations is not known at outset such as, for example, when a new subcontractor is appointed, the first few installations should be assessed and then randomly sampled on a regular basis thereafter (the number assessed not being less than the square root of the total installations completed over a period of time such as a year).

c) Assume responsibility at handover that the installation is in full compliance with the relevant MCS Installation Standard.

4.12 PURCHASING

4.12.1 The MCS Contractor shall exercise care in the selection of products and materials to ensure those supplied to customers are fit for their particular purpose.

4.12.2 Products and materials installed shall be new and not previously used.

4.12.3 The MCS Contractor shall ensure those appointed to deliver ancillary services at customers' premises (e.g. scaffolding) are competent and carry an appropriate level of Public Liability Insurance.

4.13 TEST AND MEASUREMENT EQUIPMENT

The MCS Contractor shall ensure that test and measurement equipment, whether owned or hired, is:

- Maintained in clean working condition

- Used and stored in a workmanlike manner in accordance with the manufacturer's instructions
- Consistently accurate and, where appropriate, calibrated

4.14 PRODUCT HANDLING

4.14.1 All products and materials received shall be checked by the MCS Contractor to ensure that the correct product/material has been supplied and the quantities are correct.

4.14.2 Where products or materials are rejected, the basis for this shall be recorded and steps shall be taken to prevent their unintended use. The MCS Contractor shall take action to arrange replacement or other suitable steps to address the identified problem.

4.14.3 The MCS Contractor shall ensure that, where storage, handling, packaging, and transportation of products takes place, it is done in a manner that protects the product from potential damage and minimises deterioration.

4.14.4 Where products and materials are delivered to, or stored at, the installation site the customer shall not be liable for inspection, storage or handling of those goods.

Note: this does not preclude the MCS Contractor asking the customer to verify receipt in general terms such as what has been delivered and any visual signs of damage.

4.15 RECORDS

4.15.1 The MCS Contractor shall retain all installation records for a minimum of six years.

4.15.2 Records for each installation shall include the following, where relevant:

- Survey documents
- Quotations
- Orders/Contracts
- Risk assessments
- Commissioning checks
- Relevant certification
- Notifications under relevant local Building Regulations
- Copies of MCS Certificates generated through the MID
- Subcontract arrangements as defined in MCS 025
- Records identifying the individuals involved with the installation as defined in MCS 025
- Records demonstrating how the design and installation requirements for each MCS Installation Standard have been met

4.16 COMPLAINTS

The MCS Contractor shall keep a record of all complaints received (justified or otherwise) including the action taken to resolve each complaint and the action taken to prevent future similar complaints from arising. All complaints shall be dealt with in a timely and effective manner.

4.17 TRAINING AND COMPETENCE

4.17.1 All personnel undertaking the design, installation, set to work and/or commissioning activities must have received adequate training, and be able to demonstrate competence in each of the areas/operations in which they are involved.

4.17.2 The MCS Contractor must have a record for each individual detailing their training and competencies for the MCS activities they are undertaking.

Note: Guidance on specific roles and their competencies is given in MCS025. Appendix A of some of the MCS Installation Standards details entry level qualifications that can demonstrate competency.

4.18 HEALTH AND SAFETY

The MCS Contractor shall comply with the requirements of the Health & Safety at Work Act 1974, shall have a written health and safety policy statement where required by law and shall carry out risk assessments where necessary.

Note: Particular attention is drawn to the Construction Design and Management (CDM) Regulations 2015 which applies to every installation of a microgeneration system (including domestic projects), whether notifiable or not, and the obligations placed on the Contractor therein which include:

- *Checking the client is aware of their duties*
- *Fulfilling the duties of domestic customers*
- *Planning, managing and monitoring construction work under their control*
- *Preparing a construction phase plan (the responsibility of Principal Contractor where more than one Contractor is on site)*

APPENDIX – TECHNOLOGY SPECIFIC DEFINITIONS

Term	Definition
SOLAR PV (MIS 3002)	
Refer to the IET Code of Practice for solar PV systems	
ELECTRICAL ENERGY (BATTERY) STORAGE SYSTEMS (MIS 3012)	
Refer to the IET Code of Practice for Electrical Energy Storage systems and the following:	
Electrical Energy (Battery) Storage System (EESS)	A system which converts electrical energy into a form of energy which can be stored, the storing of that energy, and the subsequent reconversion, in a controllable manner, of that energy back into electrical energy.
Backup isolator	Isolator which disconnects the live conductors of the grid supply from the EESS, maintained circuits, and maintained loads, when the system is operating in island mode. Disconnection could be achieved by an isolation relay or manual changeover switch. See section 9 of the IET Code of Practice for Electrical Energy Storage Systems.
Commercial off-the-shelf packaged EESS	An EESS supplied by a single manufacturer as a system package with relevant installation, commissioning, and system tuning, instructions, and complying with relevant British and/or Harmonised standards, to which a single manufacturer or importer declares conformity. A packaged EESS may comprise more than one component.
Composite EESS	An EESS that is assembled on site from discrete components from different manufacturers, described in the Code of Practice as a "discrete-component (bespoke) EESS"
EESS Design	As Design and, in addition, the process of selecting and matching components to components and systems to premises and application to maximise performance, safety and durability of the installation. Design of composite EESS should be undertaken with particular care and requires specialist competency.
Maintained circuit	Circuit which continues to receive power from an EESS operating in island-mode.
Maintained load	Load which continues to receive power from an EESS operating in island-mode.

Term	Definition
Neutral-earth bond relay	Relay which connects the neutral of an EESS in island mode to a means of earthing and disconnects the neutral from the means of earthing immediately prior to reconnecting the maintained loads to the grid supply. See section 9 of the IET Code of Practice for Electrical Energy Storage Systems.
SOLAR PV & EESS	
Self-consumption	The amount of electricity generated on-site which is subsequently used within the building and not exported to the distribution network.
HEAT PUMPS (MIS 3005)	
Heat Pump	A device which takes heat energy from a low temperature source and upgrades it to a higher temperature at which it can be usefully employed for heating and/or hot water. Heat pumps may utilise different heat sources: • Ground Source, where heat energy is extracted from the ground (e.g. from boreholes, horizontal trenches or aquifers) • Water Source, in which heat energy is extracted from water (e.g. lakes, ponds or rivers) • Air Source, where heat energy is directly extracted from ambient air. This includes solar assisted heat pumps.
Closed-Loop Heat Exchanger	A sealed loop of pipe containing a circulating fluid used to exchange heat from ground- or water- sources.
Ground Heat Exchanger	The arrangement of horizontally or vertically installed pipes through which the heat transfer fluid circulates and collects low grade heat from the ground. Can be either closed or open loop.
Heat Transfer Fluid	Fluid that is used to transfer thermal energy between components in a system.
External absorber	A panel which performs the function of an evaporator in a solar assisted heat pump system. This device is remote from the compressor and is usually mounted externally.
BIOMASS (MIS 3004)	
Solid Biofuel	Solid biofuel as defined in the "BS EN 14961 Solid biofuels — Fuel specifications and classes. Terminology, definitions and descriptions" and excluded from the Waste Incineration Directive.
SOLAR THERMAL (MIS 3001)	
Solar heating system	System composed of Solar Thermal Collectors and other components for the delivery of thermal energy.

Term	Definition
Solar thermal collector	Device designed to absorb solar radiation and to transfer the thermal energy so produced to a fluid passing through it without a change in state. Note: A fluid may be a liquid, air or other gas.
MICRO-CHP (MIS 3007)	
Micro-Cogeneration Package	Micro-Cogeneration Unit with associated equipment as specified by the manufacturer when submitting for testing.
Add-on Micro-Cogeneration Unit	A lead device added to or replacing part of a building's existing heating system which responds to a thermal or electrical demand signal and controls operation of the existing heating plant as necessary to meet the building's heat requirements.
combiPK	A Micro-Cogeneration Package for space and water heating in which the Domestic Hot Water (DHW) service is provided wholly from within the package.
DHWPK	A Micro-Cogeneration Package for the provision of hot water heating alone for residential or commercial buildings.
SMALL AND MICRO WIND (MIS 3003)	
Micro and Small Wind Turbine systems	Systems having an electrical output up to 50kW measured at a wind speed of 11.0 metres per second.