XSQA

Assessment Guidance for the Certificate in Environmental Technology Systems (Installation) GG18 46 and (Installation, Service and Maintenance) GG17 46

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History of changes

It is anticipated that changes will take place during the life of the qualification, and this section will record these changes. This document is the latest version and incorporates the changes summarised below.

Version Number	Description	Date	Authorised by
02	Changes to Group Award Codes and Unit F8XJ 04.	April 2012	Qualifications Manager
03	Changes to Group Award Codes.	November 2012	Qualifications Manager

Contents

About this guide

This guide provides some practical examples of how to assess your candidates for the **Certificate in Environmental Technology Systems**. You may be able to think of other ways of assessing your candidates and recording your decisions about their competence.

Using assessments based on these examples does not guarantee successful verification — it is still your responsibility to ensure that internal quality assurance procedures are followed.

Introduction

This document has been provided to assist Assessors and Verifiers with the delivery of the Certificate in Environmental Technology Systems.

It should be noted that this document will be updated periodically in line with incremental change.

Whilst the guidance contained in this document is not mandatory, it illustrates the standard and range of evidence the external verifier expects to see.

Rationale
These qualifications are intended for qualified tradespeople (eg plumbers, electricians, heating and ventilation engineers) who wish to install, commission, handover, inspect, service and maintain one or more of the following systems:

♦ Solar Thermal Hot Water Units
♦ Heat Pump Units
♦ Solar Photovoltaic Systems

The training and assessment involves working with domestic or small industrial systems, suitable for installations on a new build or retro fitted systems onto an existing building.

Group Award Entry requirements
Candidates must hold an appropriate Mechanical Engineering Services or Building Services Engineering SVQ/NVQ level 3 qualification or equivalent.

Entry to the Unit F8XJ 04 — *Working Principles, Installation Options and Regulatory Requirements for Micro-Renewable Technologies, Water Harvesting and Recycling Technologies* is at the discretion of the centre. Candidates doing this Unit do not need any prior knowledge or experience. This can be used as a free standing Unit across a wide range of potential candidates, eg building control officers, architects, energy advisors, etc to raise awareness of Energy Micro-generation systems.

General Information

Who is involved

A number of individuals and organisations are involved in the Certificate in Environmental Technology Systems assessment. Their roles have been designed to guarantee fair, accurate and consistent assessment.

	Who are they?	What is their role?
Centres	◆ Colleges/institutions accredited to offer the Certificate in Environmental Technology Systems awards	◆ Offer training and assessment opportunities to candidates
Candidates	◆ The person who wants to achieve the Certificate in Environmental Technology Systems, eg an employee	◆ Complete the practical and theoretical requirements set out the assessment documentation.
Assessors	◆ The person who assesses the work of the candidate and decides if they are competent (eg supervisor)	◆ Ensure candidates know and understand what has to be carried out. ◆ Judge evidence produced by the candidate and make assessment decisions
Internal verifiers	◆ The individual nominated by the centre who ensures that assessors apply the standards uniformly and consistently (eg supervisor's line manager)	◆ Verify the instruments of assessment being used as being suitable to meet necessary standards ◆ Verify candidate's work against performance criteria given in the standards
External verifier	◆ The individual appointed by SQA who ensures that standards are being applied uniformly and consistently across all centres offering the Certificate in Environmental Technology Systems	◆ Verify internal verifier's judgement on acceptability of assessment instruments ◆ Verify internal verifier's judgement on candidate performance

Expert Witnesses and **Co-ordinating assessors** may also be involved — their role is further explained on pages 13–14.

Assessors and verifiers in centres will be asked by SQA to prove they have the appropriate occupational competence to assess and verify the Certificate in Environmental Technology Systems. Occupational competence has been defined by the standards-setting body in the

assessment strategy for this Certificate in Environmental Technology Systems — see SQA's website: **www.sqa.org.uk**.

Assessors and verifiers are also expected to obtain an appropriate qualification in assessment and verification — this can be the Assessor/Verifier Units (the national standards for assessment and verification), or an alternative qualification which SQA also recognises. The Assessment Strategy developed by the Sector Skills Council Summitskills, provides information on the qualification for assessors, internal verifiers and External Verifiers.

The steps involved in assessing a candidate

These are the main stages in the assessment process:

♦ planning for assessment

♦ generation and collection of candidate evidence that shows competence in the selected Units

♦ judging the evidence of the candidate's competence and making an assessment decision based on this evidence

♦ recording the assessment decision and the candidate's achievement

Health and Safety

It is mandatory that candidates follow safe working practices at all times. It is the responsibility of the centre to ensure that all relevant Health and Safety requirements are in place before candidates start practical assessments. An assessment should be stopped if a candidate fails to follow the appropriate health and safety procedures. They will be informed of the reason(s) why it was stopped. Remedial action will be carried out, if necessary, before the candidate can be given the opportunity to re-sit the assessment.

Preparing to assess

This section offers practical advice on how to begin to go about assessing your candidates for the Certificate in Environmental Technology Systems. This advice is offered as examples of good practice — you may develop your own approaches to assessing your candidates.

Your role and the candidate's role

Assessing the Certificate in Environmental Technology Systems involves several steps. Both you and the candidate should be clear on your roles in the assessment process before you begin.

Assessor role

♦   ensure candidates understand **what** is to be assessed and **how** it is to be assessed

♦   ensure the conditions and resources required for assessment are available

♦   help candidates to identify and gather appropriate evidence

♦   observe and record candidates carrying out the activities described in the standards — records should indicate what has been observed, how it was carried out, and what competence it demonstrates

♦   assess products of the candidate's own work

♦   question candidates and record results

♦   help candidates to present or signpost evidence

♦   authenticate the evidence candidates provide

♦   judge evidence and make assessment decisions

♦   identify gaps or shortfalls in candidates' competence

♦   provide feedback to candidates throughout the assessment process

♦   record achievement

Candidates' role

♦   prepare for assessment — become familiar with the standards and understand what is to be assessed and how the assessment will be carried out

♦   help to identify sources of evidence and how these could be assessed

♦   carry out activities, and/or produce products of own work, and/or answer questions

♦   gather, and/or signpost location of evidence, present evidence when required

♦   receive and act on feedback from the assessor

Planning

At the assessment planning meeting, the assessor and candidate should agree and record the following information:

♦ what is to be assessed

♦ the assessment method

♦ the location, date and time of the assessment

The assessment plans are working documents — they can be updated and changed as you review progress with the candidate.

As you are planning assessment, don't forget to make the most of opportunities to *integrate* assessment. This means planning to assess an activity which draws on the contents of different Units or Outcomes. It can be a practical and cost-effective way of assessing your candidate's competence.

Note: if you are a new assessor working towards your A/V Units (the national standards in assessment and verification) you will need copies of completed assessment plans as part of your evidence.

Structure of the Certificate in Environmental Technology Systems

This section lists the Units which form the Certificate in Environmental Technology Systems.

Sequence of Units

Each route through this Certificate in Environmental Technology Systems, eg Solar Thermal Hot Water Units, Heat Pump Units or Solar Photovoltaic Systems has one mandatory Unit which must be completed first — *'Unit , F8XJ 04 Working Principles, Installation Options and Regulatory Requirements for Micro-Renewable Technologies, Water Harvesting and Recycling Technologies'*. This mandatory Unit is the same Unit for each route.

The grids below show the progression pathway for each route.

Certificate in Environmental Technology Systems (Installation) (GG18 46)

Total number of Units that the candidate needs to achieve for the qualification is two.

Mandatory Unit

SQA Ref	SSC Ref	SQA Title
F8XJ 04	ET001	Working Principles, Installation Options and Regulatory Requirements for Micro-Renewable Technologies, Water Harvesting and Recycling Technologies

Technology Unit

F8XK 04	ET002ST ET003ST	Install, Test, Commission and Handover Solar Thermal Hot Water Systems
or		
F8XL 04	ET002SPV ET003SPV	Install, Test, Commission and Handover Solar Photovoltaic Systems
or		
F8XM 04	ET002HP ET003HP	Install, Test, Commission and Handover Heat Pump Systems

**Certificate in Environmental Technology Systems
(Installation, Service and Maintenance) (GG17 46)**

**Total number of Units that the candidate needs to achieve for the
qualification is three.**

Mandatory Unit

SQA Ref	SSC Ref	SQA Title
F8XJ 04	ET001	Working Principles, Installation Options and Regulatory Requirements for Micro-Renewable Technologies, Water Harvesting and Recycling Technologies

Technology Units

F8XK 04	ET002ST ET003ST	Install, Test, Commission and Handover Solar Thermal Hot Water Systems
F8XN 04	ET004ST ET005ST	Inspect, Service And Maintain Solar Thermal Hot Water Systems

or

F8XL 04	ET002SPV ET003SPV	Install, Test, Commission and Handover Solar Photovoltaic Systems
F8XP 04	ET004SPV ET005SPV	Inspect, Service and Maintain Solar Photovoltaic Systems

or

F8XM 04	ET002HP ET003HP	Install, Test, Commission and Handover Heat Pump Systems
F8XR 04	ET004HP ET005HP	Inspect, Service and Maintain Heat Pump Systems

Key Terminology

Performance evidence

This is first hand evidence of how a candidate works in relation to the standards. It includes the output of performance (work products) and observation of performance. The use of performance evidence can be a principal method of demonstrating valid and reliable competence.

Assessor observation

Observation of the candidate in the training centre or workplace — carried out by a qualified and occupationally competent assessor. This evidence is both valuable and reliable. At the right or left hand side of each observation record, assessors should reference the task being observed to the performance indicators. This indication is a crucial part of the assessment process and is an essential aid to the internal verification process.

Work Products

Work products are also valuable and reliable items of performance evidence. Work products should be annotated to place the evidence in context. This annotation could be recorded on a storyboard, written on the evidence or within the professional discussion.

Supporting evidence

This evidence supports the key performance evidence. Supporting evidence includes: questioning, professional discussion and witness testimony. Supporting evidence plays an important role in the triangulation of evidence.

Questioning

Questioning is normally used to fill knowledge gaps. This includes both written and oral questioning. Responses to oral questions should be recorded. Much of the knowledge will be covered by performance evidence and additional written or oral questioning may not be required. If questions are required they may be asked in the form of written or oral questions. Oral questions could be asked by assessors during an observation, during a professional discussion or as work product is being considered by the assessor. The assessor should use his/her judgement to decide the most appropriate opportunity to collect this type of evidence.

Assessment requirements

This section is based on, and amplifies, the assessment strategy for Certificate in Environmental Technology Systems. The assessment strategy specifies the general principles for assessment and quality assurance of the qualifications and is essential reading for all assessors and verifiers.

Development of the assessment strategy was based on:

♦ an evaluation of current assessment methods and quality assurance arrangements for the Certificate in Environmental Technology Systems
♦ stakeholder views and expectations about assessment processes and requirements gathered through focus groups and online consultations
♦ discussion and agreement with the awarding bodies

The assessment strategy was developed to encompass both sector-specific and imported Units included within the Certificate in Environmental Technology Systems. However, it remains the responsibility of the awarding bodies and their centres to ensure they are working to the relevant assessment strategy in relation to any imported Units.

The assessment strategy specifies:

♦ the recommended approach to external quality control of assessment
♦ the type and amount of evidence to be collected for assessment purposes, including mandatory requirements for evidence from performance in the workplace
♦ the extent to which simulated working conditions may be used in assessment, and any required characteristics of the simulations, including definitions of what might constitute realistic working environments
♦ the occupational expertise requirements for assessors and verifiers

The assessment strategy is available on SQA's website: **www.sqa.org.uk**.

External quality control of assessment
External quality control of assessment will be achieved through rigorous internal and external verification processes underpinned by effective risk management.

External Verifiers will be required to sample the work of all internal verifiers and assessors, and implement rigorous risk management strategies consistently across all centres for which they are responsible. Apart from other risk factors, External Verifiers should recognise the risk of introducing new qualifications into centres and adapt their sampling process accordingly.

Internal verifiers should sample evidence from all assessors across all aspects of Certificate in Environmental Technology Systems assessment. They should also observe each assessor conducting candidate assessments at regular intervals. As a guide this is likely to be at least once a year for experienced assessors and every six months for inexperienced assessors.

Type and amount of evidence
The majority of assessments should be via observation in a simulated workplace, together with examination of work products, questioning, professional discussions and witness testimonies from relevant people. Additional sources of evidence, if required, might include reflective accounts, written assignments and case studies.

The use of simulation for this qualification will be used frequently since there are very few opportunities to carry out training and assessment in the workplace. Further guidance on the use of simulation is given below.

Accreditation of prior learning
Centres are expected to implement a system of initial assessment of candidates and develop an individual assessment plan that should include the accreditation of prior learning and experience where applicable.

The use of simulation
Simulation will be 'normal practice' for this qualification, at least initially until opportunities to carry out the assessment in the workplace become available. There are very few opportunities in the workplace to assess candidates due to the 'new' nature of the work being carried out. However simulation will be carried out within realistic working environments using industrial/domestic systems and components. These environments should mirror the difficulties, hazards and working environment workers will find in the workplace.

Descriptions of the constraints under which these simulations should be developed are included in the assessment strategy. These are designed to ensure that the evidence generated is as valid and reliable as possible.

The assessment process

This section offers practical advice on aspects of the assessment process for the Certificate in Environmental Technology Systems.

Roles in assessment

Candidate
The candidate is at the centre of the assessment process and has a key role in ensuring the process is effective. The candidate should:

♦ familiarise themselves with the standards so they know what is to be assessed
♦ carry out a self-assessment against the standards to identify any learning and development needs
♦ work with their assessor and mentor, if available, to identify opportunities for collecting evidence
♦ gather and present evidence for assessment
♦ receive and act on feedback from the assessor

Assessors
Assessors support and assess candidates working towards the Certificate in Environmental Technology Systems. They make sure that candidates meet the Standards needed to achieve the Certificate in Environmental Technology Systems.

The assessor's role is to:

♦ ensure candidates understand the assessment process — what is to be assessed and how it is assessed
♦ help candidates to identify and gather evidence
♦ observe candidates carrying out activities in their workplace
♦ examine candidates' evidence
♦ question candidates and record results
♦ judge and authenticate evidence
♦ provide feedback and offer advice if the standards are not met
♦ record achievement

Expert witnesses
As the scope of activities covered by the new Certificate in Environmental Technology Systems has increased, a single assessor is unlikely to have the occupational expertise to make decisions on candidates' occupational competence for all the Units. Expert witnesses can be used to address any gaps in the technical and occupational competence of assessors, and for confidential or sensitive activities that are not appropriate for assessor observation.

Expert witnesses can be drawn from a wide range of people who can attest to performance in the workplace. Accredited installers can support the assessment process by encouraging and supporting members of staff to act as expert witnesses. A qualified assessor will make the final judgement about a candidate's competence based on testimony provided by the expert witness together with any other corroborating evidence.

Accredited installers might act as expert witnesses across a range of Units. However, there are some Standards where expert witnesses may play an important role in filling any gaps in the occupational expertise of assessors.

Co-ordinating assessors
To ensure the requirements for the occupational competence of assessors can be met, candidates may have more than one assessor, with each assessing different Units or Outcomes of Units.

Where more than one assessor is involved, there must be a named assessor who is responsible for co-ordinating the assessment for an individual candidate.

The co-ordinating assessor is responsible for:

♦ developing an overall assessment plan including details of where specialist assessors and expert witnesses will be required and when the specialist assessment should be scheduled
♦ vetting the selection of expert witnesses including evidence of occupational competence and monitoring their contribution to the assessment process
♦ making assessment judgements for Units whose assessment relies extensively on expert witness testimony or where parts have been assessed by different assessors and/or expert witnesses
♦ ensuring that best use is made of all available evidence to make judgements about the competence of candidates against the standards
♦ working closely with internal verifiers to ensure standardised practice and decision making within the assessment process

Co-ordinating assessors must be qualified assessors who meet the occupational expertise requirements of the assessment strategy.

Internal verifiers
Ultimately it is the internal verifier's job to ensure the integrity and quality of the Certificate in Environmental Technology Systems. The internal verifier is responsible for:

♦ maintaining policies and procedures to enable delivery and assessment of the Certificate in Environmental Technology Systems
♦ training and supporting assessors
♦ sampling the work of assessors and candidates

- checking and standardising assessment decisions made by assessors
- evaluating the effectiveness of assessment practice and procedures
- developing practice and procedures as a result of evaluation
- identifying assessors' training needs
- supporting assessors in implementing changes

Getting off to a good start

The quality of the advice and guidance received at the beginning of the assessment process is a key factor in ensuring candidates and workplaces achieve the best results from the Certificate in Environmental Technology Systems.

This Certificate in Environmental Technology Systems is about competence in the workplace, therefore support within the workplace is essential. Effective assessment is facilitated by:

- building positive working relationships with the centre/workplace
- working with the candidate and the company to identify suitable Units
- making sure decisions reflect the needs and expectations of the centre as well as the candidate
- checking the candidate will be engaged in roles that allow them to meet the requirements of the appropriate Units of competence
- recognising that using this Certificate in Environmental Technology Systems to prepare a candidate for a new job role requires more extensive planning of learning, ways of developing practice, and assessment opportunities; and ensuring the candidate and workplace appreciates and will support this

Initial assessment

Initial assessment provides the evidence to determine the starting point of learning and assessment.

In carrying out an initial assessment:

- find out what the candidate already knows and can do for immediate assessment — identifying opportunities for quick wins motivates candidates and those who support them within the workplace as well as familiarising them with the assessment process
- identify where the candidate has sufficient up-to-date knowledge and experience for accreditation of prior learning
- identify what they need to learn
- Use a range of information to inform the initial assessment including:
  - candidate's self-assessment
  - line manager appraisal
  - previous qualifications and achievements
  - prior learning and experience
  - learning style preferences

— job role and career aspirations
— potential, aptitude and commitment
— personal circumstances

Agree a learning plan

Each candidate should have clearly identified learning objectives and an individual learning plan which sets out the requirements of the standards and how these will be achieved. The learning objectives and learning plan should be discussed and agreed with the line manager and candidate to ensure they are meeting their needs.

Learning plans should:

♦ be based on the results of the initial assessment
♦ be developed in partnership with the candidate and the workplace
♦ specify clearly how, where and when learning will take place, taking account of the candidate's needs and circumstances
♦ identify activities that allow the candidate to learn what they need, recognising that courses are not the only option; on-the-job development is often more meaningful and relevant as well as more focused and time-efficient
♦ identify if, and for what, the candidate needs to do different work or work in a different way in order to develop competence and generate evidence — negotiate with the line manager/mentor for this to happen
♦ be flexible — explore and agree ways of learning that are relevant, available and make best use of resources within and close to the school
♦ identify any potential or actual barriers to progress — use the line manager, or mentor if available, to address these; keep them informed throughout the programme in case new barriers to learning are identified

Assessment planning

All candidates should have assessment plans that identify when and how assessment will be carried out, taking account of their prior learning and achievements, plans for addressing learning needs, and the assessment opportunities available to them.

Candidates need to have a clear understanding of what they are being assessed on, what methods will be used and what evidence they agree to produce. Proper assessment planning can help candidates to relate their everyday activities to the requirement of the Certificate in Environmental Technology Systems.

In developing an assessment plan, assessors should:

♦ have a thorough knowledge of the Certificate in Environmental Technology Systems and its assessment requirements
♦ get to know the candidate
♦ find out when the candidate is available for assessment, eg what hours/days they work
♦ take account of the candidate's job role and circumstances
♦ identify opportunities for demonstrating competence
♦ make good use of the mentor, if available, to facilitate assessment opportunities (but keep them separate from the assessment process)
♦ ensure assessment planning takes account of the candidate's learning needs and agreed plans for addressing these

The agreed assessment plan should:

♦ be candidate led rather than provider driven — organise and arrange assessment appropriate to each candidate rather than predetermined programmes or plans
♦ identify activities that will provide evidence towards a number of Units or Outcomes
♦ use naturally-occurring evidence wherever possible
♦ use a range of assessment methods and evidence
♦ use expertise within the workplace to support assessment, eg witness testimony
♦ make use of expert witnesses where appropriate
♦ recognise the contribution of learning logs, personal statements, professional discussions, tape, photographic and video evidence to the assessment process
♦ use questions to supplement, rather than duplicate, performance observation — there is no need to check knowledge that has been clearly demonstrated through practice
♦ where possible use the same evidence if the same knowledge and understanding is required for different Units
♦ be consistent with the agreed strategy for the use of simulation

- not overwhelm the candidate with evidence demands — use a sufficiency rather than surfeit approach
- avoid duplication of evidence and over assessment
- be consistent with the assessment strategy

Holistic assessment

Many of the Environmental Technology Systems Units are interrelated and a single situation may be the starting point for gathering evidence against several Units.

Using a holistic approach to assessment will:

- pay dividends in the efficiency and effectiveness of the assessment process as well as making more sense to the candidate
- allow for evidence for particular standards to be drawn from a range of activities, thus making it easier to cover aspects that may not occur in a one-off assessment
- avoid the inefficient use of assessment opportunities and over assessment associated with planning for assessment on an Outcome -by-Outcome or Unit-by-Unit basis

Evidence Requirements

Assessment against the Standards is a matter of skilled professional judgement, drawing on a range of evidence from the assessment process. Assessment should be in the context of the candidate's job role and setting and all evidence should relate to this.

Approaches to generating evidence
Written and/or oral evidence is required to demonstrate knowledge defined in the PCs and must be produced in controlled supervised, open book conditions.

Assessment of performance shall be carried out using either:

♦ evidence sourced from the workplace
♦ simulation

Use of simulation for the assessment of performance outcomes
As agreed with sector stakeholders, within the Building Services Engineering sector, simulation is only normally to be used as an assessment method for performance outcome assessment in:

i) those extremely rare circumstances where candidate/learner is unable to access the required range of work circumstances and as a result the candidate/learner lacks evidence for completion of the Unit(s); or

ii) those circumstances where safety critical and/or technical critical aspects of performance need to be assessed.

SQA and Summitskills recognise that due to the evolving nature of environmental technologies and their integration into the sector, environmental technology system installation, service and maintenance work may not yet be a regular work activity for some sector businesses and as a result restricted or no access to the required range of work circumstances may be more commonplace than for the more established work activities within the sector footprint. In recognition of this SQA and Summitskills considers it appropriate for additional flexibility regarding the use of simulation to be available whilst environmental technology system installation, service and maintenance work becomes more established and commonplace within the sector. However, this flexibility is given on the basis that it will be withdrawn or reduced at an appropriate stage. In order to allow for an initial period of stability in the assessment of environmental technology Units the first review of this flexibility will take place in December 2011.

The use of simulation in the assessment of performance outcomes for environmental technology Units is either permissible OR mandatory.

Simulation is permitted for all Units and all assessed outcomes until December 2011. This permission is subject to compliance with the

requirement for realistic working environment to be used for the simulated activity.

Simulation must take place for key safety critical/technical critical aspects of the environmental technology Units. The Building Services Engineering industries cannot afford for the candidates to make mistakes in the workplace and so it is required that candidates, as appropriate, will demonstrate competence of those key safety critical activities and their technical competence in simulated conditions, and under direct assessor observation, as outlined by technology below.

Technology	Mandatory simulation requirements
Solar Thermal	♦ Commissioning of completed new installations ♦ All fault identification and rectification activities
Solar Photovoltaic	♦ Installation of solar photovoltaic d.c. circuits and components ♦ Inspection and testing of the completed installation including both a.c and d.c circuits ♦ All fault identification and rectification activities
Heat Pumps	♦ Commissioning of completed new installations ♦ All fault identification and rectification activities
Biomass	To be agreed upon completion of the Units
Bio-liquids	To be agreed upon completion of the Units
Water recycling	To be agreed upon completion of the Units
Micro-wind	To be agreed upon completion of the Units
Micro-hydro	To be agreed upon completion of the Units

Assessing knowledge and understanding

Knowledge and understanding is an integral aspect of competence. Assessment processes that only look at evidence of knowledge in isolation from performance threatens the validity of assessment of competence. Evidence of knowledge and understanding should come from, or be supported by, assessment of performance.

For assessment to be fair and reliable it is important to assess strictly:

♦ to the written knowledge specification
♦ within the context of the candidate's job role

Some knowledge and understanding is common to different aspects of working practice. This is reflected through common knowledge statements across Certificate in Environmental Technology Systems Units.

Taking a holistic approach to assessing knowledge and understanding will reduce unnecessary duplication. Holistic assessment across related Units makes effective use of situational knowledge.

When assessing common knowledge statements, consider that some knowledge and understanding is specific to the context, task and/or setting, eg

♦ An assessment could be drawn up which integrates the common situational knowledge/understanding, ie the example below based on the 'Heat Pump Systems Unit' shows where an assessment could be drafted which includes the common knowledge and understanding requirements of servicing, fault diagnosis, fault rectification with the undertaking of fault diagnosis and fault rectification.

— Identify the requirements for the routine service and maintenance of heat pump system installations
— Describe how to diagnose faults in heat pump system installations
— Describe how to rectify faults in heat pump system installations
— Undertake the routine service and maintenance of an ground source heat pump system installation
— Undertake fault diagnosis work on an air or ground source heat pump system installation
— Undertake fault rectification work on an air or ground source heat pump system installation

Presenting evidence

It is not always necessary to keep copies of all the evidence produced in one place, ie in a portfolio. Assessors and verifiers need to know what evidence is available and where it is located.

This can be achieved by signposting where evidence can be found, rather than gathering it together in a portfolio.

In helping candidates to present evidence:

♦ focus on assessment against the standards rather than the candidate's ability to manage paperwork
♦ make use of awarding body forms and procedures, adapting these as appropriate to the needs and job role of candidates and the way your centre operates
♦ strive for quality rather than quantity, and simplicity rather than complexity

Evidence containing confidential information should not be included in a candidate's portfolio of evidence. It should be signposted within the portfolio and confirmed through expert witness testimony and/or professional discussion with the candidate.

Tracking progress

Regular reviews with candidates, involving both the provider and the line manager, should be carried out to measure and maintain progress towards achievement of the qualification. Feedback from the mentoring process may also contribute to the review process but only where confidentiality allows.

Reviews should take account of:

♦ actions agreed at the last review meeting
♦ progress made in relation to the agreed learning plan
♦ assessments undertaken
♦ any problems or obstacles encountered and how these will be addressed
♦ any changes in candidate or workplace circumstances, eg changed work role
♦ future learning needs and how they will be addressed
♦ any implications for the assessment plan and revising this as appropriate
♦ progress reviews should also be used to check that the candidate and the line manager:
♦ understand and are comfortable with the assessment process
♦ know what progress the candidate has made towards achievement of the Certificate in Environmental Technology Systems

- ♦ are aware of the option of certification for individual Units
- ♦ understand the appeals process

Using Information and Communications Technology

Assessment and administration for Certificate in Environmental Technology Systems can be labour intensive for awarding bodies, providers and candidates. The use of Information and Communications Technology (ICT) offers the potential to increase efficiency and streamline data transfer processes. It may also offer opportunities for candidates to develop and demonstrate their ICT skills. The use of alternative media engages candidates in different ways, thereby increasing motivation and promoting retention and achievement.

Each Unit contains guidance relating to the following aspects of each Unit:

♦ Learning Outcomes
♦ Performance criteria
♦ Range
♦ Evidence Requirements
♦ Support notes