

Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF)

Specification

BTEC Professional qualifications

First teaching August 2014

Edexcel, BTEC and LCCI qualifications

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Purpose of this specification

The purpose of a specification as defined by Ofqual is to set out:

- the qualification's objective
- any other qualification that a learner must have completed before taking the qualification
- any prior knowledge, skills or understanding that the learner is required to have before taking the qualification
- units that a learner must have completed before the qualification will be awarded and any optional routes
- any other requirements that a learner must have satisfied before they will be assessed or before the qualification will be awarded
- the knowledge, skills and understanding that will be assessed as part of the qualification (giving a clear indication of their coverage and depth)
- the method of any assessment and any associated requirements relating to it
- the criteria against which the learner's level of attainment will be measured (such as assessment criteria)
- any specimen materials
- any specified levels of attainment.

BTEC Professional qualification titles covered by this specification

Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF)

This qualification has been accredited to the Qualifications and Credit Framework (QCF) and is eligible for public funding as determined by the Department for Education (DfE) under Section 96 of the Learning and Skills Act 2000.

The qualification title listed above features in the funding lists published annually by the DfE and the regularly updated website www.education.gov.uk/. The QCF Qualification Number (QN) should be used by centres when they wish to seek public funding for their learners. Each unit within a qualification will also have a QCF unit code.

The QCF qualification and unit codes will appear on learners' final certification documentation.

The QN for the qualification in this publication is:

Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF) 601/1133/1

This qualification title will appear on learners' certificates. Learners need to be made aware of this when they are recruited by the centre and registered with Pearson.

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What are BTEC Level 4 Professional qualifications?

BTEC Professional qualifications are qualifications at Level 4 to Level 8 in the Qualifications and Credit Framework (QCF) and are designed to provide professional work-related qualifications in a range of sectors. They give learners the knowledge, understanding and skills that they need to prepare for employment. The qualifications also provide career development opportunities for those already in work. Consequently they provide a course of study for full-time or part-time learners in schools, colleges and training centres.

BTEC Professional qualifications provide much of the underpinning knowledge and understanding for the National Occupational Standards for the sector, where these are appropriate. They are supported by the relevant Standards Setting Body (SSB) or Sector Skills Council (SSC). A number of BTEC Professional qualifications are recognised as the knowledge components of Apprenticeships Frameworks.

On successful completion of a BTEC Professional qualification, learners can progress to or within employment and/or continue their study in the same or related vocational area.

The QCF is a framework which awards credit for qualifications and units and aims to present qualifications in a way that is easy to understand and measure. It enables learners to gain qualifications at their own pace along flexible routes.

There are three sizes of qualification in the QCF:

- Award (1 to 12 credits)
- Certificate (13 to 36 credits)
- Diploma (37 credits and above).

Every unit and qualification in the framework will have a credit value.

The credit value of a unit specifies the number of credits that will be awarded to a learner who has achieved the learning outcomes of the unit.

The credit value of a unit is based on:

- one credit for those learning outcomes achievable in 10 hours of learning
- learning time – defined as the time taken by learners at the level of the unit, on average, to complete the learning outcomes of the unit to the standard determined by the assessment criteria.

The credit value of the unit will remain constant in all contexts, regardless of the assessment method used for the qualification(s) to which it contributes.

Learning time should address all learning (including assessment) relevant to the learning outcomes, regardless of where, when and how the learning has taken place.

BTEC Level 4 Diploma

The BTEC Level 4 Diploma extends the work-related focus from the BTEC Level 4 Certificate. There is potential for the qualification to prepare learners for employment in a particular vocational sector and it is suitable for those who have decided that they wish to enter a specific area of work.

Key features of the Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF)

The government is committed to reducing the overall greenhouse gas emissions by 34% by 2020 and 80% by 2050.

The Green Deal is a financial arrangement to implement energy saving measures with no upfront cost to the property owner/tenant. This is achieved by using the savings on the energy bill to pay for the cost of the measure over the duration of the Green Deal finance agreement.

The government expects the policy will see billions of pounds lent every year, with 14 million of the UK's 27 million homes expected to benefit. It also predicts that it will create 100,000 jobs by 2015.

This qualification provides the underpinning knowledge and competency required for someone to work as a Green Deal Advisor and Assessor for non-domestic properties.

The Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF) has been developed to give learners the opportunity to:

- engage in learning that is relevant to them and which will provide opportunities to develop a range of skills and techniques which will allow them to assess the energy efficiency of non-domestic property, identify and advise on measures to improve efficiency, including the requirements of the Government's Green Deal scheme. It will also include personal skills and attributes, essential for successful performance in working life
- achieve a nationally recognised Level 4 vocationally-related qualification
- progress to employment as a Non-Domestic energy assessor and/or Non-Domestic Green Deal Advisor

National Occupational Standards

Where relevant, BTEC Level 4 qualifications are designed to provide some of the underpinning knowledge and understanding for the National Occupational Standards (NOS), as well as developing practical skills in preparation for work and possible achievement of NVQs in due course. NOS form the basis of National Vocational Qualifications (NVQs). BTEC Level 4 (QCF) qualifications do not purport to deliver occupational competence in the sector, which should be demonstrated in a work context.

Each unit in the specification identifies links to elements of the NOS in *Annexe B*. The Pearson BTEC Level 4 Diploma in Green Deal Non-domestic Advice (QCF) relates to the following NOS.

- Energy Assessment and Advice

Rules of combination

The rules of combination specify the credits that need to be achieved, through the completion of particular units, for the qualification to be awarded. All accredited qualifications within the QCF have rules of combination.

Rules of combination for Pearson BTEC Level 4 qualifications

When combining units for a Pearson BTEC Level 4 in Green Deal Non-Domestic Advice (QCF), it is the centre's responsibility to ensure that the following rules of combination are adhered to.

Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF)

- 1 Qualification credit value: a minimum of 57 credits.
- 2 Minimum credit to be achieved at, or above, the level of the qualification: 30 credits.
- 3 All credits must be achieved from the units listed in this specification.

Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF)

The Pearson BTEC Level 4 Award in Green Deal Non-Domestic Advice (QCF) is a 57 credit and 260 guided learning hour (GLH) qualification that consists of eight mandatory units totalling 57 credits. There are also additional specialist optional units which may be undertaken for learners whose job role requires this expertise.

Pearson BTEC Level 4 Award in Green Deal Non-Domestic Advice (QCF)			
Unit	Mandatory units	Credit	Level
1	Carry Out Non-domestic Energy Inspections to Determine an Operational Profile and Give Advice	10	4
2	Prepare and Issue Non-domestic Green Deal Advice Reports	9	4
3	Provide Information to Customers on the Principles, Financing and Operation of the Green Deal	4	3
4	Explain the Green Deal Advice Report to the Non-domestic Customer	4	4
5	Conduct Energy Assessments in a Safe, Effective and Professional Manner	6	3
6	Prepare for Energy Assessments of Non-dwellings to Fulfil Regulatory Requirements for Asset Ratings	6	3
7	Undertake Energy Assessments of Existing Level 3 Non-dwellings using the Simplified Building Energy Model SBEM	11	3
8	Report on the Energy Assessment of New and Existing Non-dwellings using the Simplified Building Energy Model SBEM	7	4
Unit	Optional units		
9	Undertake Energy Assessments of Existing Level 4 Non-dwellings using the Simplified Building Energy Model SBEM	13	4
10	Undertake Energy Assessments of Existing Level 5 Non-dwellings Requiring the Use of Dynamic Simulation Models DSMs	13	5
11	Report on the Energy Assessment of New and Existing Non-dwellings using Dynamic Simulation Model DSM	9	5

Assessment

All units within this qualification are internally assessed. The qualifications are criterion referenced, based on the achievement of all the specified learning outcomes.

To achieve a 'pass' a learner must have successfully passed **all** the assessment criteria.

Guidance

The purpose of assessment is to ensure that effective learning has taken place to give learners the opportunity to:

- meet the standard determined by the assessment criteria and
- achieve the learning outcomes.

All the assignments created by centres should be reliable and fit for purpose, and should be built on the unit assessment criteria. Assessment tasks and activities should enable learners to produce valid, sufficient and reliable evidence that relates directly to the specified criteria. Centres should enable learners to produce evidence in a variety of different forms, including performance observation, presentations and posters, along with projects, or time-constrained assessments.

Centres are encouraged to emphasise the practical application of the assessment criteria, providing a realistic scenario for learners to adopt, and making maximum use of practical activities. The creation of assignments that are fit for purpose is vital to achievement and their importance cannot be over-emphasised.

The assessment criteria must be clearly indicated in the assignments briefs. This gives learners focus and helps with internal verification and standardisation processes. It will also help to ensure that learner feedback is specific to the assessment criteria.

When designing assignments briefs, centres are encouraged to identify common topics and themes. A central feature of vocational assessment is that it allows for assessment to be:

- current, i.e. to reflect the most recent developments and issues
- local, i.e. to reflect the employment context of the delivering centre
- flexible to reflect learner needs, i.e. at a time and in a way that matches the learner's requirements so that they can demonstrate achievement.

Qualification grade

Learners who achieve the minimum eligible credit value specified by the rule of combination will achieve the qualification at pass grade.

In BTEC Level 4 Professional qualifications each unit has a credit value which specifies the number of credits that will be awarded to a learner who has achieved the learning outcomes of the unit. This has been based on:

- one credit for those learning outcomes achievable in 10 hours of learning time
- learning time being defined as the time taken by learners at the level of the unit, on average, to complete the learning outcomes of the unit to the standard determined by the assessment criteria
- the credit value of the unit remaining constant regardless of the method of assessment used or the qualification to which it contributes.

Quality assurance of centres

BTEC Level 4–7 qualifications provide a flexible structure for learners enabling programmes of varying credits and combining different levels. For the purposes of quality assurance, all individual qualifications and units are considered as a whole. Centres delivering BTEC Level 4–7 qualifications must be committed to ensuring the quality of the units and qualifications they deliver, through effective standardisation of assessors and verification of assessor decisions. Centre quality assurance and assessment is monitored and guaranteed by Pearson.

Pearson quality assurance processes will involve:

- centre approval for those centres not already recognised as a centre for BTEC qualifications
- approval for BTEC Level 4-7 qualifications and units.

For all centres delivering BTEC qualifications at Levels 4–7, Pearson allocates a Standards Verifier (SV) for each sector offered; who will conduct an annual visit to quality assure the programmes.

Approval

Centres are required to declare their commitment to ensuring the quality of the programme of learning and providing appropriate assessment opportunities for learners that lead to valid and accurate assessment outcomes. In addition, centres will commit to undertaking defined training and online standardisation activities.

Centres already holding approval are able to gain qualification approval online. New centres must complete a centre approval application.

Quality assurance guidance

Details of quality assurance for BTEC Level 4–7 qualifications are available on our website (www.edexcel.com).

Programme design and delivery

Mode of delivery

Pearson does not normally define the mode of delivery BTEC Level 4 to Level 8 qualifications. Centres are free to offer the qualifications using any mode of delivery (such as full-time, part-time, evening only, distance learning) that meets their learners' needs. Whichever mode of delivery is used, centres must ensure that learners have appropriate access to the resources identified in the specification and to the subject specialists delivering the units. This is particularly important for learners studying for the qualification through open or distance learning.

Learners studying for the qualification on a part-time basis bring with them a wealth of experience that should be utilised to maximum effect by tutors and assessors. The use of assessment evidence drawn from learners' work environments should be encouraged. Those planning the programme should aim to enhance the vocational nature of the qualification by:

- liaising with employers to ensure a course relevant to learners' specific needs
- accessing and using non-confidential data and documents from learners' workplaces
- including sponsoring employers in the delivery of the programme and, where appropriate, in the assessment
- linking with company-based/workplace training programmes
- making full use of the variety of experience of work and life that learners bring to the programme.

Resources

BTEC Level 4 qualifications are designed to give learners an understanding of the skills needed for specific vocational sectors. Physical resources need to support the delivery of the programme and the assessment of the learning outcomes, and should therefore normally be of industry standard. Staff delivering programmes and conducting the assessments should be familiar with current practice and standards in the sector concerned. Centres will need to meet any specific resource requirements to gain approval from Pearson.

Where specific resources are required these have been indicated in individual units in the *Essential resources* sections.

Delivery approach

It is important that centres develop an approach to teaching and learning that supports the vocational nature of BTEC Level 4 qualifications and the mode of delivery. Specifications give a balance of practical skill development and knowledge requirements, some of which can be theoretical in nature. Tutors and assessors need to ensure that appropriate links are made between theory and practical application and that the knowledge base is applied to the sector. This requires the development of relevant and up-to-date teaching materials that allow learners to apply their learning to actual events and activity within the sector. Maximum use should be made of learners' experience.

Access and recruitment

Pearson's policy regarding access to its qualifications is that:

- they should be available to everyone who is capable of reaching the required standards
- they should be free from any barriers that restrict access and progression
- there should be equal opportunities for all wishing to access the qualifications.

Centres are required to recruit learners to BTEC qualifications with integrity. This will include ensuring that applicants have appropriate information and advice about the qualifications and that the qualification will meet their needs. Centres should take appropriate steps to assess each applicant's potential and make a professional judgement about their ability to successfully complete the programme of study and achieve the qualification. This assessment will need to take account of the support available to the learner within the centre during their programme of study and any specific support that might be necessary to allow the learner to access the assessment for the qualification. Centres should consult our policy on learners with particular requirements.

Centres will need to review the entry profile of qualifications and/or experience held by applicants, considering whether this profile shows an ability to progress to a higher level qualification.

Access to qualifications for learners with disabilities or specific needs

Equality and fairness are central to our work. Pearson's Equality Policy requires all learners to have equal opportunity to access our qualifications and assessments. It also requires our qualifications to be awarded in a way that is fair to every learner.

We are committed to making sure that:

- learners with a protected characteristic (as defined by the Equality Act 2010) are not, when they are undertaking one of our qualifications, disadvantaged in comparison to learners who do not share that characteristic
- all learners achieve the recognition they deserve from undertaking a qualification and that this achievement can be compared fairly to the achievement of their peers.

Learners taking a qualification may be assessed in British sign language or Irish sign language where it is permitted for the purpose of reasonable adjustments.

Further information on access arrangements can be found in the Joint Council for Qualifications (JCQ) document *Access Arrangements, Reasonable Adjustments and Special Consideration for General and Vocational qualifications*.

Details on how to make adjustments for learners with protected characteristics are given in the document *Pearson Supplementary Guidance for Reasonable Adjustment and Special Consideration in Vocational Internally Assessed Units*.

Both documents are on our website at: www.edexcel.com/policies

Restrictions on learner entry

Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF) is accredited on the QCF for learners aged 18 and above.

It is advisable for learners to have a background in the sector and learners should have functional numeracy and literacy at level 2. An understanding of energy assessment would be beneficial.

Recognising prior learning and achievement

Recognition of Prior Learning

Recognition of Prior Learning (RPL) is a method of assessment (leading to the award of credit) that considers whether a learner can demonstrate that they can meet the assessment requirements for a unit through knowledge, understanding or skills they already possess and so do not need to develop through a course of learning.

Pearson encourages centres to recognise learners' previous achievements and experiences whether at work, home and at leisure, as well as in the classroom. RPL provides a route for the recognition of the achievements resulting from continuous learning.

RPL enables recognition of achievement from a range of activities using any valid assessment methodology. Provided that the assessment requirements of a given unit or qualification have been met, the use of RPL is acceptable for accrediting a unit, units or a whole qualification. Evidence of learning must be sufficient, reliable and valid.

There is further guidance in our policy document *Recognition of Prior Learning Policy and Process*, available on our website at www.edexcel.com/policies

Credit transfer

Credit transfer describes the process of using a credit or credits awarded in the context of a different qualification or awarded by a different awarding organisation towards the achievement requirements of another qualification. All awarding organisations recognise the credits awarded by all other awarding organisations that operate within the QCF.

If learners achieve credits with other awarding organisations, they do not need to retake any assessment for the same units. The centre must keep evidence of credit achievement.

Unit format

All units in BTEC Level 4 Professional qualifications have a standard format. The unit format is designed to give guidance on the requirements of the qualification for learners, tutors, assessors and those responsible for monitoring national standards. Each unit has the following sections.

Unit title

The unit title is on the QCF and this form of words will appear on the learner's Notification of Performance (NOP).

Unit reference number

Each unit is assigned a unit reference number that appears with the unit title on the Register of Regulated Qualifications.

QCF level

All units and qualifications within the QCF have a level assigned to them. There are nine levels of achievement, from Entry to Level 8. The QCF Level Descriptors and, where appropriate, the NOS and/or other sector/professional benchmarks, inform the allocation of level.

Credit value

All units have a credit value. The minimum credit value that may be determined for a unit is one, and credits can only be awarded in whole numbers. Learners will be awarded credits for the successful completion of whole units.

Guided learning hours

Guided learning hours are defined as all the times when a tutor, trainer or facilitator is present to give specific guidance towards the learning aim being studied on a programme. This definition includes lectures, tutorials and supervised study in, for example, open learning centres and learning workshops. It also includes time spent by staff assessing learners' achievements. It does not include the time spent by staff marking assignments or homework where the learner is not present.

Unit aim

This gives a summary of what the unit aims to do.

Unit introduction

The unit introduction gives the reader an appreciation of the unit in the vocational setting of the qualification, as well as highlighting the focus of the unit. It gives the reader a snapshot of the unit and the key knowledge, skills and understanding gained while studying the unit. The unit introduction also highlights any links to the appropriate vocational sector by describing how the unit relates to that sector.

Learning outcomes

The learning outcomes of a unit set out what a learner knows, understands or is able to do as the result of a process of learning.

Assessment criteria

Assessment criteria specify the standard required by the learner to achieve each learning outcome.

Unit content

The unit content identifies the breadth of knowledge, skills and understanding needed to design and deliver a programme of learning to achieve each of the learning outcomes. This is informed by the underpinning knowledge and understanding requirements of the related National Occupational Standards (NOS), where relevant. The content provides the range of subject material for the programme of learning and specifies the skills, knowledge and understanding required for achievement of the unit.

Each learning outcome is stated in full and then the key phrases or concepts related to that learning outcome are listed in italics followed by the subsequent range of related topics.

Relationship between content and assessment criteria

The learner should have the opportunity to cover all of the unit content.

It is not a requirement of the unit specification that all of the content is assessed. However, the indicative content will need to be covered in a programme of learning in order for learners to be able to meet the standard determined in the assessment criteria.

Content structure and terminology

The information below shows the unit content is structured and gives the terminology used to explain the different components within the content.

- Learning outcome: this is shown in bold at the beginning of each section of content.
- Italicised sub-heading: it contains a key phrase or concept. This is content which must be covered in the delivery of the unit. Colons mark the end of an italicised sub-heading.
- Elements of content: the elements are in plain text and amplify the sub-heading. The elements must be covered in the delivery of the unit. Semi-colons mark the end of an element.
- Brackets contain amplification of content which must be covered in the delivery of the unit.
- 'e.g.' is a list of examples, used for indicative amplification of an element (that is, the content specified in this amplification could be covered or could be replaced by other, similar material).

Essential guidance for tutors

This section gives tutors additional guidance and amplification to aid understanding and a consistent level of delivery and assessment. It is divided into the following sections.

- *Delivery* – explains the content’s relationship to the learning outcomes and offers guidance about possible approaches to delivery. This section is based on the more usual delivery modes but is not intended to rule out alternative approaches.
- *Assessment* – gives amplification about the nature and type of evidence that learners need to produce in order to achieve the unit. This section should be read in conjunction with the assessment criteria.
- *Essential resources* – identifies any specialist resources needed to allow learners to generate the evidence required for each unit. The centre will be asked to ensure that any requirements are in place when it seeks approval from Pearson to offer the qualification.
- *Indicative resource materials* – gives a list of resource material that benchmarks the level of study.

Units

Units

Unit 1:	Carry Out Non-domestic Energy Inspections to Determine an Operational Profile and Give Advice	19
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Unit 7:	Undertake energy assessments of existing Level 3 non-dwellings using the Simplified Building Energy Model SBEM	111
Unit 8:	Report on the energy assessment of new and existing non-dwellings using Simplified Building Energy Model SBEM	131
Unit 9:	Undertake energy assessments of existing Level 4 non-dwellings using the Simplified Building Energy Model SBEM	147
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Unit 1: Carry Out Non-domestic Energy Inspections to Determine an Operational Profile and Give Advice

Unit reference number: K/504/0964

QCF Level: 4

Credit value: 10

Guided learning hours: 40

Unit aim

This unit is about conducting non-domestic energy inspection, producing an Operational Profile and advising on energy reduction.

Unit introduction

The Green Deal is UK government policy to permit loans for qualifying energy saving measures for properties in Great Britain to be attached to the energy meter and repaid via the energy bill. To qualify for the Green Deal there is a prescribed assessment process leading to the production of a Green Deal Advice Report.

Learners will undertake the process of assessing non domestic buildings and their occupiers in the prescribed manner in order to produce a robust and fully compliant Green Deal Advice Report. The learner needs to demonstrate a solid knowledge of the procedures involved, understanding of the underpinning principles, appropriate surveying and record-keeping skills, the ability to communicate effectively with the customer and other parties both to obtain and impart relevant information appropriately.

The learner needs to show that they can collect information using a range of methods, verify its accuracy and relevance, record and process it accurately and do so in a safe and professional manner in accordance with the prescribed methodology.

Learning outcomes and assessment criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

On completion of this unit a learner should:

Learning outcomes	Assessment criteria
<p>1 Understand the process of conducting an operational profile.</p>	<p>1.1 Identify the data that is required from the customer to enable an analysis of non-domestic energy consumption for the purposes of Green Deal in accordance with the prescribed methodology.</p>
	<p>1.2 Explain the methods used to obtain data and information and the potential sources of that information.</p>
	<p>1.3 Identify how to carry out a methodical visual on-site inspection of a property in order to produce an operational profile assessment.</p>
	<p>1.4 Identify the requirements of the prescribed methodology for the operational profile.</p>
	<p>1.5 Explain the appropriateness of the use of the Simplified Building Energy Model (SBEM) methodology and software for different building types and state where the Dynamic Simulation Model (DSM) methodology should be used instead.</p>
	<p>1.6 Specify the definitions and conventions that apply to the prescribed methodology for operational profile assessment.</p>
	<p>1.7 Describe how to identify gaps in information gathered and any additional data required to fill them.</p>

Learning outcomes	Assessment criteria
	1.8 Identify where it would be appropriate to request advice from a specialist.
	1.9 Describe how to assess the likely current energy performance of any property elements compared to its performance as originally built.
	1.10 Describe the impact of the following on the energy assessment process: The durability of materials and systems over time The functioning of building services.
	1.11 Describe how to deal with any ad hoc health and safety issues at the time of inspection.
	1.12 Explain the data protection requirements relating to customer's data.
	1.13 Describe the requirements of Codes of Practice and other guidance as they apply to the operational profile process.
	1.14 Describe how to apply the management score in order to reflect the quality of the building's management.

Learning outcomes	Assessment criteria
<p>2 Understand the factors and measures for reducing energy consumption in non-domestic buildings.</p>	<p>2.1 Explain how to establish the client's situation in respect of reducing energy consumption including:</p> <ul style="list-style-type: none"> • Needs • Circumstances • Motivations • Capabilities • Managerial and other constraints • Potential barriers to action.
	<p>2.2 Describe the key metrics by which energy consumption is measured and recorded.</p>
	<p>2.3 Explain how to track energy consumption over time and identify significant trends in usage.</p>
	<p>2.4 Describe the types of further investigations that can be carried out where data inconsistencies are discovered.</p>
	<p>2.5 Explain the alternative methods for optimising the use of existing plant, equipment and consumables.</p>
	<p>2.6 Explain how the current occupier's activities, systems and processes affect energy consumption and fuel bills.</p>

Learning outcomes	Assessment criteria
	<p>2.7 Identify the alternative activities, systems and processes that would enhance energy efficiency and carbon reduction in relation to:</p> <ul style="list-style-type: none"> • Energy purchase and supply • Heating • Lighting • Air conditioning • Small power • Refrigeration • Building fabric • Passive strategies and processes • Ventilation.
	<p>2.8 Explain the main methods and products used for:</p> <ul style="list-style-type: none"> • Controlling and managing the use of water • Managing waste through re-use and recycling methods.
	<p>2.9 Describe how to evaluate alternatives against the constraints of the building and finances available.</p>
	<p>2.10 Identify the sources of information and agencies providing advice and financial support for energy and carbon reduction.</p>
	<p>2.11 Describe the legal and regulatory framework relating to energy efficiency and carbon reduction including national and international requirements.</p>
	<p>2.12 Identify the limitations on the advice provided in the Green Deal Advisory Report.</p>

Learning outcomes	Assessment criteria
	2.13 Identify the circumstances where it is necessary to refer customers for specialist assessments of building fabric or services and how to choose a suitable specialist assessor.
	2.14 Describe the types of questions, issues and concerns that clients might have about the operational profile visit and the operational advice given.
	2.15 Identify the sources of information to which the customer can be referred for further help and advice.

Learning outcomes	Assessment criteria
<p>3 Understand the written records required for inspection findings.</p>	<p>3.1 Describe the methods, formats and conventions for recording information and evidence on the operational profile.</p>
	<p>3.2 Identify the required range of information and evidence relating to the assessment, as defined by the current operational profile methodology and any associated guidance and conventions.</p>
	<p>3.3 Define the level of detail required to produce a complete and comprehensive non-domestic Green Deal Advice Report.</p>
	<p>3.4 Explain how records can be used to justify decisions on the values recorded and the advice given.</p>
	<p>3.5 Identify the circumstances in which records can include the fact that information is 'unknown' and the evidence required to support this choice.</p>
	<p>3.6 Explain the importance of storing information and records securely for future access and to meet Certification Scheme inspection requirements.</p>
	<p>3.7 State the purposes for which records may be used.</p>

Learning outcomes	Assessment criteria
<p>4 Be able to conduct an operational profile assessment.</p>	<p>4.1 Explain to customers the information required for the operational profile assessment.</p>
	<p>4.2 Use appropriate methods to obtain such information from customers.</p>
	<p>4.3 Confirm that the customer is the person responsible for the property's fuel bills and has the authority to take action under the Green Deal.</p>
	<p>4.4 Gather the necessary data and information from appropriate documentation to enable the operational profile assessment to take place.</p>
	<p>4.5 Undertake a methodical visual inspection of the property in accordance with the prescribed methodology for the operational profile.</p>
	<p>4.6 Determine how the current condition of the property may affect its energy performance.</p>
	<p>4.7 Determine the management score reflecting the quality of the building's management.</p>

Learning outcomes	Assessment criteria
<p>5 Be able to identify actions to reduce energy consumption in non-domestic buildings.</p>	<p>5.1 Establish the needs, tenure, access to capital and motivations of the customer in relation to energy consumption reduction.</p>
	<p>5.2 Identify any constraints that might affect the customer's ability to act.</p>
	<p>5.3 Identify areas of significant energy consumption and any trends and changes in energy use.</p>
	<p>5.4 Compare data with operational performance and establish the reasons for any differences.</p>
	<p>5.5 Establish any anticipated changes to energy consumption and their implications.</p>
	<p>5.6 Review current activities, systems, processes and behaviours that affect energy efficiency and carbon emissions and their impact on energy consumption and fuel bills.</p>
	<p>5.7 Review alternative activities, systems, processes and behaviours that would enhance energy performance.</p>
	<p>5.8 Identify changes to activities, systems, processes and behaviours that could be made which are in scope of Green Deal provision.</p>
	<p>5.9 Establish ways of improving the monitoring and measurement of operational energy usage including metering and sub-metering.</p>
	<p>5.10 Identify financial incentives and schemes to support energy efficiency and carbon reduction relevant to the actions being considered.</p>

Learning outcomes	Assessment criteria
	5.11 Identify any legal requirements that impact on energy use and carbon emissions and their impact on the actions being considered.
	5.12 Provide impartial advice when identifying effective actions to reduce operational energy consumption and achieve carbon reduction.
	5.13 Identify situations where specialist assessment is required and the basis on which specialist are selected.
	5.14 Provide customers with a clear explanation of their current energy consumption and trends in consumption.
	5.15 Provide customers with a clear explanation of the impact on their current activities, systems, processes and behaviours on energy consumption and fuel bills.
	5.16 Provide customers with a clear explanation of alternative activities, systems, processes and behaviours that would enhance energy performance.
	5.17 Provide customers with a clear explanation of the financial incentives and support for making changes to energy consumption and how they can be accessed.
	5.18 Provide customers with a clear explanation of any specialist assessments required and how to access them.
	5.19 Provide customers with a clear explanation of the recommendations made in the Green Deal Advice Report.

Learning outcomes	Assessment criteria
	5.20 Provide information on the methods and products for achieving: <ul style="list-style-type: none"> • Efficient management of water usage and minimisation of wastes • Waste reduction, re-use and re-cycling.
	5.21 Advise the customer on the limitations on the advice given within the Green Deal Advice Report.
	5.22 Respond to customer queries, issues and concerns about the operational profile and the operational advice given.

Learning outcomes	Assessment criteria
<p>6 Be able to maintain written records of inspection findings.</p>	<p>6.1 Create and maintain complete, accurate and legible records of findings including:</p> <ul style="list-style-type: none"> • Investigations carried out • Values recorded • Options considered • Reasons why 'unknown' is used against data fields and why this was unavoidable.
	<p>6.2 Record information in sufficient detail to produce a complete and comprehensive non-domestic Green Deal Advice Report and justify decisions on how values were arrived at and the nature of the advice.</p>
	<p>6.3 Record where information cannot be obtained and where data is recorded as 'Unknown' and why this action was unavoidable.</p>
	<p>6.4 Catalogue, secure and store records for the prescribed periods of time.</p>
	<p>6.5 Ensure that records can be accessed for future use.</p>

Unit content

1 Understand the process of conducting an operational profile

Conducting an operational profile assessment: Data required; analysis of non-domestic energy consumption; Green Deal; prescribed methodology; operational profile; how to obtain data, methodical; where to obtain data; research before and after visit; data from third parties e.g. landlord; appropriate evidence types; observation; appropriate questioning; listening skills; body language; working knowledge of SBEM software; alternative software tools; limitations due to software type and qualification level; building level definitions; conventions to be applied; identifying additional data to complete gaps; dealing with inconsistencies; knowing own limitations; practical ways of obtaining the data required and limitations on extent of investigations; obtaining specialist advice, surveying the condition of buildings; identifying degradation and effect on energy performance and installation; durability materials; system efficiencies; changes over lifetime; functioning of building services; safe working practices; health and safety; the Data Protection Act; confidentiality; requirements of the Green Deal Code of Practice and Scheme Operating Requirements; advising clients appropriately; maintaining impartiality when identifying actions; how clients can access further information; roles and responsibilities of participants; relevance of responsibility for the fuel bill; permissions and consents; types of tenure and impact on the consent process; determining a management score.

2 Understand the factors and measures for reducing energy consumption in non-domestic buildings

Reducing energy consumption in non-domestic buildings: Identifying client needs; circumstances; motivations; capabilities; constraints; planning regulations; listed buildings status; conservation areas; barriers to action; energy consumption measurement; billing; usage trends; investigating inconsistencies in energy data; optimising use of energy consuming plant, equipment and consumables; occupiers influence on consumption; how to review current activities, systems, processes and behaviours; identifying actions to reduce energy consumption; energy purchase and supply; heating; lighting; air conditioning; small power; refrigeration; building fabric; passive strategies and processes; ventilation; waste reduction and recycling (including water); evaluating alternative measures and approaches; available finance; identifying measures appropriate to building and client; sources of information/advice; agencies providing financial support; legal and regulatory framework; national and international requirements; limitations on advice; Green Deal advisory report; circumstances requiring referral to appropriate specialist(s); suitable specialist(s); client questions; issues; concerns; the assessment and operational advice; other sources of information; further help and advice.

3 **Understand the written records required for inspection findings**

Records requirements: Recording information; methods; formats; conventions; range of evidence; operational profile; operational profile methodology; code of practice; convention; other guidance; relevant information that must be kept; minimum evidence requirements; required level of detail; using records to justify decisions; advice given; acceptable forms of documentary evidence; photographic evidence; circumstances in which 'unknown' can be recorded; situations where evidence cannot be retained e.g. occupier refuses permission to take photos; methods of storing data securely; certification scheme inspection requirements; permitted use of records.

4 **Be able to conduct an operational profile assessment**

Conducting an operational profile assessment: Explain information requirements; operational profile assessment; obtain information from customers; appropriate questioning; listening skills; body language; identify responsibility for fuel bills; consent; authority to act; Green Deal; data required; obtain data; gather information; appropriate documentation; operational profile assessment; methodical visual inspection; safe working practices; prescribed methodology; surveying the condition of buildings; identifying degradation; effect of condition on energy performance; management score; recognising quality of management.

5 **Be able to identify actions to reduce energy consumption in non-domestic buildings**

Identifying actions to reduce energy consumption: Establish needs; tenure; access to capital; motivations; energy consumption reduction; constraints; planning regulations; listed buildings status; conservation areas; areas of significant energy consumption; untypical activities; trends; changes in use; comparison of data; operational performance; reasons the differences; anticipated changes; implication; review current activities; systems; processes; behaviours; carbon emissions; impact on energy consumption; fuel bills; review alternative activities; compare; identify changes to enhance energy performance; identify changes within scope of green deal; improving monitoring; improving measurement; metering and sub metering; financial incentives and schemes; relevance to actions; impact of legal requirements; advising clients appropriately; maintaining impartiality; identify need for specialist assessment; selection of specialist(s); how to access specialist services; explain current consumption and trends; impact of client's activities and behaviours; impact of systems and processes; financial incentives; accessing support and finance; explain Green Deal Advice Report recommendations; methods and products for economising water usage; minimisation of waste; recycling; limitations on advice; respond to customer queries; address issues and concerns; how clients access further information.

6 **Be able to maintain written records of inspection findings**

Maintaining written records: Create and maintain records of findings; complete; accurate; legible; investigations; values; options considered; reasons for use of unknown; sufficiency of detail; complete and comprehensive; justification of decisions; nature of advice; record where information cannot be obtained; limitations on access; risk assessment; why 'unknown' was unavoidable; store records; catalogue/index records for retrieval; secure storage; future access; prescribed periods for retention of records.

Essential guidance for tutors

Delivery

It is recommended that centres use a wide range of delivery methods to achieve all the learning outcomes in the unit. These could include lectures, seminars, workshops, presentations, site visits, project work research using the Internet and/or library resources and the use of personal and/or industry experience.

Delivery should revolve around real-life situations and case studies. Centres are encouraged to organise talks from key parties and organisations.

Learners should be given the opportunity to apply and evaluate their practice in this field, in as many situations as possible, preferably through observed practical exercises. It is essential for the learner to be exposed to a range of buildings, building services, activity types, energy uses and occupiers representative of the scenarios they will encounter in the role this unit is intended to prepare them for.

Shadowing a Green Deal Advisor, or a trainer, may be a particularly effective means of providing some of the guided learning however assessment of the learner must not be undertaken against a property in which they have shadowed.

Simulated scenarios may be appropriate provided they are realistic and still involve the learner undertaking an energy inspection within a real building to obtain the required data. Learning outcomes 4 and 5 will not be met if the learner is given simulated data instead of obtaining the data themselves in a simulated scenario.

Delivery of learning outcomes 1, 2 and 3 could be achieved through the use of set questions, exercises or workbooks or through tutor led discussion and professional interview.

Delivery of learning outcomes 4, 5 and 6 could be achieved through a portfolio of evidence generated by undertaking actual inspections in simulated or real-life situations supported by observed assessment and professional interviews.

Assessment

This unit must be assessed in the workplace, or conditions resembling the workplace. The assessment requirements for the Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF) document must be followed; please see *Annexe E*.

There is a requirement for the Learner to demonstrate that they are competent to actually carry out the essential tasks in a professional manner. The Learner must also demonstrate that they are able to utilise the skills and knowledge covered by the qualification in a live situation. It is not sufficient for the assessment to be based entirely on portfolio evidence, questions and exercises. Assessment needs to be based on real-life or carefully selected and well-developed simulated situations.

For learning outcomes 1, 2 and 3, learners will need to demonstrate through questioning, discussion and written or practical exercises, an understanding of the principles and processes involved. Through professional interview and short answer questions learners should demonstrate sound knowledge of the reasons behind the actions they take. Portfolio evidence may contribute to this provided the learner shows, through annotation and explanation, their understanding of the process in addition to the evidence showing they are able to undertake the process.

For learning outcomes 4, 5 and 6, a portfolio of evidence should be presented by the learner based on at least three significantly different scenarios. The learner will need to present evidence of having followed the correct procedure, undertaken the assessment in an appropriate manner, obtained and recorded the relevant information, processed it correctly, produced relevant output documents and drawn suitable conclusions.

Additionally for learning outcomes 4 and 5, the learner must demonstrate within a live or realistic simulation environment the ability to communicate effectively with the client, both to obtain and to impart information.

Programme of suggested assignments

The table below shows a programme of suggested assignments that cover the learning outcomes for this unit. This is for guidance only and it is recommended that centres either write their own assignments or adapt Edexcel assignments to meet local needs and resources.

Criteria covered	Assignment title	Scenario	Assessment method
Learning outcomes 1, 2 and 3	Demonstrate understanding.	You are required to understand, identify, explain and describe all elements of the process for carrying out non-domestic energy inspections to determine an operational profile and give advice.	A combination of methods selected from multiple-choice or short answer questions, workbooks, exercises, observed activities and professional interview.
Learning outcomes 4 and 5	Operational profile assessment.	You are required to undertake an operational profile assessment for a minimum of three non-domestic buildings, identify relevant factors and produce an appropriate green deal advice report.	A portfolio of evidence supported by an observed assessment and professional discussion. Useful assignments Assessment criteria 5.22 – A letter to a customer concerned that the operational profile assessment carried out did not correctly identify their use of the building and that the operational advice given was inappropriate.

Criteria covered	Assignment title	Scenario	Assessment method
Learning outcome 6	Maintain written records	You are required to record, process and store appropriate records of all relevant information related to non-domestic energy inspections to determine an operational profile and give advice.	A portfolio of evidence supported by professional discussion. Assessment criteria 6.4 and 6.5 – A method statement for how records will be catalogued and stored including reference to the period they will be kept, means of retrieval and how security will be protected.

Evidence matrix for portfolio assignments

In order to adequately cover the full assessment criteria the energy assessments must include properties of various ages and with a mixture of key features. The table below shows the range of features expected to be covered by the portfolio evidence presented by the learner. Each property will probably meet several of the criteria but every criterion must be met by at least one and the portfolio must include inspections of at least three different properties.

	Built to pre 1995 building regulations	Built to 1995 building regulations onwards	Owner occupied	Tenanted
Office and Workshop type business				
Retail type business				
Commercial catering kitchen				
Centralised (serving multiple zones) supply of heating and/or hot water				
Cooling				
Mechanical ventilation and/or extraction				
No gas supply				

Essential resources

Approved SBEM software

Indicative resource materials

Documents

Department of Energy and Climate Change — *The Green Deal code of practice* (current version)

Department of Energy and Climate Change — *Specification for Organisations providing the Green Deal Advice Service* (current version)

UK Legislation — *The Green Deal Framework* (Disclosure, Acknowledgment, Redress, etc.) Regulations 2012

UK Legislation — Energy Act 2011

Journals

CIBSE Journal

Websites

www.greendealorb.co.uk

www.gov.uk/green-deal-energy-saving-measures

Unit 2: Prepare and Issue Non-domestic Green Deal Advice Reports

Unit code:	R/503/8190
QCF Level:	4
Credit value:	9
Guided learning hours:	40

Unit aim

This unit is about preparing and issuing Non-domestic Green Deal Advice Reports.

Unit introduction

The Green Deal is a UK government policy to permit loans for qualifying energy saving measures for properties in Great Britain to be attached to the energy meter and repaid via the energy bill. To qualify for the Green Deal there is a prescribed assessment process leading to the production of a Green Deal Advice Report.

Learners will undertake the process of assessing non domestic buildings and their occupiers in the prescribed manner in order to produce a robust and fully compliant Green Deal Advice Report. The learner needs to demonstrate a solid knowledge of the procedures involved, understanding of the underpinning principles, appropriate surveying and record-keeping skills, the ability to communicate effectively with the customer and other parties both to obtain and impart relevant information appropriately.

The learner needs to show that they can collate, interpret and process information gathered using a range of methods, verify its accuracy and relevance and produce a valid report. This must be done in a professional manner in accordance with the prescribed methodology.

Learning outcomes and assessment criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

On completion of this unit a learner should:

Learning outcomes	Assessment criteria
<p>1 Understand the process of inputting data for Non-domestic Green Deal Advice Reports.</p>	<p>1.1 Describe the prescribed format and content of a Non-domestic Green Deal Advice Report.</p>
	<p>1.2 Identify the approved software options available and how to choose software that is appropriate to the type of assessment being carried out.</p>
	<p>1.3 Identify the information required to produce a compliant Non-domestic Green Deal Advice Report.</p>
	<p>1.4 Describe the principles underpinning the approved software used to prepare a Non-domestic Green Deal Advice Report.</p>
	<p>1.5 Describe how to input data into the approved software to produce Non-domestic Green Deal Advice Reports.</p>
	<p>1.6 Identify common areas of potential uncertainty or insufficient information which could affect value attribution.</p>
	<p>1.7 Describe the quality assurance checks to conduct on information to ensure that:</p> <ul style="list-style-type: none"> • Values are correct • Energy efficiency measures are realistic and appropriate for the subject property.
	<p>1.8 Describe the circumstances in which items can be recorded as 'unknown' as defined by conventions.</p>

Learning outcomes	Assessment criteria
	1.9 Explain the consequences of recording an item as 'unknown' or as built on the methodology's assessment process.
	1.10 Describe the ways of gathering more information to avoid the use of default values.
	1.11 Describe the conventions used in non-domestic Green Deal advice assessment and the implications on the process when these change.
	1.12 Describe how to check the accuracy of inputted data.
	1.13 Describe how to review data when the calculation will not process.
	1.14 Describe how to incorporate outputs from specialist assessments.

Learning outcomes	Assessment criteria
<p>2 Understand how to assess energy efficiency measures for Non-domestic Green Deal Advice Reports</p>	<p>2.1 Identify the range of energy efficiency measures that may be included within a Non-domestic Green Deal Advice Report.</p>
	<p>2.2 Describe the relationship between the building fabric and building services and the impact on energy the energy assessment process and energy efficiency measures proposed.</p>
	<p>2.3 Explain the way in which energy efficiency measures are generated by approved software.</p>
	<p>2.4 Explain how to check the energy efficiency measures generated automatically by the approved software.</p>
	<p>2.5 Explain how to amend by deleting inappropriate energy efficiency measures for the property and customer.</p>
	<p>2.6 Describe how to use approved software to evaluate energy efficiency measures that are bespoke to the property and its current occupier.</p>
	<p>2.7 Explain how the current building energy consumption is taken into account when identifying energy efficiency measure likely to deliver the most savings to the customer.</p>
	<p>2.8 Explain how to select energy efficiency measures to evaluate using approved software and how to ensure they are feasible, practical and appropriate for the property and customer.</p>

Learning outcomes	Assessment criteria
	2.9 Identify current typical costs of energy efficiency measures and explain how to estimate typical costs, for the particular building, of the proposed energy efficiency measures.
	2.10 Describe how the approved software estimates the cost savings from energy efficiency measures.
	2.11 Describe how to amend ascribed default values in accordance with the operational profile.
	2.12 Explain how to adjust estimated savings in accordance with the operational profile and current fuel tariffs to provide figures to be used in the Green Deal Principle (Golden Rule) calculation estimates.
	2.13 Explain how to normalise metrics between the Energy Performance Certificate and energy consumption data to improve the estimates of energy savings from energy efficiency measures.
	2.14 Explain how the Green Deal Principle (Golden Rule) is calculated and how measures are assessed against the Golden Rule.

Learning outcomes		Assessment criteria	
3	Understand how to lodge and issue Non-domestic Green Deal Advice Reports.	3.1	Explain the importance of fully disclosing any referral fees or other benefits received in relation to suggested products, services and suppliers.
		3.2	Explain the process of lodging and issuing a Non-domestic Green Deal Advice Report.
		3.3	Identify the level and detail of information storage required in relation to Non-domestic Green Deal Advice Reports.
		3.4	Explain how to update the Energy Performance Certificate after the installation of agreed energy efficiency measures.

Learning outcomes	Assessment criteria
<p>4 Be able to input data for prepare Non-domestic Green Deal Advice Reports.</p>	<p>4.1 Assemble and collate information required including any pre-existing Energy Performance Certificate or Display Energy Certificate.</p>
	<p>4.2 Choose from approved software options a software package which is appropriate to the type of assessment being carried out.</p>
	<p>4.3 Use the approved software to prepare Non-domestic Green Deal Reports.</p>
	<p>4.4 Ensure that values entered for all components are accurate.</p>
	<p>4.5 Identify areas of potential uncertainty or insufficient information which could affect value attribution and carry out checks to avoid likely errors.</p>
	<p>4.6 Carry out further investigations to identify appropriate values in order to reduce or eliminate use of default values and the 'unknown' option, including requesting advice from a specialist where appropriate.</p>
	<p>4.7 When the use of default values or 'unknown' is unavoidable, explain why this was the case and the steps taken to try to avoid their use, in accordance with relevant conventions and Code of Practice.</p>

Learning outcomes	Assessment criteria
<p>5 Be able to assess energy efficiency measures for the non-domestic Green Deal Advice report.</p>	<p>5.1 Identify ways of optimising the efficiency of current plant and equipment in relation to heating, lighting and air conditioning.</p>
	<p>5.2 Generate energy efficiency measures which are feasible, practical and appropriate for the property using the approved software and the guidance or conventions applying to its use.</p>
	<p>5.3 Identify energy efficiency measures which take account of:</p> <ul style="list-style-type: none"> • The interaction between the building fabric and the building services • Building location • Needs, circumstances and motivations of the customer.
	<p>5.4 Evaluate the feasibility, practicality and relevance of alternatives in relation to the fabric of the building and the building services.</p>
	<p>5.5 Establish the relative costs of any energy efficiency measures which may be proposed.</p>
	<p>5.6 Provide impartial advice when identifying effective energy efficiency measures.</p>

Learning outcomes	Assessment criteria
	<p>5.7 Use approved software to:</p> <ul style="list-style-type: none"> • Estimate energy use and associated energy costs • Estimate energy and cost savings from energy efficiency measures • Adjust the assumed defaults in accordance with the operational profile and fuel prices to reflect actual tariffs • Produce figures to be used in the non-domestic Green Deal (Golden Rule) calculation • Assess which energy efficiency measures or packages of measures are likely to be eligible for Green Deal finance • Normalise metrics between the Energy Performance Certificate and energy consumption data to improve the estimates of energy savings from energy efficiency measures.
	<p>5.8 Prepare Non-domestic Green Deal Advice Reports that meet scheme requirements and certification body requirements.</p>
	<p>5.9 Incorporate outputs from any specialist assessment(s) in the Non-domestic Green Deal Advice Report.</p>
	<p>5.10 Disclose any referral fees or other benefits to be received should the customer follow suggestions for particular products, services or suppliers.</p>

Learning outcomes	Assessment criteria
<p>6 Be able to prepare, lodge and issue Non-domestic Green Deal Advice Reports.</p>	<p>6.1 Identify the legal requirements which impact on energy use and carbon emissions and their impact on energy efficiency measures being considered.</p>
	<p>6.2 Where specialist assessment is required, record the choice of specialist and the basis for this choice, retaining evidence of their suitability to undertake the specialist assessment in the property.</p>
	<p>6.3 Explain to the client how the energy efficiency measures are assessed against the Golden Rule and that this is done at the quoting stage.</p>
	<p>6.4 Check the Non-domestic Green Deal Advice Report to ensure it is clear and complete.</p>
	<p>6.5 Collate and maintain information in support of:</p> <ul style="list-style-type: none"> • Investigations carried out • Values attributed • Energy efficiency options considered • Energy efficiency options rejected with justification • Specific decisions made and energy efficiency measures proposed.
	<p>6.6 Follow the procedure for lodging Non-domestic Green Deal Advice Reports on the prescribed national register.</p>
	<p>6.7 Issue Non-domestic Green Deal Advice Reports to customers.</p>
	<p>6.8 Follow the procedure for updating the Energy Performance Certificate after the installation of agreed energy efficiency measures.</p>

Learning outcomes	Assessment criteria
	6.9 Maintain internal records which are clear, complete and meet Green Deal and statutory requirements and follow accepted professional standards.

Unit content

1 Understand the process of inputting data for Non-domestic Green Deal Advice Reports

Understanding data input: Green Deal Advice Report; Format; content; approved software; suitability of software; limitations; selection appropriate to assessment type; SBEM; DSM; competence to use; conversion of NCT files; pre-existing EPC; use of display energy certificate data; outputs from specialist assessments; air conditioning report; information required; sources; reliability; underpinning principles; methodology; conventions; default assumptions; part L compliance; NCM activities database; notional building; reference building; building emission rate; actual building; actual as managed building; actual as potentially managed building; asset and management improved building; management scores; HVAC systems; building services; data input; data verification; software errors; reflective thought; potential uncertainty; insufficient information; appropriate values; relative impact; U values; building age; thermal mass; efficiencies; losses; and power; ventilation rates; operational data; zoning; control correction; baseline; scenarios; quality assurance checks; verification of data entry; output checks; error messages; warnings; software issues; reviewing data input; appropriate measures; recording as unknown; no access; unable to identify; conflicting evidence; consequences of unknown or as built; avoiding use of defaults; enhanced capital allowances list; SEDBUK data; manufacturers data; calculating efficiencies; conventions document; impact of changes to conventions.

2 Understand how to assess energy efficiency measures for Non-domestic Green Deal Advice Reports

Understanding assessment of energy efficiency measures: Range of measures; approved list; non-qualifying measures; location; space; orientation; interaction; current consumption; occupier specific requirements; limitations; special considerations; traditional/heritage construction; contra indicators; bespoke building management systems; specialist assessment; predicted savings; generation of recommendations; suppression of recommendations; payback; carbon savings; return on investment; bespoke measures; evaluation; selection; feasibility; practicality; appropriateness for property and occupier; typical costs; typical savings; amending default values; adjusting estimated saving; operational profile; Green Deal principle; golden rule; normalise metrics.

3 Understand how to lodge and issue Non-domestic Green Deal Advice Reports

Lodging and issuing: Conflicts of interest; relationships; referral fees; other benefits; factors influencing objectivity; suggested products; services; suppliers; finalising; XML files; lodgement; the non-domestic register; obtaining an address; address structure; unique property reference number(UPRN); report reference number (RRN); duplicate addresses; occupier names on the register; validity of documents; supersession of documents; information storage; level and detail; data protection; confidentiality; security; access; retrieval.

4 Be able to input data for prepare Non-domestic Green Deal Advice Reports

Inputting data: use of approved software; suitability of software; limitations; selection appropriate to assessment type; SBEM; DSM; assemble and collate; convert NCT files; import pre-existing EPC; use of display energy certificate data; specialist assessment outputs; air conditioning report; identify information required; sources; confirm reliability; underpinning principles; methodology; follow conventions; default assumptions; part L compliance check; NCM activities; notional building; reference building; building emission rate; actual building; actual as managed building; actual as potentially managed building; asset and management improved building; management scores; HVAC systems; building services; data input; data verification; software errors; reflective thought; potential uncertainty; insufficient information; appropriate values; relative impact; U values; building age; fabric elements; thermal mass; efficiencies; losses; and power; ventilation rates; operational data; zoning; control correction; baseline; scenarios; quality assurance checks; verification of data entry; output checks; appropriate measures; justification of unknown; appropriate evidence; consequences of unknown or as built; requesting specialist advice; avoiding use of defaults; enhanced capital allowances list; SEDBUK data; manufacturers data; calculating efficiencies; relevant conventions; impact of changes to conventions; code of practice.

5 Be able to assess energy efficiency measures for the non-domestic Green Deal Advice Report

Assessing energy efficiency measures: Optimising current plant; efficiency; heating; lighting; air conditioning; ventilation; range of measures; packages of measures; approved list; non-qualifying measures; location; space; orientation; interaction; current consumption; occupier specific requirements; motivation; limitations; special considerations; traditional/heritage construction; contra indicators; specialist assessment; use approved software; predicted savings; generation of recommendations; suppression of recommendations; payback; carbon savings; return on investment; bespoke measures; evaluation; selection; feasibility; practicality; alternative; relative costs; appropriateness for property and occupier; typical costs; typical savings; amending default values; adjusting estimated saving; operational profile; Green Deal principle; golden rule; normalise metrics; impartial advice; estimate energy use; associated energy costs; fuel prices; tariffs; cost savings; adjust defaults; eligibility for Green Deal finance; prepare non-domestic Green Deal Advice Report; scheme requirements; certification body requirements; disclosure; referral fees; other benefits.

6 Be able to prepare, lodge and issue Non-domestic Green Deal Advice Reports

Prepare lodge and issue reports: Legal requirements; impact; energy use; carbon emissions; energy efficiency measures; considerations; specialist assessment; record of choices; basis the choices; retaining evidence; suitability to undertake specialist assessment; explaining the golden rule; quotation stage; checking the report; clarity; completeness; collate and maintain information; investigations carried out; values attributed; options considered; options rejected; justification; decisions made; measures proposed; procedure for lodgement; prescribed register; issue report to customer; supporting documents; code of practice; further information; sources of advice; complaints procedure; update EPC after installation of measures; incorporate Green Deal plan information; supersession on register; maintain internal records; clear; complete; secure; data protection; statutory requirements; professional standards.

Essential guidance for tutors

Delivery

It is recommended that centres use a wide range of delivery methods to achieve all the learning outcomes in the unit. These could include lectures, seminars, workshops, presentations, site visits, project work research using the Internet and/or library resources and the use of personal and/or industry experience.

Delivery should revolve around real-life situations and case studies. Centres are encouraged to organise talks from key parties and organisations.

Learners should be given the opportunity to apply and evaluate their practice in this field, in as many situations as possible, preferably through observed practical exercises. It is essential for the learner to be exposed to a range of buildings, building services, activity types, energy uses and occupiers representative of the scenarios they will encounter in the role this unit is intended to prepare them for.

Shadowing a Green Deal Advisor, or a trainer, may be a particularly effective means of providing some of the guided learning however assessment of the learner must not be undertaken against a property in which they have shadowed.

Simulated scenarios may be appropriate provided they are realistic and still involve the learner undertaking and energy inspection within a real building to obtain the required data. Learning outcomes 4 and 5 will not be met if the learner is given simulated data instead of obtaining the data themselves in a simulated scenario.

Delivery of learning outcomes 1, 2 and 3 could largely be achieved through the use of set questions, exercises incorporating use of the approved software, workbooks or through tutor led discussion and professional interview.

Delivery of learning outcomes 4, 5 and 6 could be achieved through a portfolio of evidence generated by undertaking actual inspections in simulated or real-life situations supported by observed assessment and professional interviews.

Assessment

This unit must be assessed in the workplace, or conditions resembling the workplace. The assessment requirements for the Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF) document must be followed; please see Annexe E

There is a requirement for the Learner to demonstrate that they are competent to actually carry out the essential tasks in a professional manner. The Learner must also demonstrate that they are able to utilise the skills and knowledge covered by the qualification in a live situation. It is not sufficient for the assessment to be based entirely on portfolio evidence, questions and exercises. Assessment needs to be based on real-life or carefully selected and well-developed simulated situations.

For learning outcomes 1, 2 and 3, learners will need to demonstrate through questioning, discussion and written or practical exercises, an understanding of the principles and processes involved. Through professional interview and short answer questions and exercises using the approved software learners should demonstrate sound knowledge of the reasons behind the actions they take. Portfolio evidence may contribute to this provided the learner shows, through annotation and explanation, their understanding of the process in addition to the evidence showing they are able to undertake the process.

For learning outcomes 4, 5 and 6, a portfolio of evidence should be presented by the learner based on at least three significantly different scenarios. The learner will need to present evidence of having followed the correct procedure, undertaken the assessment in an appropriate manner, obtained and recorded the relevant information, processed it correctly, produced relevant output documents and drawn suitable conclusions.

Programme of suggested assignments

The table below shows a programme of suggested assignments that cover the criteria in the assessment grid. This is for guidance only and it is recommended that centres either write their own assignments or adapt Edexcel assignments to meet local needs and resources.

Criteria covered	Assignment title	Scenario	Assessment method
Learning outcomes 1, 2 and 3	Demonstrate understanding.	You are required to understand, identify, explain and describe all elements of the process of producing lodging and issuing a non-domestic Green Deal Advice Report.	A combination of methods selected from multiple-choice or short answer questions, workbooks, exercises, observed activities and professional interview.
Learning outcomes 4 and 5	Produce a valid non-domestic Green Deal Advice Report.	You are required to carry out the process of producing a valid non-domestic Green Deal Advice Report using approved software.	A portfolio of evidence supported by an observed assessment and professional discussion. Useful assignments A letter to a client disclosing the referral fees (or other benefit) you will receive should the customer follow your suggestions for particular products, services or suppliers. (You may find it helpful to match this to the recommendations in one of the portfolio Green Deal Advice Reports)

Criteria covered	Assignment title	Scenario	Assessment method
Learning outcome 6	Lodge and issue a non-domestic Green Deal Advice Report.	You are required, in a way as close as possible to a live situation, to Lodge and issue a non-domestic Green Deal Advice Report in an appropriate and compliant manner.	A portfolio of evidence supported by an observed assessment and professional discussion.

Evidence matrix for portfolio assignments

In order to adequately cover the full assessment criteria the energy assessments must include properties of various ages and with a mixture of key features. The table below shows the range of features expected to be covered by the portfolio evidence presented by the learner. Each property will probably meet several of the criteria but every criterion must be met by at least one and the portfolio must include inspections of at least three different properties.

	Built to pre 1995 building regulations	Built to 1995 building regulations onwards	Owner occupied	Tenanted
Office and Workshop type business				
Retail type business				
Commercial catering kitchen				
Centralised (serving multiple zones) supply of heating and/or hot water				
Cooling				
Mechanical ventilation and/or extraction				
No gas supply				

Essential resources

Approved SBEM software

Indicative resource materials

Documents

Department of Energy and Climate Change — *The Green Deal code of practice* (current version)

Department of Energy and Climate Change — *Specification for Organisations providing the Green Deal Advice Service* (current version)

UK Legislation — *The Green Deal Framework* (Disclosure, Acknowledgment, Redress, etc.) Regulations 2012

UK Legislation — Energy Act 2011

Journals

CIBSE Journal

Websites

www.greendealorb.co.uk

www.gov.uk/green-deal-energy-saving-measures

Unit 3: Provide Information to Customers on the Principles, Financing and Operation of the Green Deal

Unit code: T/503/8179

QCF Level: 3

Credit value: 4

Guided learning hours: 20

Unit aim

This unit is about demonstrating a general understanding of the overall purpose of the Green Deal and how it operates and is financed.

Unit introduction

The Green Deal is UK government policy to permit loans for qualifying energy saving measures for properties in Great Britain to be attached to the energy meter and repaid via the energy bill. To qualify for the Green Deal there is a prescribed assessment process leading to the production of a Green Deal Advice Report.

Learners will gain an in-depth knowledge of the Green Deal in order to be able to describe and explain it, implement the relevant steps in the process and identify key elements. The learner needs to demonstrate a solid knowledge of the procedures involved, understanding of the underpinning principles and the ability to communicate effectively with the customer and other parties both to obtain and impart relevant information appropriately.

The learner needs to show that they can obtain and impart all relevant information using a range of methods, in an effective and professional manner in accordance with the prescribed methodology.

Learning outcomes and assessment criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

On completion of this unit a learner should:

Learning outcomes	Assessment criteria
<p>1 Understand the components of the Green Deal.</p>	<p>1.1 Describe the role of Green Deal in improving energy efficiency and reducing energy consumption.</p>
	<p>1.2 Identify sources of information about Green Deal and how they are accessed by customers.</p>
	<p>1.3 Identify who is eligible for the Green Deal and the restrictions that apply.</p>
	<p>1.4 Identify the different types of tenure which affect the status of individuals.</p>
	<p>1.5 Identify the different processes to be undertaken relevant to different types of tenure.</p>
	<p>1.6 Identify the main roles and responsibilities of:</p> <ul style="list-style-type: none"> • The Green Deal Adviser • The Green Deal Provider • The Green Deal Installer
	<p>1.7 Explain the function of the Energy Performance Certificate and how it contributes to the Green Deal process.</p>
	<p>1.8 Identify the eligible measures which can be funded under Green Deal.</p>
	<p>1.9 Explain how the Green Deal is financed and repaid.</p>
	<p>1.10 Explain the Golden Rule and its role in establishing the financial offer in Green Deal.</p>

Learning outcomes	Assessment criteria
	1.11 Explain how customers can access information about Green Deal Installers and Providers.

Learning outcomes	Assessment criteria
<p>2 Understand how to provide high quality, independent and impartial advice to customers.</p>	<p>2.1 Explain the components of the Green Deal Code of Practice including its impact on the service delivered to customers.</p>
	<p>2.2 Explain the ways of providing impartial advice and recommendations within Green Deal.</p>
	<p>2.3 Explain the legal safeguards available to customers in relation to mis-selling, credit agreements and redress for complaints.</p>
	<p>2.4 Explain the support available to eligible customers through the Energy Company Obligation subsidy and heating and other fuel benefits.</p>
	<p>2.5 Explain the permissions, consents and disclosure requirements operating in relation to Green Deal.</p>
	<p>2.6 Explain the specific protections and support available for vulnerable groups and customers under Green Deal.</p>
	<p>2.7 Explain the ways in which Green Deal can operate for rural customers, those who are off the gas grid and for traditional properties.</p>
	<p>2.8 Identify energy efficiency measures, support and finance mechanisms outside the Green Deal.</p>
	<p>2.9 Explain how customers can access information about energy efficiency measures, support and finance mechanisms outside the Green Deal.</p>

Learning outcomes	Assessment criteria
<p>3 Be able to provide customers with information on Green Deal to meet their needs.</p>	<p>3.1 Explain to customers the purpose of Green Deal and its role in promoting energy efficiency.</p>
	<p>3.2 Identify for customers where further information and support about Green Deal can be accessed by customers.</p>
	<p>3.3 Explain to customers the role of the Green Deal Adviser and how they provide impartial advice and recommendations to customers.</p>
	<p>3.4 Inform the customer of their rights and protections under law in relation to Green Deal.</p>
	<p>3.5 Explain to customers how the assessment of energy performance is undertaken and the role of that assessment in the Green Deal process.</p>
	<p>3.6 Explain to customers the energy efficiency measures that can be funded through the Green Deal funding.</p>
	<p>3.7 Explain to customers the long term nature of cost savings arising from the installation of energy saving measures.</p>
	<p>3.8 Explain to customers how the funding offer is arrived at and who can provide financing.</p>
	<p>3.9 Explain to customers the role of the Green Deal provider as the funding agency.</p>
	<p>3.10 Explain to customers the role of the energy suppliers as collectors of payment via the energy bill.</p>
	<p>3.11 Explain to customers the permissions and consents that are required in order to take up Green Deal.</p>

Learning outcomes	Assessment criteria
	3.12 Explain to customers the Energy Company Obligation subsidy and the eligibility criteria for it.
	3.13 Explain to customers the heating and other fuel benefits that may be available under Green Deal and the eligibility criteria for them.
	3.14 Provide information to customers on the Feed in Tariffs and Renewable Heat Incentive mechanisms and how they operate within Green Deal.
	3.15 Explain to customers the impact of special requirements in relation to rural location, those off the gas grid or in traditional properties.
	3.16 Respond to customer queries and signpost them to other information and services when required.

Unit content

1 Understand the components of the Green Deal

Components of the Green Deal: Green Deal; improving energy efficiency; reducing energy consumption; government policy; environmental impact; carbon emissions reduction; energy security; fuel poverty; hard to treat properties; vulnerable persons; affordable warmth; avoiding upfront cost; links with ECO; RHI; Energy Act 2011; secondary legislation; energy providers; information sources; where to go; how to access; Energy Saving Advice Service; Green Deal providers; Green Deal installers; Green Deal oversight and registration body; eligibility; property owners; tenants; sole traders; businesses; electricity supplier; MPAN; types of tenure; impact on process; social housing; private rented; freehold; leasehold; owner occupiers; head leaseholders; consent; roles and responsibilities; advisor; provider; installer; EPC; function in Green Deal process; requirements for; contribution to Green Deal process; EPC adviser tool; limitations; validity; differences domestic versus non-domestic; operational profile; eligible measures; eligibility requirements; financing Green Deal; repayment; protection; default; transfer; the golden rule; finance offer; current fuel costs; fuel price rises; forecast savings; cost of measures; payback time; regional whether; occupancy factors; telephone advice; Green Deal participants; online information; Green Deal literature.

2 Understand how to provide high quality, independent and impartial advice to customers

Providing advice: components of Green Deal; code of practice; impact on service; no obligation; portability; redress; approvals; impartial advice; operational profile; recommendations; Green Deal quality mark; insurance requirement; warranties; dealing with faults; complaints procedure; UKAS accreditation; assessment; auditing; declaration of interest; consumer credit licence; Office of Fair Trading; cooling off period; mis-selling; unfair trading practices; pre-contract information; post-contract information; statements and notices; early repayment; associated fees; other sources of information; Energy Company Obligation; ECO strands; eligibility; ECO funded measures; fuel poverty; hard to treat; implications of eco for the Green Deal; Feed in Tariffs; permissions; consents; disclosure requirements; tenant; Bill payer; landlord; head leaseholders; owner occupier; protection; vulnerable groups; customers; rural; off gas grid; traditional properties; heritage buildings; listed status; measures not covered; support outside the Green Deal; alternative finance mechanisms; access to information; national schemes; localised schemes; target groups; where to refer; how to access.

3 **Be able to provide customers with information on Green Deal to meet their needs**

Providing information on Green Deal: Purpose of Green Deal; role in promoting energy efficiency; reducing demand for energy; dependence on imported fuel; carbon reduction targets; reducing cost; affordable warmth; avoiding upfront measures cost; links with ECO; RHI; Energy Act 2011; secondary legislation; further information; support; where to go; how to access; Energy Saving Advice Service; Green Deal oversight and registration body; web based information resources; Green Deal quality mark; role of the Green Deal advisor; impartial advice; operational profile; recommendations; expertise; establishing client needs; GDA qualification; certification of advisors; code of practice; auditing; legal protection; insurance; warranties; complaints procedure; assessment process; methodology; role of assessment within Green Deal; customer needs and preferences; long-term nature of cost savings; attachment to meter me: repayment via electricity bill; lifetime of the measure; effect of fuel price changes; typical payback time; role of the Green Deal provider; funding agency; responsibilities; Green Deal plan; Green Deal finance company; finance offer; energy suppliers; collection of payment; energy bills; permissions and consents; timescales for giving consent; permissions in the rental sector; permission from measure; permission for Green Deal charge; Energy Company Obligation; ECO strands; eligibility; ECO funded measures; fuel poverty; hard to treat; implications of eco for the Green Deal; Feed in Tariffs; other fuel benefits; target groups; special requirements; rural location; off gas grid; traditional properties; listed status; customer queries; concerns; commonly occurring issues; misconception; complaints; signposting; strategies for questioning; confirming understanding.

Essential guidance for tutors

Delivery

It is recommended that centres use a wide range of delivery methods to achieve all the learning outcomes in the unit. These could include lectures, seminars, workshops, presentations, site visits, project work research using the Internet and/or library resources and the use of personal and/or industry experience.

Delivery should revolve around real-life situations and case studies. Centres are encouraged to organise talks from key parties and organisations.

Learners should be given the opportunity to apply and evaluate their practice in this field, in as many situations as possible, preferably through observed practical exercises. It is essential for the learner to be exposed to a range of scenarios and occupiers representative of those they will encounter in the role this unit is intended to prepare them for.

Shadowing a Green Deal Advisor, or a trainer, may be a particularly effective means of providing some of the guided learning however assessment of the learner must be undertaken in a situation where the learner is the lead participant.

Simulated scenarios may be appropriate provided they are realistic and still involve the learner communicating with an appropriate person acting as the client.

Delivery of learning outcomes 1 and, 2 could be achieved through the use of set questions, exercises or workbooks or through tutor led discussion and professional interview.

Delivery of learning outcome 3 will require communicating knowledge and understanding in a face-to-face simulated or real-life situation.

Assessment

This unit must be assessed in the workplace, or conditions resembling the workplace. The assessment requirements for the Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF) document must be followed; please see Annexe E

There is a requirement for the Learner to demonstrate that they are competent to interact with the client in an effective and professional manner. The Learner must also demonstrate that they are able to utilise the skills and knowledge covered by the qualification in a live situation to obtain and impart all information required by the Green Deal process and in accordance with the code of practice. It is not sufficient for the assessment to be based entirely on portfolio evidence, questions and exercises. Assessment needs to be based on real-life or carefully selected and well-developed simulated situations.

For learning outcomes 1 and 2 learners will need to demonstrate through questioning, discussion and written or practical exercises, an understanding of the principles and processes involved. Through professional interview and short answer questions learners should demonstrate sound knowledge of the components of the Green Deal and how to provide them in a high quality, independent and impartial manner to customers. Portfolio evidence may contribute to this provided the learner shows, through annotation and explanation, their understanding of the relevant factors within the Green Deal process in addition to the evidence showing they are able to undertake the process.

A suggested assignment would be for the learner to produce using entirely their own content an information leaflet summarising the Green Deal for anyone interested in applying for Green Deal funding. This should include the principles, how it is financed and the steps the customer will go through.

For learning outcome 3 the learner must be observed communicating knowledge and understanding in a face-to-face simulated or real-life situation in addition to any written work and/or customer communication documents being considered as evidence. The learner should demonstrate their ability to tailor their communication to suit a range of different scenarios related to building related factors, tenure, financial situation and customer needs and aspirations. The learner will need to follow correct procedures and provide suitable information in accordance with the Green Deal Code of Practice.

Specifically for learning outcome 3 the learner must demonstrate within a live or realistic simulation environment the ability to communicate effectively with the client in a professional manner.

A suggested assignment would be for the learner

- a) To explain to a (simulated) customer, how the Green Deal is applicable to them based on one or more actual Green Deal Advice Reports
- b) To suitably answer questions regarding the evidence used, the calculation methodology, the outcomes produced and the options available to the customer
- c) To summarise the available options and relevant further sources of information

Essential resources

Not applicable

Indicative resource materials

Documents

Department of Energy and Climate Change — *The Green Deal code of practice (current version)*

Department of Energy and Climate Change — *Specification for Organisations providing the Green Deal Advice Service (current version)*

UK Legislation — *The Green Deal Framework (Disclosure, Acknowledgment, Redress, etc.) Regulations 2012*

UK Legislation — Energy Act 2011

Journals

CIBSE Journal

Websites

www.greendealorb.co.uk

www.gov.uk/green-deal-energy-saving-measures

Unit 4: Explain the Green Deal Advice Report to the Non-domestic Customer

Unit code:	Y/503/8191
QCF Level:	4
Credit value:	4
Guided learning hours:	20

Unit aim

This unit is about explaining the components of the Green Deal report to non-domestic customers and the implications for implementing the recommendations.

Unit introduction

The Green Deal is UK government policy to permit loans for qualifying energy saving measures for properties in Great Britain to be attached to the energy meter and repaid via the energy bill. To qualify for the Green Deal there is a prescribed assessment process leading to the production of a Green Deal Advice Report.

Learners will prepare and present to a customer in the prescribed manner a non-domestic green deal advice report. The learner needs to demonstrate a sound knowledge of the procedures involved, understanding of the underpinning principles and the ability to communicate effectively with the customer and other parties both to obtain and impart relevant information appropriately.

The learner needs to show that they can communicate effectively using a range of methods to obtain and impart essential information in a professional manner and in accordance with the prescribed methodology.

Learning outcomes and assessment criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

On completion of this unit a learner should:

Learning outcomes	Assessment criteria
<p>1 Understand the process of explaining the Green Deal Advice Report to non-domestic customers.</p>	<p>1.1 Describe the requirements of the Green Deal Code of Practice in respect of issuing the Green Deal Advice Report to customers and the professional responsibilities and liabilities in the giving of advice and any disclaimers that should be made.</p>
	<p>1.2 Identify the difference between high, medium and low carbon impact energy efficiency measures and the scale of savings that each may achieve</p>
	<p>1.3 Explain which energy efficiency measures have the greatest impact on the energy performance of a building and explain why.</p>
	<p>1.4 Describe the benefits of installing energy efficiency measures as a package and the importance of the sequence of installation.</p>
	<p>1.5 Explain how estimates of costs are arrived at and how robust they are and for how long they will be valid.</p>
	<p>1.6 Identify the different circumstances and requirements of rural customers and those living in traditional buildings.</p>
	<p>1.7 Explain the impact of how the building is managed on the potential energy savings and actual costs.</p>

Learning outcomes	Assessment criteria
	1.8 Identify the specific advice needed to implement recommendations.
	1.9 Explain the funding options available and the eligibility requirements of the Green Deal finance package.
	1.10 Establish the critical factors for the customer in deciding which measures to pursue including economic and operational circumstances.
	1.11 Identify ways of creating a clear demarcation between the independent and impartial stage of the process and the declaration of any links to providers and/or suppliers.
	1.12 Explain the next steps in the process, the key individuals and organisations involved and how to contact them and how to provide impartial information.
	1.13 Explain how to disclose links to suppliers of products and services in a manner that ensures the customer understands the implications of your further engagement in the Green Deal process.

Learning outcomes	Assessment criteria
<p>2 Be able to explain the components of the Green Deal Advice Report and their implications to the Non-domestic customer.</p>	<p>2.1 Explain the hierarchy of energy efficiency measures based on carbon impact and payback.</p>
	<p>2.2 Explain the difference between high, medium and low carbon impact efficiency measures and the relative scale of savings which may be achieved.</p>
	<p>2.3 Explain which energy efficiency measures have greater impact on the energy performance of a building.</p>
	<p>2.4 Explain the relationship between:</p> <p>The Energy Performance Certificate asset rating based on standard assumptions</p> <p>The Display Energy Certificate operational rating based on metered fuel use</p> <p>The estimated savings based on the current use of the building.</p>
	<p>2.5 Explore the merits and demerits of the proposed energy efficiency measures.</p>
	<p>2.6 Identify ways of overcoming any barriers to implementing the energy efficiency measures.</p>
	<p>2.7 Explain the benefits of installing several measures as part of a package and the advantage of correctly sequencing the installation.</p>
	<p>2.8 Explain how estimates of running costs have been arrived at, how robust they are and for how long they are valid.</p>
	<p>2.9 Explain the gap between standard savings and likely savings based on occupancy.</p>

Learning outcomes	Assessment criteria
	2.10 Identify ways in which the recommendations can be implemented and where to go for help.
	2.11 Provide information on how the management of the building and its services can impact on energy savings and costs.
	2.12 Indicate how any future changes in energy consumption and costs not included in the assessment may impact on savings.
	2.13 Explain any relevant incentives for the customer adopting the proposed Green Deal package of energy measures.
	2.14 Explain any likely limitations on customer choice in respect of brands and appearance of equipment and materials that installers will provide in implementing the package of measures.
	2.15 Explain the funding options available and how to apply for funding.

Learning outcomes	Assessment criteria
<p>3 Be able to prepare and present a Green Deal Advice Report in a professional and impartial manner.</p>	<p>3.1 Provide precise disclosure of the limitations on the advice being given.</p>
	<p>3.2 Make clear the impartial technical advice being provided up to this point.</p>
	<p>3.3 Explain to the client the extent of personal responsibility for the recommendations made, including appropriate disclaimers.</p>
	<p>3.4 Inform the customer of any fees that the Green Deal Adviser may receive if the customer follows the advice given in relation to one or more energy efficiency measure.</p>
	<p>3.5 Explain any specific links with suppliers of Green Deal products and services and that any further involvement in the process will involve exclusive promotion of the products and services of those suppliers.</p>
	<p>3.6 Inform the customer of the Green Deal Code of Practice that regulates the preparation and issuing of the Green Deal Advice Report.</p>
	<p>3.7 Make clear the roles and responsibilities of the various parties involved in the Green Deal and who may be involved in the next stages of the process.</p>
	<p>3.8 Make the customer aware of responsibilities to future occupiers in terms of potential changes in energy savings should energy saving features be removed.</p>

Learning outcomes	Assessment criteria
	3.9 Respond to customer questions, issues and concerns in relation to the Green Deal Advice Reports and the next steps in the process within the limits of personal expertise and knowledge.
	3.10 Identify the specific needs of customers including those in rural locations, those off the gas grid or occupying traditional buildings.

Unit content

1 Understand the process of explaining the Green Deal Advice Report to non-domestic customers

Explaining the green deal advice report: Green deal code of practice; issuing the green deal advice report; professional responsibilities; liabilities; giving advice; disclaimers; contract law; declaration of links; disclosure of fees; demarcation between stages; specification for organisations providing green deal advice services; high, medium and low carbon impact; energy efficiency measures; scale of savings; hierarchy of energy efficiency measures; carbon impact; low or no cost management action; energy performance; package of measures; installation sequence; cost estimates; robustness; validity; timescales; estimation process; rural locations; traditional building; listed status; off gas grid; activity types; building management; management impact on costs; Town and Country Planning Acts; Areas of Outstanding Natural Beauty; Conservation areas; restrictions of Building Regulations; specific implementation advice; specialist advice; limits of competence; funding options; eligibility requirements; financial factors; economic factors; personal factors; application process; incentives; operational circumstances; merits and demerits; barriers to action; limitations on customer choice; differences between providers; brands; appearance; technology; quality; specification; next steps; key individuals and organisations; how to contact; impartial advice; implication of further engagement.

2 Be able to explain the components of the Green Deal Advice Report and their implications to the Non-domestic customer

Explaining components of the GDAR: hierarchy of energy efficiency measures; carbon impact; payback; SBEM, high, medium and low carbon impact; relative scale of saving; reduction in running costs; low or no cost management action; examples of savings achieved; greater or lesser impact measures; EPC; asset rating; standard assumptions; Display Energy Certificate; metered fuel use; current energy use; merits and demerits; proposed measures; critical factors; barriers to action; limitations on customer choice; overcoming barriers; referral to other specialist; package of measures; sequence of installation; methodology; estimates of running costs; validity; timescales; robustness; operational profile; impact of building management; effect of future changes; consumption; price increases; standard savings versus savings based on occupancy; ways of implementing recommendations; accessing help; brother advice; incentives; customer choice; brands; appearance; technology; quality; specification; materials; warranties; funding options; application process; economic and personal factors; responsibilities; golden rule; shopping around; portability; green deal finance; other sources of finance; funds; loan; mortgage; sources of lending information.

3 Be able to prepare and present a Green Deal Advice Report in a professional and impartial manner

Prepare and present a green deal advice report: precise disclosure; limitations on advice; general limitations; golden rule; impartial; technical advice; professional responsibilities; liabilities in giving advice; disclaimers; disclosure of fees; implications are progressing further; specific links with suppliers; green deal code of practice; regulation of green deal advice; demarcation between stages; roles of participants; participants involved in the next stages; provider; installer; financier; permissions; consents; provision of MPAN and electricity account numbers; responsibility to future occupiers; potential changes; removal of energy saving features; customer questions; issues and concerns; limits of personal expertise and knowledge; referral to other specialist; use of language appropriate to the listener; listening skills; empathising; body language; communication skills; identifying specific needs; critical factors for customer; barriers to action; rural location; off gas grid; traditional building; Town and Country Planning Acts; Areas of Outstanding Natural Beauty; Conservation areas; restrictions of Building Regulations; sympathetic treatment of heritage buildings.

Essential guidance for tutors

Delivery

It is recommended that centres use a wide range of delivery methods to achieve all the learning outcomes in the unit. These could include lectures, seminars, workshops, presentations, site visits, project work research using the Internet and/or library resources and the use of personal and/or industry experience.

Delivery should revolve around real-life situations and case studies. Centres are encouraged to organise talks from key parties and organisations.

Learners should be given the opportunity to apply and evaluate their practice in this field, in as many situations as possible, preferably through observed practical exercises. It is essential for the learner to be exposed to a range of scenarios and occupiers representative of those they will encounter in the role this unit is intended to prepare them for.

Shadowing a Green Deal Advisor, or a trainer, may be a particularly effective means of providing some of the guided learning however assessment of the learner must be undertaken in a situation where the learner is the lead participant.

Simulated scenarios may be appropriate provided they are realistic and still involve the learner communicating with an appropriate person acting as the client.

Delivery of learning outcome 1 could be achieved through the use of set questions, exercises or workbooks or through tutor led discussion and professional interview.

Delivery of learning outcomes 2 and 3 will require communicating knowledge and understanding in a face-to-face simulated or real-life situation.

Assessment

This unit must be assessed in the workplace, or conditions resembling the workplace. The assessment requirements for the Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF) document must be followed; please see *Annexe E*

There is a requirement for the Learner to demonstrate that they are competent to interact with the client in an effective and professional manner. The Learner must also demonstrate that they are able to utilise the skills and knowledge covered by the qualification in a live situation to impart all information required by the Green Deal process in accordance with the code of practice. It is not sufficient for the assessment to be based entirely on portfolio evidence, questions and exercises. Assessment needs to be based on real-life or carefully selected and well-developed simulated situations.

For learning outcome 1 learners will need to demonstrate through questioning, discussion and written or practical exercises, an understanding of the Green Deal Advice report together with the principles and processes behind it. Through professional interview and short answer questions learners should demonstrate sound knowledge of the components of the Green Deal and how to provide them in a high quality, independent and impartial manner to customers. Portfolio evidence may contribute to this provided the learner shows, through annotation and explanation, their understanding of the relevant factors within the Green Deal process in addition to the evidence showing they are able to undertake the process.

A suggested assignment would be for the learner to provide a detailed review for one of the assessments carried out, to include:

- a summary of how the management of the building and its services is impacting on costs
- suggestions for management changes that would be beneficial
- how future changes in energy consumption may impact on savings
- how future changes in energy costs may impact on savings
- an explanation of the incentives for this customer to adopt the proposed package of measures
- any limitations on choice of brand, appearance or materials that may apply to this particular customer
- the funding options available to this customer and how they would apply for them

For learning outcome 3 the learner must be observed communicating knowledge and understanding in a face-to-face simulated or real-life situation in addition to any written work and/or customer communication documents being considered as evidence. The learner should be assessed based on at least three significantly different scenarios to demonstrate competence to obtain and impart different required information depending upon building related factors, tenure, financial situation and customer needs and aspirations. The learner will need to follow correct procedures, obtain and record relevant information, act appropriately upon it, draw suitable conclusions and provide suitable information as a result. Specifically for learning outcome 3 the learner must demonstrate within a live or realistic simulation environment the ability to communicate effectively with the client in a professional manner.

A suggested assignment would be for the learner

- a) To explain to a (simulated) client, the results of a Green Deal Advice Report including the differences between the standard savings and likely savings based on operation of the building and its services.
- b) To suitably answer questions regarding the evidence obtained, the decisions made and the outcomes produced.
- c) To summarise the available options and relevant further sources of information.

Essential resources

None

Indicative resource materials

Documents

Department of Energy and Climate Change — *The Green Deal code of practice (current version)*

Department of Energy and Climate Change — *Specification for Organisations providing the Green Deal Advice Service (current version)*

UK Legislation — *The Green Deal Framework (Disclosure, Acknowledgment, Redress, etc.) Regulations 2012*

UK Legislation — Energy Act 2011

Journals

CIBSE Journal

Websites

www.greendealorb.co.uk

www.gov.uk/green-deal-energy-saving-measures

Unit 5: Conduct Energy Assessments in a Safe, Effective and Professional Manner

Unit code:	H/503/8162
QCF Level:	3
Credit value:	6
Guided learning hours:	30

Unit aim

To develop knowledge, understanding and skills to contribute to the health, safety and security of the workplace, develop effective working relationships with others, and conduct energy assessments in a professional and ethical manner, complying with organisational and legal requirements at all times.

Unit introduction

Energy Performance Certificates (EPCs) are a requirement of the The Energy Performance of Buildings Regulations and a duty under Building Regulations. An EPC is required for a building on construction, sale or rent. It is also a relevant document in relation to government initiatives including the feed in tariff, renewable heat incentive and green deal.

An EPC is an asset rating for the property which indicates how energy efficient a building is, the likely energy use for a typical occupier and its impact on the environment. It is produced in a prescribed manner using approved software.

The EPC is a document which has a legal status and must be lodged on a central register in order to be valid. It has a validity of up to 10 years unless superseded, during which time it may be used for a number of permitted purposes. There are specific rules regarding the production and lodgement of EPCs which can only be carried out by qualified and accredited energy assessors.

Learners will undertake the process of assessing non-domestic buildings in the prescribed manner in order to produce an accurate, robust and fully compliant EPC. The learner needs to demonstrate a solid knowledge of the procedures involved, understanding of the underpinning principles, appropriate surveying and record-keeping skills and the ability to communicate effectively with the customer and other parties to obtain and impart relevant information appropriately.

The learner needs to show that they can collect information using a range of methods, in a safe and professional manner in accordance with the prescribed methodology.

Learning outcomes and assessment criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

On completion of this unit a learner should:

Learning outcomes	Assessment criteria
<p>1 Understand the Health and Safety requirements when undertaking energy assessments.</p>	<p>1.1 Explain the relevant legal duties for health, safety and security in the workplace.</p>
	<p>1.2 Identify the health, safety and security risks that could exist in different locations, and the action to take to minimise or mitigate risks.</p>
	<p>1.3 Identify the risks to self which are associated with lone working.</p>
	<p>1.4 Explain why it is important to remain alert to the presence of risks in the workplace.</p>
	<p>1.5 Explain the importance of personal conduct in maintaining the health, safety and security of yourself or others.</p>
	<p>1.6 Explain how to make use of relevant suppliers and manufacturers' instructions for the safe use of equipment, materials and products.</p>
	<p>1.7 Explain who should be informed of any conflicts between different health, safety and security requirements.</p>
	<p>1.8 Describe the procedures for different types of emergency.</p>
	<p>1.9 Identify the types of suggestions for improving health, safety and security at work that could be made and who should be given them.</p>
	<p>1.10 Identify the actions that may be taken to protect customers' property.</p>

Learning outcomes	Assessment criteria
<p>2 Understand the legislation, codes of conduct and compliance requirements in relation to energy assessment.</p>	<p>2.1 Explain why it is important to promote goodwill and trust when working with others and ways in which this can be achieved.</p>
	<p>2.2 Explain how to identify the information you require and the potential sources of such information.</p>
	<p>2.3 Describe how to respond to enquiries from others and how to clarify their information needs.</p>
	<p>2.4 Explain how to respond to enquiries which are outside your authority, beyond your area of knowledge or expertise or where the information requested is confidential.</p>
	<p>2.5 Define the extent and limits for your own competence and expertise and the importance of not working beyond these limits.</p>
	<p>2.6 Describe the ways in which disputes or differences of opinion should be handled and resolved to minimise offence and maintain respect.</p>
	<p>2.7 Describe the formal complaints procedure that covers your work in terms of:</p> <ul style="list-style-type: none"> • Any specific organisational requirements with regard to complaints • Your own responsibility to deal with complaints and attempt to resolve them before escalating to the Accreditation Body, or the equivalent in the Devolved Administrations.
	<p>2.8 Identify the range of potential conflicts of interest that you may encounter and the action required to manage these.</p>

Learning outcomes	Assessment criteria
	2.9 Explain why it is important to present a positive personal and professional image when dealing with people and how this can be achieved.
	2.10 Describe the ways in which you may develop yourself within your role to cover your development needs.
	2.11 Define the level of service expected by customers, their expectations as to the outcomes of the energy assessment or advice process and how to deliver an appropriate level of customer service.
	2.12 Explain the need for prompt responses to enquiries.

Learning outcomes	Assessment criteria
<p>3 Understand the legislation, codes of conduct and compliance requirements in relation to energy assessment.</p>	<p>3.1 Describe the relevant policies and legislation on combating climate change and the reduction of carbon emissions from buildings.</p>
	<p>3.2 Describe the relevant legislation covering:</p> <ul style="list-style-type: none"> • The energy performance of buildings • Compliance with safe working practices • The relevant regulations in the Devolved Administrations • Where appropriate relevant legislation on the use of refrigerants.
	<p>3.3 Describe the relevant official guidance and conventions relating to the assessment of energy performance.</p>
	<p>3.4 Describe your specific responsibilities under prescribed codes of conduct and ethical standards.</p>
	<p>3.5 Describe why it is important to comply with mandatory and advisory codes of practice.</p>
	<p>3.6 Describe the specific auditing or monitoring requirements that relate to your registration with your accreditation organisation(s), or the equivalent in the Devolved Administrations and your responsibilities in complying with these.</p>
	<p>3.7 Describe the framework under which Accreditation Bodies, or the equivalent in the Devolved Administrations, are required to operate, including their Scheme Operating Requirements or equivalent in the Devolved Administrations.</p>

Learning outcomes	Assessment criteria
	<p>3.8 Explain the importance of obtaining and maintaining appropriate professional indemnity insurance (PII) cover, either through your own business or your employer and the extent and limitations of this type of cover.</p>

Learning outcomes	Assessment criteria
<p>4 Be able to comply with organisational and legal requirements at all times.</p>	<p>4.1 Carry out work in accordance with the relevant legal requirements, legislation and advisory and mandatory codes of practice.</p>
	<p>4.2 Carry out work in accordance with the auditing and monitoring requirements of the relevant accreditation or certification organisation/s.</p>
	<p>4.3 Record customer contact information in accordance with organisational and legal requirements such as the Data Protection legislation.</p>
	<p>4.4 Identify and maintain appropriate evidence to record to support your decisions and assumptions made when carrying out energy assessments.</p>
	<p>4.5 Identify the evidence requirements defined in Scheme Operating Requirements, or their equivalent in the Devolved Administrations.</p>

Learning outcomes	Assessment criteria
5 Be able to maintain health, safety and security at work.	5.1 Take action to mitigate health, safety and security risks.
	5.2 Ensure personal conduct does not endanger the health, safety and security of self and other people.
	5.3 Take action to ensure the protection of client's property and buildings.
	5.4 Adhere to workplace policies and suppliers' or manufacturers' instructions for the safe use of equipment, personal protective equipment (PPE), materials and products.
	5.5 Identify procedures for different types of emergency and implement them.
	5.6 Make recommendations for improving health, safety and security in the workplace to the relevant person/s.

Learning outcomes	Assessment criteria
<p>6 Be able to develop and maintain effective working relationships with colleagues, professionals, clients and others.</p>	<p>6.1 Develop and maintain productive working relationships with others.</p>
	<p>6.2 Request information from colleagues,
professionals, clients and others in a polite, clear and professional manner.</p>
	<p>6.3 Identify and make use of further sources of information/help.</p>
	<p>6.4 Deal with enquiries from colleagues, professionals,
clients and others and seek clarification where necessary.</p>
	<p>6.5 Handle enquiries which:</p> <ul style="list-style-type: none"> • Are outside own authority • Are beyond own area of knowledge or expertise • Involve confidential information.
	<p>6.6 Handle and resolve disputes and/or differences of opinion.</p>
	<p>6.7 Adhere to the formal complaints procedure when dealing with a complaint.</p>

Learning outcomes	Assessment criteria
<p>7 Be able to conduct energy assessments in a professional manner.</p>	<p>7.1 Deal with colleagues, professionals, clients and others in a tactful, courteous and equitable manner.</p>
	<p>7.2 Carry out work in accordance with prescribed codes of conduct, ethical standards and recognised good practice.</p>
	<p>7.3 Record all evidence supporting the assumptions and decisions made during the assessment.</p>
	<p>7.4 Demonstrate effective management of work activities and personal and professional development.</p>
	<p>7.5 Respond appropriately to pressure from any person/s which may affect own judgment.</p>
	<p>7.6 Demonstrate delivery of the appropriate level of customer service.</p>
	<p>7.7 Assess customer expectations as to the outcomes of the energy assessment or advice process.</p>

Unit content

1 **Understand the Health and Safety requirements when undertaking energy assessments**

Understanding health and safety requirements: Health and safety; regulations; safe working practices; responsibilities; best practice; workplace; security; personal protective equipment; use of ladders; working at height; safe access; legal duties; responsible person; notification; duty of care; trips and falls; electrical hazards; COSHH; asbestos; asbestos register; risk assessment; risks to self; risks to others; loan working; alertness to the presence of risks; mitigate risks; risk reduction; personal conduct; maintaining health, safety and security of yourself and others; suppliers and manufacturers instructions; safe use of equipment; duty to inform conflicts between health and safety and security requirements; emergency procedures; suggestions for improvement; who to communicate with; how to communicate; actions to protect property; invasive and non-invasive assessment; limitations on assessment; reasons to terminate assessment; evacuation; first aid.

2 **Understand the legislation, codes of conduct and compliance requirements in relation to energy assessment**

Legislation, codes of conduct and compliance requirements: Legislation; code of conduct; compliance requirements; health and safety; best practice; responsibilities; goodwill and trust; working with others; loan working; duties; protection of property; security; risk assessment; identification; sources of information; response to enquiries; clarifying information needs; enquiries outside your authority; beyond your area of knowledge; limitations of expertise; confidentiality; extent and limits of competence; not working beyond limits; disputes; differences of opinion; minimising offence; maintaining respect; empathy; listening skills; concerns; complaints; complaints process; notification of complaints; escalation; mediation; potential conflicts of interest; managing conflicts of interest; personal image; professionalism; self-development; CPD; learning skills; learning opportunities; extending skills; broadening knowledge; level of service; customer expectations; customer perceptions; outcomes versus expectations; response methods; speed of response; customer satisfaction.

3 Understand the legislation, codes of conduct and compliance requirements in relation to energy assessment

Legislation, codes of conduct and compliance requirements: Legislation; code of conduct; compliance requirements; policies and legislation; combating climate change; reduction of carbon emissions; Kyoto agreement; UK legislation; European legislation; energy performance of buildings directive; Energy Efficiency of Buildings Regulations; The Energy Act; Buildings Regulations; approved documents; asset rating; operational rating; EPC; DEC; air conditioning inspection; health and safety regulations; control of asbestos regulations; the devolved administrations; use of refrigerants; official guidance; Department of communities and local government (DC LG); Department of energy and climate change (DECC); conventions; accreditation; lodgement; central register; definition of buildings; responsibilities; ethical standards; importance of compliance; mandatorily and advisory codes of practice; auditing, monitoring, framework; scheme operating requirements; importance of insurance; professional indemnity insurance; liability insurance; extent and limitations of cover.

4 Be able to comply with organisational and legal requirements at all times

Complying with organisational and legal requirements: Organisational requirements; legal requirements; carry out work; relevant requirements; legislation advisory and mandatory codes of practice; maintain health and safety; self and others; safe working practice; risk assessment; duty of care; accreditation; security; confidentiality; data protection; record-keeping; customer contact; information; identify relevant evidence; maintain appropriate evidence; record evidence in support of decisions; assumptions; evidence requirements; scheme operating requirements; photographs; measurement; third-party evidence; written records; specialist advice; other sources; internet research.

5 Be able to maintain health, safety and security at work

Maintaining health and safety and security: Health and safety; security; taking action; mitigating risks; personal conduct; not endangering the health, safety and security of self and others; risk assessment; communication; evaluation; safe working practice; use of ladders; maintenance of equipment; inspection of equipment; trips and falls; policies; procedures; notification; safe access; limitations; asbestos; tools and equipment; supplier's or manufacturer's instructions; personal protective equipment (PPE); materials and products; working at heights; confined spaces; loan working; urgency procedures; implementation; recommendations for improvement; relevant person; identification; signing in; signing out; visibility; communication.

6 Be able to develop and maintain effective working relationships with colleagues, professionals, clients and others

Developing and maintaining effective working relationships: Develop; maintain; productive; working relationships; colleagues; professional; clients; others; communication; respect; professionalism; trust; responsibility; clarity; policies; procedures; polite; presentable; efficient; sources of information; help; assistant; dealing with enquiries; seeking clarification; limits of authority; areas of responsibility; limits of knowledge or expertise; obtaining information; sharing information; confidentiality; handling disputes; resolution; differences of opinion; listening skills; rationalising; reflecting back; empathy; acknowledgement; body language; concerns; formal complaint; complaints procedure; escalation; response time; mediation; complaints records.

7 Be able to conduct energy assessments in a professional manner

Conducting energy assessments in a professional manner: Conduct energy assessment; professional manner; deal with colleagues; professional; client; others; tactful; courtiers; equitable manner; respect; effective communication; body language; empathy; listening skills; carry out work; prescribed codes of conduct; ethical standards; recognise good practice; guidance; legislation; protection of health and safety; security; risk assessment; mitigation of risk; limitations on assessment; win to terminate assessment; recording evidence; supporting assumptions and decisions; means of recording; clear; legible; appropriate; confidentiality; photographic evidence; written evidence; third-party documents; specialist assessment; effective questioning; management and work activities; skill development; personal and professional development; learning opportunities; working within boundaries; limits of knowledge; responding appropriately; pressure from others; avoiding influence on judgement; maintaining integrity of assessment; guidance and conventions; quality; customer service; assess customer expectations; outcome of assessment; advice process; meeting expectations; dealing with differences from expectation.

Essential guidance for tutors

Delivery

It is recommended that centres use a wide range of delivery methods to achieve all the learning outcomes in the unit. These could include lectures, seminars, workshops, presentations, site visits, project work research using the Internet and/or library resources and the use of personal and/or industry experience.

Delivery should revolve around real-life situations and case studies. Centres are encouraged to organise talks from key parties and organisations.

Learners should be given the opportunity to apply and evaluate their practice in this field, in as many situations as possible, preferably through observed practical exercises. It is essential for the learner to be exposed to a range of buildings, building services and activity types representative of the scenarios they will encounter in the role this unit is intended to prepare them for.

Shadowing an Energy Assessor or a trainer may be a particularly effective means of providing some of the guided learning however assessment of the learner must not be undertaken against a property in which they have shadowed.

Simulated scenarios may be appropriate provided they are realistic and still involve the learner undertaking an energy inspection within a real building to obtain the required data. Learning outcomes 4, 5, 6 and 7 will not be met if the learner is given simulated data instead of obtaining the data themselves in a real or simulated scenario.

Delivery of learning outcomes 1, 2 and 3 could be achieved through the use of set questions, exercises, workbooks or through tutor led discussion and professional interview.

Delivery of learning outcomes 4, 5, 6 and 7 could be achieved through observed assessment of the learner carrying out an energy inspection in simulated or real-life situations and through professional interviews.

Assessment

This unit must be assessed in the workplace, or conditions resembling the workplace. The assessment requirements for the Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF) document must be followed; please see Annexe E

There is a requirement for the Learner to demonstrate that they are competent to actually carry out the essential tasks in a professional manner. The Learner must also demonstrate that they are able to utilise the skills and knowledge covered by the qualification in a live situation. It is not sufficient for the assessment to be based entirely on portfolio evidence, questions and exercises. Assessment needs to be based on real-life or carefully selected and well-developed simulated situations.

For learning outcomes 1, 2 and 3, learners will need to demonstrate through questioning, discussion and written or practical exercises, an understanding of the principles and processes involved. Through professional interview and short answer questions learners should demonstrate sound knowledge of the reasons behind the actions they take. Portfolio evidence may contribute to this provided the learner shows, through annotation and explanation, their understanding of the process in addition to the evidence showing they are able to undertake the process.

For learning outcomes 4, 5, 6 and 7 the learner will need to demonstrate through means including observed assessment, the ability to carry out energy inspections in a range of significantly different scenarios. The learner will need to present evidence of having followed the correct procedures, undertaken the assessment in an appropriate manner and communicated effectively with significant others.

There are no specific requirements for this unit in terms of the range of different scenarios to be covered in the assessment. However, since this unit is part of a wider qualification it is suggested that the scenarios be matched to the requirements of the corresponding 'Undertake energy assessments of existing Level 3 (4 or 5) Non Dwellings...' unit.

Essential resources

None

Indicative resource materials

Documents

Department of Communities and Local Government – *A guide to Energy Performance Certificates for the construction, sale and let of non-dwellings* (ISBN 9781409837237)

Department of Communities and Local Government – *A guide to air conditioning inspections for buildings* (ISBN 9781409837268)

Department of Communities and Local Government – *Local weights and measures authority guidance for Energy Performance Certificates and air conditioning inspections for buildings* (ISBN 9781409837268)

Royal Institution of Chartered Surveyors — *RICS Code of Measuring Practice*

UK Legislation — *Energy Performance of Buildings (England and Wales) Regulations 2012*

UK Legislation — Energy Act 2011

Journals

CIBSE Journal

Websites

www.gov.uk/government/organisations/department-for-communities-and-local-government

www.ndepcregister.com

Unit 6: Prepare for Energy Assessments of Non-dwellings to Fulfil Regulatory Requirements for Asset Ratings

Unit code: J/503/8168

QCF Level: 3

Credit value: 6

Guided learning hours: 30

Unit aim

This unit enables the candidate to develop the skills to agree and confirm instructions to undertake energy assessment to meet regulatory and organisational requirements and to investigate relevant matters relating to property (non-dwellings) and energy usage.

Unit introduction

Energy Performance Certificates (EPCs) are a requirement of the The Energy Performance of Buildings Regulations and a duty under Building Regulations. An EPC is required for a building on construction, sale or rent. It is also a relevant document in relation to government initiatives including the Feed in Tariff, Renewable Heat Incentive and Green Deal.

An EPC is an asset rating for the property which indicates how energy efficient a building is, the likely energy use for a typical occupier and its impact on the environment. It is produced in a prescribed manner using approved software.

The EPC is a document which has a legal status and must be lodged on a central register in order to be valid. It has a validity of up to 10 years unless superseded, during which time it may be used for a number of permitted purposes. There are specific rules regarding the production and lodgement of EPCs which can only be carried out by qualified and accredited energy assessors.

Learners will undertake the process leading up to assessing non-domestic buildings in the prescribed manner in order to produce an accurate, robust and fully compliant EPC. The learner needs to demonstrate a solid knowledge of the procedures involved, understanding of the underpinning principles, appropriate surveying and record-keeping skills and the ability to communicate effectively with the customer and other parties to obtain and impart relevant information appropriately.

The learner needs to show that they can collect information using a range of methods, verify its accuracy and relevance, record and process it accurately and do so in a safe and professional manner in accordance with the prescribed methodology.

Learning outcomes and assessment criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

On completion of this unit a learner should:

Learning outcomes	Assessment criteria
<p>1 Understand the regulations and requirements needed to undertake energy assessments.</p>	<p>1.1 Explain the legislation governing energy assessment and the overall purposes of the Energy Performance Certificate.</p>
	<p>1.2 Identify the relevant regulations for energy performance requirements new buildings.</p>
	<p>1.3 Identify the relevant regulations for energy performance requirements for existing buildings.</p>
	<p>1.4 Describe the types of property and situations that do not by law require energy certification and how to deal with voluntary certification.</p>
	<p>1.5 Identify the Building Regulations, EPBD Regulations and other Regulations' energy performance requirements that are relevant to buildings other than dwellings.</p>
	<p>1.6 Describe the different stages involved in the energy assessment of new buildings, ensuring compliance with relevant aspects of Building Regulations and leading to the production of the 'as built' assessment, for the purpose of producing an Energy Performance Certificate.</p>
	<p>1.7 Review the frequency of energy assessments and the validity of certificates and reports.</p>

Learning outcomes	Assessment criteria
	1.8 Explain the role of the Energy Performance Certificate in wider government policy including where relevant the Green Deal.

Learning outcomes	Assessment criteria
<p>2 Understand how to agree and confirm instructions to undertake energy assessments.</p>	<p>2.1 Explain how to clarify and confirm the requirements and expectations of the client(s) and the scope of your instructions so that all the information is available and defaults are not used except where justified.</p>
	<p>2.2 Describe how to identify and explain to clients any circumstances that prevent you from undertaking an energy assessment.</p>
	<p>2.3 Identify the limitations and constraints that apply to the conduct of energy assessments.</p>
	<p>2.4 Explain the importance of explaining and confirming in writing the arrangements agreed between you and client(s).</p>
	<p>2.5 Explain the importance of explaining the terms and conditions and fee structures and payment arrangements for energy assessments.</p>
	<p>2.6 Identify the limitations and constraints of the planned energy assessment.</p>
	<p>2.7 Explain how to confirm on-site inspection arrangements with the client(s) or other occupier.</p>
	<p>2.8 Identify the circumstances that may prevent you from undertaking an energy assessment.</p>
	<p>2.9 Explain the importance of explaining politely and clearly to clients the reasons why you cannot undertake an energy assessment.</p>

Learning outcomes	Assessment criteria
	2.10 Explain the importance of confirming whether any specific arrangements apply to the energy assessment.
	2.11 State which software tools have been approved for particular applications.
	2.12 Explain the principles of operation of the approved software tools.

Learning outcomes	Assessment criteria
<p>3 Understand how to investigate relevant matters relating to property and energy usage.</p>	<p>3.1 Identify the different types of preparatory information that it is important to obtain to ensure a complete and accurate assessment and certificate.</p>
	<p>3.2 Identify the different sources of preparatory information (including existing calculations and energy audit reports) relating to the energy performance of the property.</p>
	<p>3.3 Explain how to obtain preparatory information relating to the energy performance of the property.</p>
	<p>3.4 Identify prevailing geographical/environmental features that may affect the energy performance of the property.</p>
	<p>3.5 Explain how to evaluate relevant information in order to identify any significant factors that may influence the energy assessment, including:</p> <ul style="list-style-type: none"> • Gaps in information concerning the building and its energy use • Health and safety considerations, accessibility • Level of building complexity.
	<p>3.6 Explain how to identify circumstances that prevent you from assessing the energy performance of the property.</p>
	<p>3.7 Explain the importance of explaining to clients why you may not be able to fulfill the agreed contract.</p>

Learning outcomes	Assessment criteria
<p>4 Be able to agree and confirm instructions to undertake energy assessments.</p>	<p>4.1 Determine the nature and characteristics of the property to ensure that it requires an Operational Rating (OR) or Asset Rating as appropriate.</p>
	<p>4.2 Respond to requests to undertake energy assessments from clients.</p>
	<p>4.3 Clarify and confirm the requirements and expectations of clients and the scope of own instructions to ensure that all the information is available and defaults are not used except where justified.</p>
	<p>4.4 Explain to the client the relevant regulations that are legally required and the overall purpose of the Energy Certificate.</p>
	<p>4.5 Explain to the client why the Energy Certificate has to conform to prescribed protocols and must be accompanied by cost-effective recommendations.</p>
	<p>4.6 Explain to the client the limitations and constraints of the planned energy assessment, identifying any circumstances that prevent the assessment from being undertaken and giving your reasons.</p>
	<p>4.7 Agree in writing with the client the terms, conditions and fee structure under which the energy assessment will be undertaken, including the need to take photographs and record other evidence for audit purposes.</p>

Learning outcomes	Assessment criteria
	4.8 Confirm to clients the terms, conditions and arrangements that have been agreed and confirm in writing any specific arrangements with clients or other occupiers.
	4.9 Provide any necessary guidance to clients with regard to the legislation governing energy assessment.
	4.10 Select a suitable software tool, appropriate to the building being assessed and approved under the Regulations for energy assessment.

Learning outcomes	Assessment criteria
<p>5 Be able to investigate relevant matters relating to energy usage within a property.</p>	<p>5.1 Investigate and record any preparatory information to ensure complete and comprehensive energy assessment and certification.</p>
	<p>5.2 Identify prevailing geographical/environmental features that may affect the energy performance of the property.</p>
	<p>5.3 Evaluate preparatory information to identify inconsistencies and any significant factors that may influence the energy assessment.</p>
	<p>5.4 Explain to clients the scope of information that will assist the energy assessment and request any relevant additional information that will be relevant.</p>
	<p>5.5 Inform clients promptly in cases where your investigations reveal problems that prevent you from assessing the energy performance of the property.</p>
	<p>5.6 Ensure that the most up-to-date version of the approved software and associated reference materials can be accessed.</p>

Unit content

1 Understand the regulations and requirements needed to undertake energy assessments

Regulations and requirements for energy assessments: Energy Performance Certificate (EPC); regulations; requirements; legislation; improving energy efficiency; reducing energy consumption; government policy; environmental impact; carbon emissions reduction; energy security; fuel poverty; secondary legislation; definition of buildings; construction; sale; rent; asset rating; approved methodology; SBEM; NCM; DSM; Buildings Regulations; approved documents; Kyoto agreement; UK legislation; European legislation; energy performance of buildings directive; Energy Efficiency of Buildings Regulations; scheme operating requirements; accreditation; Energy Act 2011; Department of communities and local government (DC LG); Building Control; exemptions; stand-alone building; places of worship; scheduled the demolition; listed building; voluntary certification; energy efficiency requirement; feed in tariff; renewable heat incentive; stages of assessment; new building; compliance; as designed; as built; building emissions rate; target emissions rate; actual building; reference building; notional building; frequency of assessment; validity of certificates; validity of recommendations report; display energy certificate; operational rating; air conditioning assessment; green deal; energy company obligation; affordable warmth.

2 Understand how to agree and confirm instructions to undertake energy assessments

Agree and confirm instructions: Confirmation of instruction; acceptance; terms and conditions; expectations; scope; information requirements; formation request; clarifying process; responsible person; arranging access; pre-assessment questions; background information; circumstances preventing assessment; declining instructions; terminating assessment; limitations and constraints; health and safety; dealing with minors; evidence requirements; risk assessment; explanation; confirming in writing; arrangements agreed; you obligation; clients obligation; relationships; fee structure; payment arrangements; specific limitations and constraints; how to confirm; communicating with client or other occupier; circumstances preventing assessment; communication skills; politeness; clarity; justification with reason; need for specific arrangements; approved software tools; matching software to assessment type; use of software; convention; software limitations; methodology; principles of operation; lodgement; validation.

3 Understand how to investigate relevant matters relating to property and energy usage

Investigating relevant matters relating to property and energy usage: preparatory information; complete and accurate; assessment; investigations; building age; construction types; planning use classes; activity types; location; orientation; access; plans; logbooks; advisory report; recommendation reports; specialist surveys; technical manuals; maintenance logs; services drawings; extension; renovation; refurbishment; building control; planning approval; ownership; purpose; services available; HVAC types; assessment level; building complexity; local authorities; planning register; Building Control; Land Registry; Heritage Gateway; Internet search; energy audit reports; supplier bills; occupant; facilities manager; observation; prior knowledge; central register; Landmark; geographical features; environmental features; significant factors; influence on energy assessment; gaps in information; incomplete information; conflicting evidence; health and safety; accessibility; circumstances preventing assessment; communication with clients; inability to fulfil the agreed contract; justification with reason; explanation; alternative; next steps.

4 Be able to agree and confirm instructions to undertake energy assessments

Agree and confirm instructions: Agree instructions; confirm instructions; nature and characteristics of the property; operational rating; asset rating; method of assessment; respond to requests; terms and conditions; code of practice; scheme operating requirements; legislation; regulations; clarifying requirements; confirming expectations; scope of instruction; limitations on assessment; ensuring all information available; access to all areas; suitable persons; responsibility; health and safety; evidence types; access to information; confidentiality; security; energy performance of buildings regulations; buildings regulations; planning regulations; health and safety regulations; control of asbestos regulations; conformity to prescribed protocols; cost-effective recommendations; EPC; recommendations report; validity; lodgement; limitations and constraints; circumstances preventing assessment; reasons terminating assessment; agreement in writing; fee structure; evidence types; photographs; written evidence; drawings; plans; building records; supplier information; manufacturer information; build date; construction types; alteration; activities; arrangements with client; arrangement with occupier; guidance; limitations of guidance; suitable software tool; selection of software tool; competence to use; SBEM, DSM; building complexity; assessment level; new build; existing building; building regulations compliance.

5 Be able to investigate relevant matters relating to energy usage within a property

Investigating relevant matters: investigate; record; preparatory information; complete; comprehensive; energy assessment; certification; background research; building age; planning use class; activity types; location; orientation; access; owner; purpose of certificates; prior assessment; specialist surveys; energy audit; building complexity; assessment level; geographical features; environmental features; heritage considerations; traditional building; listed status; availability of services; inconsistencies; significant factors; influences on assessment; limitations; restrictions; scope of information; request additional information; relevant; current; history; prior assessment; specialist surveys; log book; maintenance and inspection records; technical manuals; supplier information; manufacturers data; test results; building plans; services drawings; problems; barriers to assessment; termination of assessment; approved software; reference materials; current data; SBEM, DSM; current accreditation; relevant qualification; software licence and approval.

Essential guidance for tutors

Delivery

It is recommended that centres use a wide range of delivery methods to achieve all the learning outcomes in the unit. These could include lectures, seminars, workshops, presentations, site visits, project work research using the Internet and/or library resources and the use of personal and/or industry experience.

Delivery should revolve around real-life situations and case studies. Centres are encouraged to organise talks from key parties and organisations.

Learners should be given the opportunity to apply and evaluate their practice in this field, in as many situations as possible, preferably through observed practical exercises. It is essential for the learner to be exposed to a range of buildings, building services and activity types representative of the scenarios they will encounter in the role this unit is intended to prepare them for.

Simulated scenarios may be appropriate provided they are realistic and still involve the learner undertaking their own research and investigations to obtain the required data. Learning outcome 5 will not be met if the learner is given simulated data instead of obtaining the data themselves in a real or simulated scenario.

Delivery of learning outcomes 1, 2 and 3 could be achieved through the use of set questions, exercises, workbooks or through tutor led discussion and professional interview.

Delivery of learning outcome 4 could be achieved through exercises involving producing documentation appropriate to be sent to a client in a real or simulated situation supported by tutor led discussion and professional interview.

Delivery of learning outcome five could be achieved through exercises requiring research and investigation of relevant matters relating to specific properties and explanation of the significance of the information obtained.

Assessment

This unit must be assessed in the workplace, or conditions resembling the workplace. The assessment requirements for the Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF) document must be followed; please see Annexe E

There is a requirement for the Learner to demonstrate that they are competent to actually carry out the essential tasks in a professional manner. It is not sufficient for the assessment to be based entirely on portfolio evidence, questions and exercises. Assessment needs to be based on real-life or carefully selected and well-developed simulated situations.

For learning outcomes 1, 2 and 3, learners will need to demonstrate through questioning, discussion and written or practical exercises, an understanding of the principles and processes involved. Through professional interview and short answer questions learners should demonstrate sound knowledge of the reasons behind the actions they take. Portfolio evidence may contribute to this provided the learner shows, through annotation and explanation, their understanding of the process in addition to the evidence showing they are able to undertake the process.

For learning outcomes 4 the learner will need to demonstrate the ability to communicate effectively both verbally and in writing the relevant information in a range of significantly different scenarios. The learner will need to present evidence of having followed the correct procedures, obtained the required information in an appropriate manner and communicated effectively with significant others.

There are no specific requirements for this unit in terms of the range of different scenarios to be covered in the assessment. However, since this unit is part of a wider qualification it is suggested that the scenarios be matched to the requirements of the corresponding 'Undertake energy assessments of existing Level 3 (4 or 5) Non Dwellings...' unit.

Programme of suggested assignments

The following are two examples of suggested assignments that could be used to cover some of the assessment criteria. This is for guidance only and it is recommended that centres either write their own assignments or adapt Edexcel assignments to meet local needs and resources.

- 1 The learner to produce a telephone enquiry form for recording all the information needed to understand the nature of a telephone enquiry and book a suitable appointment. (ac 4.2)
- 2 The learner to write a confirmation of appointment letter for an assessment instructed by the commercial landlord, where access is to be granted by the tenant.

*Assume it is a modern office building over several floors which you have been told is heated by a boiler and radiator system, has some mechanical supply and extract ventilation and some cooling from a number of local split type units. Include confirmation of the fee and payment terms, a request for any additional information you need plus a summary of what you will do as part of the assessment and why.
(ac 4.2, 4.3, 4.7, 4.8, 5.4)*

Essential resources

Internet access

Authorised user access to the non-domestic EPC register

Indicative resource materials

Documents

Department of Communities and Local Government – *A guide to Energy Performance Certificates for the construction, sale and let of non-dwellings* (ISBN 9781409837237)

Department of Communities and Local Government – *A guide to air conditioning inspections for buildings* (ISBN 9781409837268)

Department of Communities and Local Government – *Local weights and measures authority guidance for Energy Performance Certificates and air conditioning inspections for buildings* (ISBN 9781409837268)

UK Legislation — *Energy Performance of Buildings* (England and Wales) Regulations 2012

UK Legislation — Energy Act 2011

Journals

CIBSE Journal

Websites

www.gov.uk/government/organisations/department-for-communities-and-local-government

www.ndepcregister.com

Unit 7: Undertake energy assessments of existing Level 3 non-dwellings using the Simplified Building Energy Model SBEM

Unit code: L/503/8169

QCF Level: Level 3

Credit value: 11

Guided learning hours: 45

Unit aim

This unit will help to develop the knowledge and skills needed to inspect non-dwellings to determine the energy performance of an existing level 3 property, using the Simplified Building Energy Model, make recommendations for cost-effective improvements and issue Energy Performance Certificates in compliance with regulatory requirements.

Unit introduction

Energy Performance Certificates (EPCs) are a requirement of the The Energy Performance of Buildings Regulations and a duty under Building Regulations. An EPC is required for a building on construction, sale or rent. It is also a relevant document in relation to government initiatives including the Feed in Tariff, Renewable Heat Incentive and Green Deal.

An EPC is an asset rating for the property which indicates how energy efficient a building is, the likely energy use for a typical occupier and its impact on the environment. It is produced in a prescribed manner using approved software.

The EPC is a document which has a legal status and must be lodged on a central register in order to be valid. It has a validity of up to 10 years unless superseded, during which time it may be used for a number of permitted purposes. There are specific rules regarding the production and lodgement of EPCs which can only be carried out by qualified and accredited energy assessors.

Learners will undertake the process of assessing non-domestic buildings without complex building services (Level 3 buildings) in the prescribed manner in order to produce accurate, robust and fully compliant EPCs using approved SBEM software. The learner needs to demonstrate a solid knowledge of the procedures involved, understanding of the underpinning principles, appropriate surveying and record-keeping skills and the ability to communicate effectively with the customer and other parties to obtain and impart relevant information appropriately.

The learner needs to show that they can collect information using a range of methods, verify its accuracy and relevance, record and process it accurately and do so in a safe and professional manner in accordance with the prescribed methodology.

Learning outcomes and assessment criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

On completion of this unit a learner should:

Learning outcomes	Assessment criteria
<p>1 Understand the equipment and resources needed to undertake energy inspections</p>	<p>1.1 Explain the principles of building structure elements, fabric, services and overall design philosophy as relevant to energy assessment</p>
	<p>1.2 Identify equipment and resources needed to undertake the inspection</p>
	<p>1.3 Explain the detailed inspection requirements that apply to a property as described in relevant guidance documents and Conventions</p>
	<p>1.4 Explain the definitions and conventions embodied within the approved software used to calculate energy performance ratings</p>
	<p>1.5 Identify, from drawings and building structures, the various types of building construction, materials and services</p>
	<p>1.6 Explain how to conduct the inspection in a thorough, methodical and consistent manner</p>
	<p>1.7 Identify the range of measures to improve the energy performance of a property that may be included within an Energy Performance Certificate Recommendations Report</p>

Learning outcomes	Assessment criteria
<p>2 Understand the implications of building characteristics affecting the energy performance of a property</p>	<p>2.1 Identify assumptions that are made in determining energy performance</p>
	<p>2.2 State the factors that are relevant to determining the energy performance of a property and those that are deemed not to affect the energy performance of the property</p>
	<p>2.3 Identify and evaluate the relevance of building characteristics which affect the energy performance of a Level 3 building and make it distinct from Level 4</p>
	<p>2.4 Identify and classify variations in building use and activities, as defined in the Simplified Building Energy Model (SBEM) and its conventions, including the use of planning classifications</p>
	<p>2.5 Describe how much impact building characteristics have on the building's overall energy performance</p>
	<p>2.6 Identify critical property features and activities where incorrect choice of values will be significantly detrimental to accuracy, including:</p> <ul style="list-style-type: none"> • Allocation of the most appropriate activity to zones • Lighting • Choice of default HVAC in zones where none exists • Selection of HVAC efficiency and its allocation to the appropriate zone • Availability of daylight • Presence of Low and Zero Carbon Technologies

Learning outcomes	Assessment criteria
	<p>2.7 Identify the problems that can affect the energy performance of the building fabric and services</p> <p>2.8 Review the implications of hazardous building fabric for the energy assessment and reporting</p>
<p>3 Understand how to collate information from the on-site inspection and other sources to assess the energy performance of the property</p>	<p>3.1 Explain how to make accurate observations and take accurate measurements</p> <p>3.2 Explain how to make further investigations where observations are inconsistent with existing evidence and expected findings and how to identify the causes of these inconsistencies</p> <p>3.3 Explain how to collate information required to assess the energy performance of property</p>
<p>4 Understand how to prepare and issue an Energy Performance Certificate which includes recommendations for cost-effective improvements and meets relevant regulations</p>	<p>4.1 State the prescribed format and content of an Energy Performance Certificate</p> <p>4.2 State the range of energy efficiency measures that may be included within an Energy Performance Certificate</p> <p>4.3 Identify the approved software used for the production and lodgement of completed Energy Performance Certificates</p> <p>4.4 Explain how to correctly use the approved software for the production and lodgement of completed Energy Performance Certificates</p> <p>4.5 Explain the principles underpinning the approved tools used to calculate the energy performance ratings</p>

Learning outcomes	Assessment criteria
	4.6 Explain how to input data using the approved software in order to determine energy performance ratings
	4.7 Explain how to use approved software to generate energy efficiency measures for the property
	4.8 Explain the importance of checking that data has been inputted correctly prior to lodgement and how to review data if the calculation will not process or appears incorrect
	4.9 Explain the importance of checking the energy efficiency measures generated prior to lodgement, deleting any that are inappropriate and providing your reasons
	4.10 Explain the way in which energy efficiency measures are generated and circumstances when it is appropriate to delete them
	4.11 Explain the importance of checking the Energy Performance Certificate and energy efficiency measures for the property to ensure they comply with relevant requirements
	4.12 State how to use the information technology underpinning the national register for lodgement and retrieval of Energy Performance Certificates
	4.13 Explain how to provide necessary audit evidence via electronic transfer

Learning outcomes	Assessment criteria
<p>5 Understand how to make and maintain complete, accurate and legible records of your work</p>	<p>5.1 Explain the level of detail within your records required to produce a complete and comprehensive Energy Performance Certificate</p>
	<p>5.2 Explain the level of detail within your records required to justify your decisions on the values recorded and energy efficiency measures included</p>
	<p>5.3 State why it is important to make and maintain complete, accurate and legible records</p>
	<p>5.4 Explain the reasons why it is necessary and important to record where and why accurate inspection has not been possible</p>
	<p>5.5 Explain the circumstances in which records can include the fact that information is 'unknown' and the evidence required to support the use of defaults in these circumstances</p>
	<p>5.6 Explain the importance of storing records securely allowing for future access and the purposes for which those records may be used</p>

Learning outcomes		Assessment criteria
6	Be able to inspect a Level 3 non-dwelling	6.1 Ensure that equipment and resources needed are available for the inspection of Level 3 non-dwellings
		6.2 Identify yourself to those present at the property before commencing inspection
		6.3 Identify and record the method of construction of the property and the main materials used, the installed building services and the activities which take place in the building
		6.4 Use surveying equipment correctly and record and interpret data accurately
		6.5 Identify circumstances when at the property that prevent you continuing with the inspection and explain the reasons to the client(s)
		6.6 Undertake a methodical visual inspection of the property in accordance with the requirements of the approved software and current Conventions
		6.7 Draw a suitable sketch plan and elevations where none exist

Learning outcomes	Assessment criteria
<p>7 Be able to collate information from the on-site inspection and other sources to assess the energy performance of the property</p>	<p>7.1 Make accurate observations and measurements which are necessary to provide data for the calculation of an energy performance rating and production of energy efficiency measures for the property</p>
	<p>7.2 Obtain all additional information that is needed about the property and ensure that defaults are not used except where justified</p>
	<p>7.3 Identify where observations are inconsistent with existing evidence and expected findings and conduct further investigations to establish the causes of these inconsistencies</p>
	<p>7.4 Identify critical property features and activities where incorrect choice of values will be significantly detrimental to accuracy and take appropriate steps to correctly represent these features to arrive at an accurate assessment of the property</p>
	<p>7.5 Follow the correct procedures for collecting information to enable the energy efficiency of the property to be determined</p>

Learning outcomes	Assessment criteria
<p>8 Be able to prepare and issue an Energy Performance Certificate which includes recommendations for energy efficiency measures and meets relevant regulations</p>	<p>8.1 Describe the prescribed format and content of an Energy Performance Certificate</p>
	<p>8.2 Explain the way in which energy efficiency measures are generated and circumstances when it is appropriate to delete them</p>
	<p>8.3 Use approved software correctly to determine energy performance ratings and to generate energy efficiency measures for the property</p>
	<p>8.4 Check that data has been inputted correctly prior to lodgement and review data if calculations do not work or if the result appears incorrect</p>
	<p>8.5 Recognise a result that is unlikely to be correct for the property in question</p>
	<p>8.6 Check the Energy Performance Certificate and energy efficiency measures prior to lodgement, ensuring compliance with relevant requirements and make any necessary amendments</p>
	<p>8.7 Take the necessary corrective action where any of your checks indicate a possible incorrect data entry or error in the resulting rating or energy efficiency measures</p>
	<p>8.8 Use the information technology underpinning the national register for lodgement and retrieval of Energy Performance Certificates</p>
	<p>8.9 Lodge Energy Performance Certificates on the prescribed national databank on completion</p>

Learning outcomes	Assessment criteria
	8.10 Provide necessary audit evidence via electronic transfer

Learning outcomes	Assessment criteria
<p>9 Be able to make and maintain complete, accurate and legible records of your work</p>	<p>9.1 Produce and maintain accurate and legible records of your findings, which are clear, complete and conform to accepted professional and statutory requirements, including investigations carried out, values recorded and options considered</p>
	<p>9.2 Keep detailed records which ensure that you can produce a complete and comprehensive Energy Performance Certificate and justify your decisions on values recorded and energy efficiency measures selected</p>
	<p>9.3 Collate information as evidence to support the specific decisions made on values chosen and energy efficiency measures considered, including:</p> <ul style="list-style-type: none"> • Legible site notes • Clear site sketches (plan, elevation) to give an adequate record of the inspection for audit purposes • Clear photographs containing mandated data appropriately staged and annotated where necessary • Legibly completed survey forms records of web searches or other research • Any other information you consider necessary to support your decisions • Any other information required by Scheme Operating Requirements

Learning outcomes	Assessment criteria
	9.4 Explain the circumstances in which records can include the fact that information is 'unknown' and the evidence required to support the use of defaults in these circumstances
	9.5 Store records securely allowing for future access and state the purposes for which your records may be used

Unit content

1 Understand the equipment and resources needed to undertake energy inspections

Equipment and resources needed for energy inspections: principles of building structure elements; fabric; building services; design philosophy; energy efficiency; energy assessment; thermal envelope; occupied space; usable floor area; volume; thermal mass; fast response; slow response; heating; ventilation; air conditioning; cooling; controls; installation; airtightness; lighting; day lighting; solar gain; passive; active; delivery methods; emitters; equipment; resources; undertaking inspection; access equipment; measuring equipment; testing tools; photography; drawings; records; guidance; scheme operating requirements; conventions; best practice; level of detail; default values; assumptions; building regulation; construction age; net efficiency; gross efficiency; seasonal efficiency; control correction; assessment level; air permeability; whether location; planning use class; activity types; adjacency; frame factor; atria; die mentions; measurement accuracy; electric power factor; room heaters; storage losses; ventilation rates; fan power; display lighting; display windows; zone height; inspection methods; consistent approach; thorough; energy efficiency measures; scope of energy performance certificate recommendations.

2 Understand the implications of building characteristics affecting the energy performance of a property

Implications of building characteristics on energy performance: building characteristics; implications on energy performance; assumptions; activity types; typical occupancy hours; heating/cooling set points; air permeability; ventilation requirements; light level; display lighting; display glazing; thermal performance; construction date; efficiencies; control; factors determining energy performance; heating; ventilation; cooling; air conditioning; domestic water; thermal performance; building size; building shape; fabric elements; thermal bridging; factors not deemed to affect energy performance; occupier specific use; processes; elements which are not fixed; level 3 buildings; level 4 buildings; atria; night ventilation strategy; demand control ventilation; medium or high temperature hot water; steam distribution; air conditioning systems; centralised air supply; fan coil systems; induction systems; multi-zone systems; chilled ceiling; relative impact of building characteristics; critical features; impact of incorrect values; allocating activity; lighting types; default HVAC; bivalent systems; unconditioned spaces; indirectly conditioned spaces; zones with no fixed heating; HVAC efficiencies; availability of daylight; renewables; low and zero carbon technologies; problems affecting energy performance; maintenance; degradation; health and safety; hazardous fabric; asbestos; damage; holes; voids loose element.

3 Understand how to collate information from the on-site inspection and other sources to assess the energy performance of the property

Collating information: On-site inspection; other sources; accurate observation; measuring accuracy; conventions; code of measuring practice; zone height; area; volume; measurement points; merging zones; dividing zones; frame factor; shading and overhangs; orientation further investigations; inconsistent observations; conflicting evidence; main indicators; methodical; questioning; access limitations; expected findings; causes of inconsistencies; collate information; sketches; floor plan; photographs; documentary evidence; inspection records; site notes; reflections; indexing; record-keeping; date stamp.

4 Understand how to prepare and issue an Energy Performance Certificate which includes recommendations for cost-effective improvements and meets relevant regulations

Prepare and issue an energy performance certificate and recommendations report: Energy Performance Certificate (EPC); prescribed format; content; limitations; certificate reference number; asset rating; main heating fuel; building environment; useful floor area; building complexity; modular and portable buildings; building emission rate; benchmark; green deal information; assessment software; property reference number; assessor details; accreditation scheme; issue date; validity until; related party disclosure; associated recommendations report number; complaints process; confirming authenticity; range of measures; heating; cooling; ventilation; lighting; domestic hot water; glazing; insulation; draught proofing; controls; replacement plant; renewables; low and zero carbon technologies; alternative fuels; approved software; SBEM; DSM; third-party user interface software; production of EPCs; lodgement; Correct use of software; checking data entry; accuracy; verifying output; finalising; underpinning principles; calculation methodology; NCM; assumptions; activity types; typical occupancy hours; heating/cooling set points; air changes; ventilation requirements; light level; display lighting; display glazing; thermal performance; construction date; efficiencies; thermal performance; thermal mass; adjacency; space conditioning; process energy use; data input; measurement units; principle; accuracy; generating outputs; efficiency measures; recommendations report; payback period; potential impact; software generated; other recommendations; user-defined; suppression of recommendations; data checking; error messages; key indicators; finalising for lodgement; output checking; relevance of measures; suitability for property; evidence storage; evidence retrieval; providing audit evidence.

5 **Understand how to make and maintain complete, accurate and legible records of your work**

Make and maintain records of your work: Work records; complete; accurate; legible; level of detail; requirement; comprehensive; Energy Performance Certificate (EPC); floor plan; elevation; layout; site notes; observation; conversation; data collected; data source; evidence requirements; date; photographs; limitations; decisions; reflection; research; results; calculation; audit; measurement; measurement accuracy; zone height; adjacency; activities; planning use class; building age; services; equipment type; manufacturer; model; ID plate; length; area; volume; code of practice; scheme operating requirements; best practice; dimensions; sketch; annotate; colour code; reference key; importance of; reasons for; accurate and legible records; unable to inspect; access issues; health and safety; unknown; use of defaults; conventions; storing records; security; retrieval; reasons for future access.

6 **Be able to inspect a Level 3 non-dwelling**

Inspect a level 3 non-dwelling: Inspect; non-dwelling; non-domestic property; survey; inspect; site visit; equipment; resources needed; preparation; equipment check; maintenance of tools and equipment; safe use; best practice; identify yourself; responsible person; commence inspection; scope of inspection; extent of building or building part; level 3; level 4; level 5; identify; record; method of construction; construction age; main materials; building fabric; wall; floor; roof; ceiling; windows; frame factors; solar shading; doors; roof lights; external envelope; internal envelope; intermediate floors; insulation; light partition; heavy partition; thermal mass; installed building services; heating; natural ventilation; mechanical ventilation; cooling; air conditioning; lighting; domestic hot water; process use; zoning; controls; sensors; bivalent combination; activities; zone types; planning use classes; correct tools; correct use of tools; measurement accuracy; floor plan; elevation; layout; site notes; data collected; photographic evidence; complete; accurate; legible; interpret; justify; record; circumstances preventing inspection; limitations; communication with client; methodical visual inspection; comprehensive; non-invasive; risk assessment; health and safety; interaction with occupiers; code of practice; scheme operating requirements; data collection; software requirements; level of detail; suitability for audit.

7 **Be able to collate information from the on-site inspection and other sources to assess the energy performance of the property**

Collate information to assess the energy performance: Collate information; on-site inspection; other sources; accurate observation; measurement; obtain data required for calculation; energy performance rating; recommendation of measures; additional information; evidence sources; evidence documents; suitable information; avoiding default; justification of defaults; inconsistent evidence; expected findings; further investigation; unknown; planning records; building control documents; as built plan; logbook; maintenance records; inspection by others; cause of inconsistencies; critical property features; allocating activities; correct choice of values; impact of incorrect choice; factors detrimental to accuracy; mitigating steps; appropriate treatment of features; accurate assessment; recording; level of detail; completeness; code of practice; scheme operating requirements; suitability for audit.

8 Be able to prepare and issue an Energy Performance Certificate which includes recommendations for energy efficiency measures and meets relevant regulations

Prepare and issue an EPC and recommendations report: Energy Performance Certificate (EPC); prepare; issues; recommendations; energy efficiency measures; regulations; prescribed format; content of an EPC; certificate reference number; property address; explanatory text; energy performance asset rating; A to G chart; main heating fuel; building environment; useful floor area; complexity; building emission rate; benchmarks; green deal information; assessment software; property reference (UPRN); assessor details; validity date; related party disclosure; confirming authenticity; separate documents; recommendation report; building type; planning use class; administrative information; contents; background; introduction; recommendations; short payback; median payback; Long payback; other recommendations; next steps; implementing recommendations; legal disclaimer; complaints; glossary; generation of recommendations; how measures are identified; methodology; SBEM; limitations; circumstances for deleting recommendations; proper use of approved software; determining energy performance rating; generate recommended measures list; check data input; review data; check outputs; correct errors; recognise incorrect results; final check before lodgement; ensure compliance; make amendments; correct date errors; error messages; finalise certificate; lodgement; retrieval; non-domestic energy performance certificate register; providing audit evidence; prescribed format; electronic transfer.

9 Be able to make and maintain complete, accurate and legible records of your work

Make and maintain records of your work: Records of findings; produce; maintain; complete; accurate; legible; conform to professional and statutory requirements; level of detail; comprehensive; investigations carried out; values recorded; options considered; information collated; Energy Performance Certificate (EPC); floor plan; elevation; layout; site notes; observation; conversation; data collected; justify decisions; data source; evidence requirements; date; photographs; limitations; decisions; reflection; research; web searches; manufacturers data; manufacturers support desk; online resources; SEDBUK, ECA list; results; calculation; Energy efficiency measures selected; recommendations deleted; measurement; scheme operating requirements; best practice; dimensions; sketch; annotate; colour code; reference key; importance of; reasons for; accurate and legible records; unable to inspect; access issues; unknown; use of defaults; conventions; storing records; security; retrieval; reasons for future access; audit; complaint; insurance requirements.

Essential guidance for tutors

Delivery

It is recommended that centres use a wide range of delivery methods to achieve all the learning outcomes in the unit. These could include lectures, seminars, workshops, presentations, site visits, project work research using the Internet and/or library resources and the use of personal and/or industry experience.

Delivery should revolve around real-life situations and case studies. Centres are encouraged to organise talks from key parties and organisations.

Learners should be given the opportunity to apply and evaluate their practice in this field, in as many situations as possible, preferably through observed practical exercises. It is essential for the learner to be exposed to a range of buildings, building services, activity types, energy uses and occupiers representative of the scenarios they will encounter in the role this unit is intended to prepare them for.

Shadowing a non-domestic energy assessor, or a trainer, may be a particularly effective means of providing some of the guided learning however assessment of the learner must not be undertaken against a property in which they have shadowed.

Simulated scenarios may be appropriate provided they are realistic and still involve the learner undertaking an energy inspection within a real building to obtain the required data. Learning outcomes 6 and 7 will not be met if the learner is given simulated data instead of obtaining the data themselves in a real-life or simulated scenario.

Delivery of learning outcomes 1, 2, 3, 4, and 5 could be achieved through the use of set questions, exercises or workbooks or through tutor led discussion and professional interview.

Delivery of learning outcomes 8 and 9 could be achieved through a portfolio of evidence generated by undertaking actual inspections in simulated or real-life situations supported by observed assessment and professional interviews. It is essential that the learner be given the opportunity to use all the main functions of the approved software.

Assessment

This unit must be assessed in the workplace, or conditions resembling the workplace. The assessment requirements for the Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF) document must be followed; please see Annexe E

There is a requirement for the Learner to demonstrate that they are competent to actually carry out the essential tasks in a professional manner. The Learner must also demonstrate that they are able to utilise the skills and knowledge covered by the qualification in a live situation. It is not sufficient for the assessment to be based entirely on portfolio evidence, questions and exercises. Assessment needs to be based on real-life or carefully selected and well-developed simulated situations.

For learning outcomes 1, 2, 3, 4, and 5 learners will need to demonstrate through questioning, discussion and written or practical exercises, an understanding of the principles and processes involved. Through professional interview and short answer questions learners should demonstrate sound knowledge of the reasons behind the actions they take. Portfolio evidence may contribute to this provided the learner shows, through annotation and explanation, their understanding of the process in addition to the evidence showing they are able to undertake the process.

For learning outcomes 6, 7, 8 and 9 a portfolio of evidence should be presented by the learner based on at least three significantly different scenarios. The learner will need to present evidence of having followed the correct procedure, undertaken the assessment in an appropriate manner, obtained and recorded the relevant information, processed it correctly, produced relevant output documents and drawn suitable conclusions.

Additionally for learning outcomes 6 and 7 the learner must demonstrate within a live or realistic simulation environment the ability to carry out the site assessment in an appropriate manner, correctly recognising building features and collecting all necessary information.

Programme of suggested assignments

The table below shows a programme of suggested assignments that cover the learning outcomes for this unit. This is for guidance only and it is recommended that centres either write their own assignments or adapt Edexcel assignments to meet local needs and resources.

Criteria covered	Assignment title	Scenario	Assessment method
Learning outcomes 1, 2, 3, 4, and 5	Demonstrate understanding.	You are required to understand, identify, explain and describe all elements of the process for carrying out non-domestic energy inspections to produce an EPC and recommendation report.	A combination of methods selected from multiple-choice or short answer questions, workbooks, exercises, observed activities and professional interview.
Learning outcomes 6 and 7	Carry out the on-site inspection of a non-domestic property. Collect and collate all necessary information to assess the energy performance of the property.	You are required to undertake an energy inspection for a minimum of three non-domestic buildings, identify relevant factors and produce appropriate EPCs and Advice Reports.	A portfolio of evidence supported by an observed assessment and professional discussion.

Criteria covered	Assignment title	Scenario	Assessment method
Learning outcomes 8 and 9	Use the information collected to prepare and issue a non-domestic EPC and Advice Report.	You are required to record, process and store appropriate records of all relevant information related to non-domestic energy inspections to determine an asset rating and give advice.	A portfolio of evidence supported by professional discussion. <i>Assessment criteria 9.5</i> – A method statement for how records will be catalogued and stored including reference to the period they will be kept, means of retrieval and how security will be protected.

Evidence matrix for portfolio assignments

In order to adequately cover the full assessment criteria the energy assessments must include properties of various ages and with a mixture of key features. The table below shows the range of features expected to be covered by the portfolio evidence presented by the learner. Each property will probably meet several of the criteria but every criterion must be met by at least one and the portfolio must include inspections of at least three different properties.

	Built to pre 1995 building regulations	Built to 1995 building regulations onwards
Office and Workshop type business		
Retail type business		
Commercial catering kitchen		
Centralised (serving multiple zones) supply of heating and/or hot water		
Cooling		
Mechanical ventilation and/or extraction		
No gas supply		

Essential resources

Internet access

Approved SBEM software

Authorised user access to the non-domestic EPC register

Indicative resource materials

Documents

BSRIA — *The Illustrated Guide to Mechanical Building Services* (AG 15/2002)

BSRIA — *The Illustrated Guide to Electrical Building Services* (BG 5/2005)

Department of Communities and Local Government – *A guide to Energy Performance Certificates for the construction, sale and let of non-dwellings* (ISBN 9781409837237)

Department of Communities and Local Government – *A guide to air conditioning inspections for buildings* (ISBN 9781409837268)

Department of Communities and Local Government – *A User Guide to iSBEM* (Part of the National Calculation Methodology)

Department of Communities and Local Government – *A technical Manual for SBEM* (Part of the National Calculation Methodology)

Department of Communities and Local Government – *Non-domestic Building Services Compliance Guide* (Current version)

HM Government (Published by NBS, Part of RIBA Enterprises Ltd) – *The Building Regulations 2010 edition, Approved document L1B* (ISBN 978 1 85946 325 3)

HM Government (Published by NBS, Part of RIBA Enterprises Ltd) – *The Building Regulations 2010 edition, Approved document L2B* (ISBN 978 1 85946 327 7)

Royal Institution of Chartered Surveyors — *RICS Code of Measuring Practice*

UK Legislation — Energy Performance of Buildings (England and Wales) Regulations 2012

UK Legislation — Energy Act 2011

Journals

CIBSE Journal

Websites

www.gov.uk/government/organisations/department-for-communities-and-local-government

www.ndepcregister.com

Unit 8: Report on the energy assessment of new and existing non-dwellings using Simplified Building Energy Model SBEM

Unit code: L/503/8172

QCF Level: Level 4

Credit value: 7

Guided learning hours: 35

Unit aim

Report on the energy assessment of new and existing non dwellings using the simplified Building energy model SBEM

Unit introduction

Energy Performance Certificates (EPCs) are a requirement of The Energy Performance of Buildings Regulations and a duty under Building Regulations. An EPC is required for a building on construction, sale or rent. It is also a relevant document in relation to government initiatives including the Feed in Tariff, Renewable Heat Incentive and Green Deal.

An EPC is an asset rating for the property which indicates how energy efficient a building is, the likely energy use for a typical occupier and its impact on the environment. It is produced in a prescribed manner using approved software.

The EPC is a document which has a legal status and must be lodged on a central register in order to be valid. It has a validity of up to 10 years unless superseded, during which time it may be used for a number of permitted purposes. There are specific rules regarding the production and lodgement of EPCs which can only be carried out by qualified and accredited energy assessors.

Learners will undertake the process of assessing new and existing non-domestic buildings in the prescribed manner in order to produce accurate, robust and fully compliant EPCs using approved SBEM software. The learner needs to demonstrate a solid knowledge of the procedures involved, understanding of the underpinning principles, the ability to interpret building plans, appropriate surveying and record-keeping skills and the ability to communicate effectively with the customer and other parties to obtain and impart relevant information appropriately.

The learner needs to show that they can collect information using a range of methods, verify its accuracy and relevance, record and process it accurately and do so in a safe and professional manner in accordance with the prescribed methodology.

Learning outcomes and assessment criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

On completion of this unit a learner should:

Learning outcomes	Assessment criteria
<p>1 Understand how to produce Recommendations Reports for non-dwellings using SBEM</p>	<p>1.1 Describe the prescribed format and content of an Energy Performance Certificate Recommendations Report</p>
	<p>1.2 Identify the range of energy efficiency measures that may be included within an Energy Performance Certificate Recommendations Report</p>
	<p>1.3 State the approved software used to generate energy efficiency measures for the property</p>
	<p>1.4 Explain the principles underpinning the approved software used to calculate energy ratings and produce Recommendations Reports</p>
	<p>1.5 Explain how to correctly use the approved software to produce Energy Performance Certificates</p>
	<p>1.6 Explain the importance of checking that data has been inputted correctly and how to review data if the calculation will not process or if the result appears incorrect</p>
	<p>1.7 Explain the effect of choosing default data options on the energy efficiency measures offered by SBEM</p>
	<p>1.8 Explain how to check the Energy Performance Certificate Recommendations Report for cost-effective improvement, ensuring compliance with relevant requirements and conventions</p>

Learning outcomes	Assessment criteria
	<p>1.9 Identify the level of detail within your records required to produce a complete and comprehensive Recommendations Report and justify your decisions on the values recorded and energy efficiency measures selected</p>
	<p>1.10 Explain the importance of making and maintaining records that are complete, accurate and legible</p>
	<p>1.11 Explain the reasons why it is necessary and important to record where and why accurate inspection has not been possible</p>
	<p>1.12 Identify the circumstances in which records can include the fact that information is 'unknown' and the evidence required to support this choice</p>
	<p>1.13 Explain the importance of storing records securely allowing for future access and the purposes for which your records may be used</p>

Learning outcomes	Assessment criteria
<p>2 Understand how to provide a clearly defined and robust hierarchy of energy efficiency measures for non-dwellings</p>	<p>2.1 Explain how to use approved software to generate energy efficiency measures for the property</p>
	<p>2.2 Explain the way in which energy efficiency measures are generated and circumstances when it is appropriate to delete them</p>
	<p>2.3 Explain the importance of checking the energy efficiency measures generated, deleting any that are inappropriate, and providing your reasons</p>
	<p>2.4 Identify the factors that could affect the choice of energy efficiency measures for improvements to the property, including:</p> <ul style="list-style-type: none"> • Issues that make them unsuitable for the property • Interactions between building fabric and building services • Listed building status/conservation areas
	<p>2.5 Identify the issues that could make energy efficiency measures unsuitable for the property, including:</p> <ul style="list-style-type: none"> • Property situation e.g. subject to extreme weather • Property condition e.g. state of repair of external walls • Inadequate ventilation • Traditional construction • Any other features of the property, or its site/location, which might adversely affect the performance of the recommended improvement, or the building's performance after improvement

Learning outcomes	Assessment criteria
	2.6 Explain how to make appropriate deletions/amendments based on the practical and economic feasibility for the building under consideration
	2.7 Identify current typical costs of energy efficiency measures
	2.8 Explain how to estimate typical costs, for the particular building, of any proposed energy efficiency measures
	2.9 Explain how to assess the carbon impact and payback period of energy efficiency measures in order to provide an hierarchy of improvement measures
	2.10 Identify the data and information required to be lodged on the relevant central register
	2.11 Identify appropriate advice on the implementation of the energy efficiency measures that may be given to the client

Learning outcomes	Assessment criteria
<p>3 Understand how to communicate the value of a Recommendations Report and how it can be used</p>	<p>3.1 State the objective of producing Recommendations Reports</p>
	<p>3.2 Explain the difference between high, medium and low carbon impact energy efficiency measures and the scale of savings that each may achieve</p>
	<p>3.3 Identify which elements have greater impact on the energy performance of the building in question and why</p>
	<p>3.4 Explain how estimates of costs for energy efficiency measures have been arrived at and how robust they are</p>
	<p>3.5 Explain how to communicate and explain the energy efficiency measures to the client</p>
	<p>3.6 Explain the importance of retaining documentation for audit purposes or legal compliance</p>
	<p>3.7 Explain how to convey essential information in a written report in a way which will be comprehensible to the client</p>
	<p>3.8 Identify where to refer clients for further help and advice</p>

Learning outcomes	Assessment criteria
<p>4 Be able to produce Recommendations Reports for non-dwellings using SBEM</p>	<p>4.1 Use approved software to generate energy efficiency measures that improve energy performance</p>
	<p>4.2 Check the Recommendations Report, ensuring compliance with relevant requirements and current conventions</p>
	<p>4.3 Produce and maintain accurate and legible records which are clear, complete and conform to accepted professional and statutory requirements to include:</p> <ul style="list-style-type: none"> • Records investigations carried out • Values recorded • Options considered
	<p>4.4 Record information at a sufficient level of detail to produce a complete and comprehensive Energy Performance Certificate and justify your decisions on values recorded and energy efficiency measures selected</p>
	<p>4.5 Describe the circumstances in which records can include the fact that information is 'unknown' and the evidence required to support this choice</p>
	<p>4.6 Store records securely allowing for future access and explain the purposes for which the records may be used</p>

Learning outcomes	Assessment criteria
<p>5 Be able to provide a clearly defined and robust hierarchy of energy efficiency measures for non-dwellings</p>	<p>5.1 Use the approved software to generate energy efficiency measures to improve energy performance</p>
	<p>5.2 Explain the effect of choosing default data options on the energy efficiency measures offered by SBEM</p>
	<p>5.3 Check the energy efficiency measures generated and make appropriate deletions, additions and amendments based on the practical and economic feasibility for the building under consideration, providing and documenting your reasons</p>
	<p>5.4 Identify the factors that could affect the choice of energy efficiency measures for improvements to the property, including issues that make them unsuitable for the property, interactions between building fabric and building services and listed building status/conservation areas</p>
	<p>5.5 Identify the relative costs of any energy efficiency measures which may be proposed</p>
	<p>5.6 Provide a hierarchy of improvement measures based on carbon impact and payback period</p>
	<p>5.7 Identify the data and information required to be lodged on the relevant central register and show understanding of the lodging procedures</p>
	<p>5.8 Produce a valid Recommendations Report, in accordance with approved guidance</p>

Learning outcomes	Assessment criteria
	5.9 Provide initial advice on the implementation of the recommendations made

Learning outcomes	Assessment criteria
<p>6 Be able to communicate the value of a Recommendations Report and how it can be used</p>	<p>6.1 Explain to clients the objective of producing Recommendations Reports</p>
	<p>6.2 Explain to clients the difference between high, medium and low carbon impact measures, giving examples of the scale of savings which may be achieved by each</p>
	<p>6.3 Explain to clients which recommendations have greater impact on the energy performance of the building in question and why</p>
	<p>6.4 Explain to clients how estimates of costs for energy efficiency measures have been arrived at and how robust they are</p>
	<p>6.5 Explain energy efficiency measures to the client</p>
	<p>6.6 Understand the importance of retaining documentation for audit purposes or legal compliance</p>
	<p>6.7 Highlight the essential information contained in the Recommendations Report in a way which will be comprehensible to the client</p>

Unit content

1 Understand how to produce Recommendations Reports for non-dwellings using SBEM

Produce a Recommendations Report: Energy Performance Certificate (EPC); Recommendations Report; prescribed format; content; limitations; certificate reference number; building type; planning use class; administrative information; total useful floor area; calculation tool; property reference number; assessor details; related party disclosure; table of contents; background; building environment; introduction; recommendations; short payback; medium payback; long payback; other recommendations; potential impact; next steps; legal disclaimer; complaints; glossary; green deal information; range of measures; heating; cooling; ventilation; lighting; domestic hot water; glazing; installation; draught proofing; controls; replacement plant; renewables; low and zero carbon technologies; alternative fuels; Project database; geometry; building services; approved software; Simplified Building Energy Model (SBEM), National Calculation Methodology (NCM); interface software; underpinning principles; assumptions; activity types; typical occupancy hours; heating/cooling set points; air changes; ventilation requirements; light level; display lighting; display glazing; thermal performance; construction date; efficiencies; thermal performance; thermal mass; adjacency; space conditioning; process energy use; data input; measurement units; principle; accuracy; generating outputs; data checking; error messages; key indicators; finalising for lodgement; output checking; relevance of measures; suitability for property; effect of using defaults; conventions; code of practice; scheme operating requirements; output versus expectations; level of detail; completeness; accuracy; legibility; suitability for audit; recording barriers to inspection; use of unknown; evidence requirements; record storage; security; retrieval; reasons for future access.

2 Understand how to provide a clearly defined and robust hierarchy of energy efficiency measures for non-dwellings

Provide a hierarchy of energy efficiency measures: Recommendations Report; energy efficiency measures; hierarchy of measures; approved software; convention; code of practice; data entry; accurate values; avoiding defaults; comprehensive evaluation; database of possible recommendations; standard paybacks; assigned to an end use; whole-building information; calculation of impact; heating; cooling; lighting; hot water; auxiliary energy; presence in building; attributable carbon emissions; percentage of energy; percentage of carbon emissions attributable; comparison with notional and typical; recommendations triggered by threshold values; double-checking; generated measures; suitability for property; deleting inappropriate; providing reason; audit trail; factors affecting choice of measures; issues causing unsuitability; practical limitations; restrictions on use; interaction between building fabric and building services; listed status; heritage; conservation areas; planning restrictions; property situation; location; exposure; state of repair; inadequate ventilation; traditional construction; non-standard construction; access; deletions/amendments; practical and economic feasibility; typical costs; estimating costs; assessing carbon impact; relative impact; data required; address; unique property reference number (UPRN), report reference number (RRN); Energy Performance Certificate (EPC); Display Energy Certificate (DEC); air conditioning assessment; cooling capacity; advice on implementation; building regulations compliance.

3 Understand how to communicate the value of a Recommendations Report and how it can be used

Communicating the value of a Recommendations Report: Recommendations report; communicating; objective of producing Recommendations Reports; value to clients; impact on property value; impact on occupants; energy bills; corporate and social responsibility; government policy; regulations; carbon emissions reduction; energy security; high medium and low carbon impact; scale of saving; energy efficiency measures; package of measures; hierarchy of impact; estimating costs; robustness of cost estimates; circumstances affecting cost; market forces; funding options; packaging measures; explaining measures to clients; terminology; features and benefits; client motivation; needs and aspirations; record-keeping; retaining documentation; audit purposes; legal compliance; further assessment; operational profile assessment; green deal; conveying essential information; written report; clear and legible; comprehensible; appropriate; professional; refer to further help and advice; information sources; next steps; Energy Saving Advice Service; web based resources.

4 **Be able to produce Recommendations Reports for non-dwellings using SBEM**

Produce recommendations reports: Produce Recommendations Reports; approved software; collate and process information; data entry; double-check; verify; consider outputs; generate recommendations; check recommendations against expectations; suitability for building; practical; cost-effective; beneficial; compliance; best practice; conventions; code of practice; guidance; NCM calculation methodology; SBEM; hierarchy of measures; building regulation; health and safety; occupier comfort; record-keeping; accurate and legible; clarity; completeness; professional standards; statutory requirements; investigations carried out; observation; limitations; values recorded; reasons for values; written evidence; photographs; professional reflection; options considered; options selected; justification of decisions; recording as unknown; use of defaults; impact on rating; impact on recommendations; supporting evidence; record security; methods of retrieval; purposes of record storage; reasons for retrieval; insurance obligation; audit requirements.

5 **Be able to provide a clearly defined and robust hierarchy of energy efficiency measures for non-dwellings**

Provide a hierarchy of energy efficiency measures: Recommendations; energy efficiency measures; robust hierarchy; approved software; collate and process information; data entry; double-check; verify; consider outputs; generate recommendations; check recommendations against expectations; suitability for building; practical; cost-effective; beneficial; compliance; best practice; conventions; code of practice; guidance; NCM calculation methodology; SBEM; effect of default data options; assumptions within the methodology; default values; checking recommendations for measures generated; deleting appropriately; amending recommendations; adding recommendations; practicality; economic feasibility; impact on building; limitations; documenting reason; factors affecting the choice of measures; issues causing unsuitability; location; orientation; weather region; interactions between fabric and building services; listed status; heritage buildings; traditional construction; conservation areas; planning consent; relative costs; carbon impact; payback period; required data; information to be lodged on the central register; understanding the lodgement procedure; unique property reference number (UPRN); report reference number (RRN), security certificates; authorised users; structure of addresses; base address; building parts; site building; air conditioning inspection; display energy certificate; approved guidance; advice on implementation; validity of measures; practicality; further advice; specialist surveys; next steps

6 Be able to communicate the value of a Recommendations Report and how it can be used

Communicating the value of a Recommendations Report: Recommendations report; communicating; objective of producing Recommendations Reports; value to clients; examples of scale of saving; cost benefit; relative benefit of alternative measures; reasons for scale of benefit; impact on property value; impact on occupants; energy bills; corporate and social responsibility; government policy; regulations; carbon emissions reduction; energy security; high medium and low carbon impact; scale of saving; energy efficiency measures; package of measures; hierarchy of impact; estimating costs; robustness of cost estimates; circumstances affecting cost; market forces; funding options; packaging measures; explaining measures to clients; terminology; features and benefits; client motivation; needs and aspirations; record-keeping; retaining documentation; audit purposes; legal compliance; further assessment; operational profile assessment; green deal; conveying essential information; written report; clear and legible; comprehensible; appropriate; professional; explain energy efficiency measures; description of measures; installation of measures; time and disruption; impact of installation process; refer to further help and advice; information sources; next steps; Energy Saving Advice Service; web based resources; highlighting essential information; maximising comprehensibility to the client.

Essential guidance for tutors

Delivery

It is recommended that centres use a wide range of delivery methods to achieve all the learning outcomes in the unit. These could include lectures, seminars, workshops, presentations, site visits, project work research using the Internet and/or library resources and the use of personal and/or industry experience.

Delivery should revolve around real-life situations and case studies. Centres are encouraged to organise talks from key parties and organisations.

Learners should be given the opportunity to apply and evaluate their practice in this field, in as many situations as possible, preferably through observed practical exercises. It is essential for the learner to be exposed to a range of buildings, building services, activity types, energy uses and occupiers representative of the scenarios they will encounter in the role this unit is intended to prepare them for.

Shadowing a non-domestic energy assessor, or a trainer, may be a particularly effective means of providing some of the guided learning however assessment of the learner must not be undertaken against a property in which they have shadowed.

Simulated scenarios may be appropriate provided they are realistic and still involve the learner assessing a real building.

Delivery of learning outcomes 1, 2, 3 and 6 could be achieved through the use of set questions, exercises or workbooks and through tutor led discussion and professional interview.

Delivery of learning outcomes 4 and 5 could be achieved through a portfolio of evidence generated in simulated or real-life situations supported by exercises, workbooks or tutor led discussion and professional interview to cover features and circumstances not arising in the portfolio evidence. It is essential that the learner be given the opportunity to use all the main functions of the approved SBEM software.

Assessment

This unit must be assessed in the workplace, or conditions resembling the workplace. The assessment requirements for the Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF) document must be followed; please see Annex E

There is a requirement for the Learner to demonstrate that they are competent to actually carry out the essential tasks in a professional manner. The Learner must also demonstrate that they are able to utilise the skills and knowledge covered by the qualification in a live situation. It is not sufficient for the assessment to be based entirely on portfolio evidence, questions and exercises. Assessment needs to be based on real-life or carefully selected and well-developed simulated situations.

For learning outcomes 1, 2, 3 and 6 learners will need to demonstrate through questioning, discussion and written or practical exercises, an understanding of the principles and processes involved. Through professional interview and short answer questions learners should demonstrate sound knowledge of the reasons behind the actions they take. Portfolio evidence may contribute to this provided the learner shows, through annotation and explanation, their understanding of the process in addition to the evidence showing they are able to undertake the process.

For learning outcomes 4 and 5 a portfolio of evidence should be presented by the learner based on at least three significantly different scenarios. The learner will need to present evidence of having followed the correct procedure, correctly process the information, produced relevant output documents and drawn suitable conclusions.

There are no specific requirements for this unit in terms of the range of different scenarios to be covered in the assessment except that they should cover a broad range of construction types, occupancy types and building services. However, since this unit is part of a wider qualification it is suggested that the scenarios be matched to the requirements of the corresponding 'Undertake energy assessments of existing Level 3 or Level 4 Non Dwellings...' unit.

Essential resources

Internet access

Approved SBEM software

Authorised user access to the non-domestic EPC register

Indicative resource materials

Documents

Department of Communities and Local Government – *A guide to Energy Performance Certificates for the construction, sale and let of non-dwellings* (ISBN 9781409837237)

Department of Communities and Local Government – *A guide to air conditioning inspections for buildings* (ISBN 9781409837268)

Department of Communities and Local Government – *A User Guide to iSBEM* (Part of the National Calculation Methodology)

Department of Communities and Local Government – *A technical Manual for SBEM* (Part of the National Calculation Methodology)

Department of Communities and Local Government – *Non-domestic Building Services Compliance Guide* (Current version)

HM Government (Published by NBS, Part of RIBA Enterprises Ltd) – *The Building Regulations 2010 edition, Approved document L1B* (ISBN 978 1 85946 325 3)

HM Government (Published by NBS, Part of RIBA Enterprises Ltd) – *The Building Regulations 2010 edition, Approved document L2B* (ISBN 978 1 85946 327 7)

UK Legislation – *Energy Performance of Buildings (England and Wales) Regulations 2012*

Journals

CIBSE Journal

Websites

www.gov.uk/government/organisations/department-for-communities-and-local-government

www.ndepcregister.com

Unit 9: Undertake energy assessments of existing Level 4 non-dwellings using the Simplified Building Energy Model SBEM

Unit code: F/503/8170

QCF Level: Level 4

Credit value: 13

Guided learning hours: 50

Unit aim

Undertake Energy Assessment of Existing Level 4 Non-Dwellings using the simplified building energy model SBEM

Unit introduction

Energy Performance Certificates (EPCs) are a requirement of the The Energy Performance of Buildings Regulations and a duty under Building Regulations. An EPC is required for a building on construction, sale or rent. It is also a relevant document in relation to government initiatives including the Feed in Tariff, Renewable Heat Incentive and Green Deal.

An EPC is an asset rating for the property which indicates how energy efficient a building is, the likely energy use for a typical occupier and its impact on the environment. It is produced in a prescribed manner using approved software.

The EPC is a document which has a legal status and must be lodged on a central register in order to be valid. It has a validity of up to 10 years unless superseded, during which time it may be used for a number of permitted purposes. There are specific rules regarding the production and lodgement of EPCs which can only be carried out by qualified and accredited energy assessors.

Learners will undertake the process of assessing non-domestic buildings with complex heating, ventilation and air conditioning services (Level 4 buildings) in the prescribed manner in order to produce accurate, robust and fully compliant EPCs using approved SBEM software. The learner needs to demonstrate a solid knowledge of the procedures involved, understanding of the underpinning principles, appropriate surveying and record-keeping skills and the ability to communicate effectively with the customer and other parties to obtain and impart relevant information appropriately.

The learner needs to show that they can collect information using a range of methods, verify its accuracy and relevance, record and process it accurately and do so in a safe and professional manner in accordance with the prescribed methodology.

Learning outcomes and assessment criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

On completion of this unit a learner should:

Learning outcomes	Assessment criteria
<p>1 Understand the equipment and resources needed to undertake energy inspections</p>	<p>1.1 Explain the principles of building structure elements, fabric, services and overall design philosophy as relevant to energy assessment</p>
	<p>1.2 Identify equipment and resources needed to undertake the inspection</p>
	<p>1.3 Explain the detailed inspection requirements that apply to a property as described in relevant guidance documents and Conventions</p>
	<p>1.4 Explain the definitions and conventions embodied within the approved software used to calculate energy performance ratings</p>
	<p>1.5 Identify, from drawings and building structures, the various types of building construction, materials and services</p>
	<p>1.6 Explain how to conduct the inspection in a thorough, methodical and consistent manner</p>
	<p>1.7 Identify the range of measures to improve the energy performance of a property that may be included within an Energy Performance Certificate Recommendations Report</p>

Learning outcomes	Assessment criteria
<p>2 Understand the implications of building characteristics affecting the energy performance of a property</p>	<p>2.1 Identify assumptions that are made in determining energy performance</p>
	<p>2.2 State the factors that are relevant to determining the energy performance of a property and those that are deemed not to affect the energy performance of the property</p>
	<p>2.3 Identify and evaluate the relevance of building characteristics which affect the energy performance of a Level 4 building and make it distinct from Level 3 or Level 5</p>
	<p>2.4 Identify and classify variations in building use and activities, as defined in the Simplified Building Energy Model (SBEM) and its conventions, including the use of planning classifications</p>
	<p>2.5 Describe the relative sensitivity of the different building characteristics that affect the energy performance of the building structure and fabric</p>
	<p>2.6 Identify critical property features and activities where incorrect choice of values will be significantly detrimental to accuracy, including:</p> <ul style="list-style-type: none"> • Allocation of the most appropriate activity to zones • Lighting • Choice of default HVAC in zones where none exists • Selection of HVAC efficiency and its allocation to the appropriate zone • Availability of daylight and presence of Low and Zero Carbon Technologies

Learning outcomes	Assessment criteria
	2.7 Identify the problems that can affect the energy performance of the building fabric and services
	2.8 Review the implications of hazardous building fabric for the energy assessment and reporting

Learning outcomes	Assessment criteria
<p>3 Understand how to collate information from the on-site inspection and other sources to assess the energy performance of the property</p>	<p>3.1 Explain how to make accurate observations and take accurate measurements</p>
	<p>3.2 Explain how to make further investigations where observations are inconsistent with existing evidence and expected findings and how to identify the causes of these inconsistencies</p>
	<p>3.3 Explain how to collate information required to assess the energy performance of property</p>

Learning outcomes	Assessment criteria
<p>4 Understand how to prepare and issue an Energy Performance Certificate which includes recommendations for cost-effective improvements and meets relevant regulations</p>	<p>4.1 State the prescribed format and content of an Energy Performance Certificate</p>
	<p>4.2 State the range of energy efficiency measures that may be included within an Energy Performance Certificate</p>
	<p>4.3 Identify the approved software used for the production and lodgement of completed Energy Performance Certificates</p>
	<p>4.4 Explain how to correctly use the approved software for the production and lodgement of completed Energy Performance Certificates</p>
	<p>4.5 Explain the principles underpinning the approved tools used to calculate the energy performance ratings</p>
	<p>4.6 Explain how to input data using the approved software in order to determine energy performance ratings</p>
	<p>4.7 Explain how to use approved software to generate energy efficiency measures for the property</p>
	<p>4.8 Explain the importance of checking that data has been inputted correctly prior to lodgement and how to review data if the calculation will not process or appears incorrect</p>
	<p>4.9 Explain the importance of checking the energy efficiency measures generated prior to lodgement, deleting any that are inappropriate, and providing your reasons</p>

Learning outcomes	Assessment criteria
	4.10 Explain the way in which energy efficiency measures are generated and circumstances when it is appropriate to delete them
	4.11 Explain the importance of checking the Energy Performance Certificate and energy efficiency measures for the property to ensure they comply with relevant requirements
	4.12 Explain how to use the information technology underpinning the national register for lodgement and retrieval of Energy Performance Certificates
	4.13 Explain how to provide necessary audit evidence via electronic transfer

Learning outcomes	Assessment criteria
<p>5 Understand how to make and maintain complete, accurate and legible records of your work</p>	<p>5.1 Explain the level of detail within your records required to produce a complete and comprehensive Energy Performance Certificate</p>
	<p>5.2 Explain the level of detail within your records required to justify your decisions on the values recorded and energy efficiency measures included</p>
	<p>5.3 State why it is important to make and maintain complete, accurate and legible records</p>
	<p>5.4 Explain the reasons why it is necessary and important to record where and why accurate inspection has not been possible</p>
	<p>5.5 Explain the circumstances in which records can include the fact that information is 'unknown' and the evidence required to support the use of defaults in these circumstances</p>
	<p>5.6 Explain the importance of storing records securely allowing for future access and the purposes for which those records may be used</p>

Learning outcomes		Assessment criteria
6	Be able to inspect a Level 4 non-dwelling	6.1 Ensure that equipment and resources needed are available for the inspection of Level 4 non-dwellings
		6.2 Identify yourself to those present at the property before commencing inspection
		6.3 Identify and record the method of construction of the property and the main materials used, the installed building services and the activities which take place in the building
		6.4 Use surveying equipment correctly and record and interpret data accurately
		6.5 Identify circumstances when at the property which prevent you continuing with the property inspection and explain the reasons to the client(s)
		6.6 Undertake a methodical visual inspection of the property in accordance with the requirements of the approved software and current Conventions
		6.7 Draw a suitable sketch plan and elevations where none exist
		6.8 Confirm by on-site inspection that the building fabric and installed building services are consistent with the drawings and specifications, where provided

Learning outcomes	Assessment criteria
<p>7 Be able to collate information from the on-site inspection and other sources to assess the energy performance of the property</p>	<p>7.1 Make accurate observations and measurements which are necessary to provide data for the calculation of an energy performance rating and production of energy efficiency measures for the property</p>
	<p>7.2 Obtain all additional information that is needed about the property and ensure that defaults are not used except where justified</p>
	<p>7.3 Identify where observations are inconsistent with existing evidence and expected findings and conduct further investigations to establish the causes of these inconsistencies</p>
	<p>7.4 Identify critical property features and activities where incorrect choice of values will be significantly detrimental to accuracy and take appropriate steps to correctly represent these features to arrive at an accurate assessment of the property</p>
	<p>7.5 Follow the correct procedures for collecting information to enable the energy efficiency of the property to be determined</p>

Learning outcomes	Assessment criteria
<p>8 Be able to prepare and issue an Energy Performance Certificate which includes recommendations for energy efficiency measures and meets relevant regulations</p>	8.1 Describe the prescribed format and content of an Energy Performance Certificate
	8.2 Explain the way in which energy efficiency measures are generated and circumstances when it is appropriate to delete them
	8.3 Use approved software correctly to determine energy performance ratings and to generate energy efficiency measures for the property
	8.4 Check that data has been inputted correctly prior to lodgement and review data if calculations do not work or if the result appears incorrect
	8.5 Recognise a result that is unlikely to be correct for the property in question
	8.6 Check the Energy Performance Certificate and energy efficiency measures prior to lodgement, ensuring compliance with relevant requirements, and make any necessary amendments
	8.7 Take the necessary corrective action where any of your checks indicate a possible misattribution of data or error in the resulting rating or energy efficiency measures
	8.8 Use the information technology underpinning the national register for lodgement and retrieval of Energy Performance Certificates
	8.9 Lodge Energy Performance Certificates on the prescribed national databank on completion

Learning outcomes	Assessment criteria
	8.10 Provide necessary audit evidence via electronic transfer

Learning outcomes	Assessment criteria
<p>9 Be able to make and maintain complete, accurate and legible records of your work</p>	<p>9.1 Produce and maintain accurate and legible records of your findings, which are clear, complete and conform to accepted professional and statutory requirements, including investigations carried out, values recorded and options considered</p>
	<p>9.2 Keep detailed records which ensure that you can produce a complete and comprehensive Energy Performance Certificate and justify your decisions on values recorded and energy efficiency measures selected</p>
	<p>9.3 Collate relevant information as evidence to support the specific decisions made on values chosen and energy efficiency measures considered, including:</p> <ul style="list-style-type: none"> • Legible site notes • Clear site sketches (plan, elevation) to give an adequate record of the inspection for audit purposes • Clear photographs containing mandated data (e.g. time and date) appropriately staged and annotated where necessary • Legibly completed survey forms • Records of web searches or other research • Any other information you consider necessary to support your decisions • Any other information required by Scheme Operating Requirements

Learning outcomes	Assessment criteria
	9.4 Explain the circumstances in which records can include the fact that information is 'unknown' and the evidence required to support the use of defaults in these circumstances
	9.5 Store records securely allowing for future access and state the purposes for which your records may be used

Unit content

1 Understand the equipment and resources needed to undertake energy inspections

Equipment and resources needed for energy inspections: principles of building structure elements; fabric; building services; design philosophy; energy efficiency; energy assessment; thermal envelope; occupied space; usable floor area; volume; thermal mass; fast response; slow response; heating; ventilation; air conditioning; cooling; controls; installation; airtightness; lighting; day lighting; solar gain; passive; active; delivery methods; emitters; equipment; resources; undertaking inspection; access equipment; measuring equipment; testing tools; photography; drawings; records; guidance; scheme operating requirements; conventions; best practice; level of detail; default values; assumptions; building regulation; construction age; net efficiency; gross efficiency; seasonal efficiency; control correction; assessment level; air permeability; whether location; planning use class; activity types; adjacency; frame factor; atria; die mentions; measurement accuracy; electric power factor; room heaters; storage losses; ventilation rates; fan power; display lighting; display windows; zone height; inspection methods; consistent approach; thorough; energy efficiency measures; scope of energy performance certificate recommendations.

2 Understand the implications of building characteristics affecting the energy performance of a property

Implications of building characteristics on energy performance: building characteristics; implications on energy performance; assumptions; activity types; typical occupancy hours; heating/cooling set points; air permeability; ventilation requirements; light level; display lighting; display glazing; thermal performance; construction date; efficiencies; control; factors determining energy performance; heating; ventilation; cooling; air conditioning; domestic water; thermal performance; limiting fabric parameters; building size; building shape; fabric elements; thermal bridging; factors not deemed to affect energy performance; occupier specific use; processes; elements which are not fixed; level 3 buildings; level 4 buildings; atria; night ventilation strategy; demand control ventilation; medium or high temperature hot water; steam distribution; air conditioning systems; centralised air supply; fan coil systems; induction systems; multi-zone systems; chilled ceiling; relative impact of building characteristics; critical features; impact of incorrect values; allocating activity; lighting types; default HVAC; bivalent systems; unconditioned spaces; indirectly conditioned spaces; zones with no fixed heating; HVAC efficiencies; availability of daylight; renewables; low and zero carbon technologies; problems affecting energy performance; maintenance; degradation; health and safety; hazardous fabric; asbestos; damage; holes; voids loose element.

3 Understand how to collate information from the on-site inspection and other sources to assess the energy performance of the property

Collating information: On-site inspection; other sources; accurate observation; measuring accuracy; conventions; code of measuring practice; zone height; area; volume; measurement points; merging zones; dividing zones; frame factor; shading and overhangs; orientation further investigations; inconsistent observations; conflicting evidence; main indicators; methodical; questioning; access limitations; expected findings; causes of inconsistencies; collate information; sketches; floor plan; photographs; documentary evidence; air pressure test certificate; inspection records; site notes; reflections; indexing; record-keeping; date stamp.

4 Understand how to prepare and issue an Energy Performance Certificate which includes recommendations for cost-effective improvements and meets relevant regulations

Prepare and issue an energy performance certificate and recommendations report: Energy Performance Certificate (EPC); prescribed format; content; limitations; certificate reference number; asset rating; main heating fuel; building environment; useful floor area; building complexity; modular and portable building; building emission rate; benchmark; green deal information; assessment software; property reference number; assessor details; accreditation scheme; issue date; validity until; related party disclosure; associated recommendations report number; complaints process; confirming authenticity; range of measures; heating; cooling; ventilation; lighting; domestic hot water; glazing; installation; draught proofing; controls; replacement plant; renewables; low and zero carbon technologies; alternative fuels; approved software; SBEM; DSM; third-party user interface software; production of EPCs; lodgement; Correct use of software; checking data entry; accuracy; verifying output; finalising; underpinning principles; calculation methodology; NCM; assumptions; activity types; typical occupancy hours; heating/cooling set points; air changes; ventilation requirements; light level; display lighting; display glazing; thermal performance; construction date; efficiencies; thermal performance; thermal mass; adjacency; space conditioning; process energy use; data input; measurement units; principle; accuracy; generating outputs; efficiency measures; recommendations report; payback period; potential impact; software generated; other recommendations; user-defined; suppression of recommendations; data checking; error messages; key indicators; finalising for lodgement; output checking; relevance of measures; suitability for property; evidence storage; evidence retrieval; providing audit evidence.

5 **Understand how to make and maintain complete, accurate and legible records of your work**

Make and maintain records of your work: Work records; complete; accurate; legible; level of detail; requirement; comprehensive; Energy Performance Certificate (EPC); floor plan; elevation; layout; site notes; observation; conversation; data collected; data source; evidence requirements; date; photographs; limitations; decisions; reflection; research; results; calculation; audit; measurement; measurement accuracy; zone height; adjacency; activities; planning use class; building age; services; equipment type; manufacturer; model; ID plate; length; area; volume; code of practice; scheme operating requirements; best practice; dimensions; sketch; annotate; colour code; reference key; importance of; reasons for; accurate and legible records; unable to inspect; access issues; health and safety; unknown; use of defaults; conventions; storing records; security; retrieval; reasons for future access.

6 **Be able to inspect a Level 4 non-dwelling**

Inspect a level 4 non-dwelling: Inspect; non-dwelling; non-domestic property; survey; inspect; site visit; equipment; resources needed; preparation; equipment check; maintenance of tools and equipment; safe use; best practice; identify yourself; responsible person; commence inspection; scope of inspection; extent of building or building part; level 3; level 4; level 5; identify; record; method of construction; construction age; main materials; building fabric; wall; floor; roof; ceiling; windows; frame factors; solar shading; doors; roof lights; external envelope; internal envelope; intermediate floors; insulation; light partition; heavy partition; thermal mass; installed building services; heating; natural ventilation; mechanical ventilation; cooling; air conditioning; lighting; domestic hot water; process use; night ventilation strategy; demand control ventilation; medium temperature hot water; high temperature hot water; steam distribution; variable air volume; fan coil systems; induction systems; constant volume systems; multi-zone hot deck/cold deck systems; terminal reheat; chilled ceilings; chilled beams; displacement ventilation; Waterloo heat pump systems; air conditioning systems incorporating centralised air supply; building regulations; zoning; controls; enhanced management and control systems; building management systems (BMS); automatic monitoring and targeting; out of range alarms; digitally addressable lighting systems; sensors; bivalent combination; activities; zone types; planning use classes; correct tools; correct use of tools; measurement accuracy; floor plan; elevation; layout; site notes; data collected; photographic evidence; complete; accurate; legible; interpret; justify; record; circumstances preventing inspection; limitations; communication with client; methodical visual inspection; comprehensive; non-invasive; risk assessment; health and safety; interaction with occupiers; code of practice; scheme operating requirements; data collection; software requirements; level of detail; suitability for audit; verify consistency with drawings; checking specifications against documentation; 'as built' consistency with 'as designed'.

7 Be able to collate information from the on-site inspection and other sources to assess the energy performance of the property

Collate information to assess the energy performance: Collate information; on-site inspection; other sources; accurate observation; measurement; obtain data required for calculation; shell and core buildings; energy performance rating; recommendation of measures; additional information; evidence sources; evidence documents; suitable information; avoiding default; justification of defaults; inconsistent evidence; expected findings; further investigation; unknown; planning records; building control documents; as built plan; logbook; maintenance records; inspection by others; cause of inconsistencies; critical property features; allocating activities; correct choice of values; impact of incorrect choice; factors detrimental to accuracy; mitigating steps; appropriate treatment of features; accurate assessment; recording; level of detail; completeness; code of practice; scheme operating requirements; suitability for audit.

8 Be able to prepare and issue an Energy Performance Certificate which includes recommendations for energy efficiency measures and meets relevant regulations

Prepare and issue an EPC and recommendations report: Energy Performance Certificate (EPC); prepare; issues; recommendations; energy efficiency measures; regulations; prescribed format; content of an EPC; certificate reference number; property address; explanatory text; energy performance asset rating; A to G chart; main heating fuel; building environment; useful floor area; complexity; building emission rate; benchmarks; green deal information; assessment software; property reference (UPRN); assessor details; validity date; related party disclosure; confirming authenticity; separate documents; recommendation report; building type; planning use class; administrative information; contents; background; introduction; recommendations; short payback; median payback; Long payback; other recommendations; next steps; implementing recommendations; legal disclaimer; complaints; glossary; generation of recommendations; how measures are identified; methodology; SBEM; limitations; circumstances for deleting recommendations; proper use of approved software; determining energy performance rating; generate recommended measures list; check data input; review data; check outputs; correct errors; recognise incorrect results; comparison to design calculations; BRUKL; shell and core buildings; compliance levels of performance; building emissions rate; target emission rate; limiting fabric parameters; design limits for building services; system efficiency minimum values; Non-Domestic Building Services Compliance Guide; final check before lodgement; ensure compliance; make amendments; correct date errors; error messages; finalise certificate; lodgement; retrieval; nondomestic energy performance certificate register; providing audit evidence; prescribed format; electronic transfer.

9 Be able to make and maintain complete, accurate and legible records of your work

Make and maintain records of your work: Records of findings; produce; maintain; complete; accurate; legible; conform to professional and statutory requirements; level of detail; comprehensive; investigations carried out; values recorded; options considered; information collated; Energy Performance Certificate (EPC); floor plan; elevation; layout; site notes; observation; conversation; data collected; justify decisions; data source; evidence requirements; date; photographs; limitations; decisions; reflection; research; web searches; manufacturers data; manufacturers support desk; online resources; SEDBUK, ECA list; results; calculation; Energy efficiency measures selected; recommendations deleted; measurement; scheme operating requirements; best practice; dimensions; sketch; annotate; colour code; reference key; importance of; reasons for; accurate and legible records; unable to inspect; access issues; unknown; use of defaults; conventions; storing records; security; retrieval; reasons for future access; audit; complaint; insurance requirements.

Essential guidance for tutors

Delivery

It is recommended that centres use a wide range of delivery methods to achieve all the learning outcomes in the unit. These could include lectures, seminars, workshops, presentations, site visits, project work research using the Internet and/or library resources and the use of personal and/or industry experience.

Delivery should revolve around real-life situations and case studies. Centres are encouraged to organise talks from key parties and organisations.

Learners should be given the opportunity to apply and evaluate their practice in this field, in as many situations as possible, preferably through observed practical exercises. It is essential for the learner to be exposed to a range of buildings, building services, activity types, energy uses and occupiers representative of the scenarios they will encounter in the role this unit is intended to prepare them for. Specifically this must include complex building services of the types which differentiate Level 4 buildings from Level 3 buildings.

Shadowing a non-domestic energy assessor, or a trainer, may be a particularly effective means of providing some of the guided learning however assessment of the learner must not be undertaken against a property in which they have shadowed.

Simulated scenarios may be appropriate provided they are realistic and still involve the learner undertaking an energy inspection within a real building to obtain the required data. Learning outcomes 6 and 7 will not be met if the learner is given simulated data instead of obtaining the data themselves in a real-life or simulated scenario.

Delivery of learning outcomes 1, 2, 3, 4, and 5 could be achieved through the use of set questions, exercises or workbooks or through tutor led discussion and professional interview.

Delivery of learning outcomes 8 and 9 could be achieved through a portfolio of evidence generated by undertaking actual inspections in simulated or real-life situations supported by observed assessment and professional interviews. It is essential that the learner be given the opportunity to use all the main functions of the approved software.

Assessment

This unit must be assessed in the workplace, or conditions resembling the workplace. The assessment requirements for the Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF) document must be followed; please see Annexe E

There is a requirement for the Learner to demonstrate that they are competent to actually carry out the essential tasks in a professional manner. The Learner must also demonstrate that they are able to utilise the skills and knowledge covered by the qualification in a live situation. It is not sufficient for the assessment to be based entirely on portfolio evidence, questions and exercises. Assessment needs to be based on real-life or carefully selected and well-developed simulated situations.

For learning outcomes 1, 2, 3, 4, and 5 learners will need to demonstrate through questioning, discussion and written or practical exercises, an understanding of the principles and processes involved. Through professional interview and short answer questions learners should demonstrate sound knowledge of the reasons behind the actions they take. Portfolio evidence may contribute to this provided the learner shows, through annotation and explanation, their understanding of the process in addition to the evidence showing they are able to undertake the process.

For learning outcomes 6, 7, 8 and 9 a portfolio of evidence should be presented by the learner based on at least three significantly different scenarios typical of Level 4 buildings. The learner will need to present evidence of having followed the correct procedure, undertaken the assessment in an appropriate manner, obtained and recorded the relevant information, processed it correctly, produced relevant output documents and drawn suitable conclusions.

Additionally for learning outcomes 6 and 7 the learner must demonstrate within a live or realistic simulation environment the ability to carry out the site assessment in an appropriate manner, correctly recognising building features and collecting all necessary information.

Programme of suggested assignments

The table below shows a programme of suggested assignments that cover the learning outcomes for this unit. This is for guidance only and it is recommended that centres either write their own assignments or adapt Edexcel assignments to meet local needs and resources.

Criteria covered	Assignment title	Scenario	Assessment method
Learning outcomes 1, 2, 3, 4, and 5	Demonstrate understanding.	You are required to understand, identify, explain and describe all elements of the process for carrying out non-domestic energy inspections of buildings with Level 4 features to produce an EPC and recommendation report.	A combination of methods selected from multiple-choice or short answer questions, workbooks, exercises, observed activities and professional interview.
Learning outcomes 6 and 7	Carry out the on-site inspection of a non-domestic property with Level 4 features. Collect and collate all necessary information to assess the energy performance of the property.	You are required to undertake an energy inspection for a minimum of three non-domestic buildings incorporating Level 4 features, identify relevant factors and produce appropriate EPCs and Advice Reports.	A portfolio of evidence supported by an observed assessment and professional discussion.

Criteria covered	Assignment title	Scenario	Assessment method
Learning outcomes 8 and 9	Use the information collected to prepare and issue a non-domestic EPC and Advice Report.	You are required to record, process and store appropriate records of all relevant information related to non-domestic energy inspections to determine an asset rating and give advice.	A portfolio of evidence supported by professional discussion. <i>Assessment criteria 9.5</i> – A method statement for how records will be catalogued and stored including reference to the period they will be kept, means of retrieval and how security will be protected.

Evidence matrix for portfolio assignments

In order to adequately cover the full assessment criteria the energy assessments must include properties of various ages and with a mixture of key features. The table below shows the range of features expected to be covered by the portfolio evidence presented by the learner. Each property will probably meet several of the criteria but every criterion must be met by at least one and the portfolio must include inspections of at least three different properties.

	Built to pre 1995 building regulations	Built to 1995 building regulations onwards
Office and Workshop type business		
Retail type business		
Commercial catering kitchen		
Centralised (serving multiple zones) supply of heating and/or hot water		
Cooling		
Mechanical ventilation and/or extraction		
Air conditioning system incorporating centralised air supply		
Not using gas as the primary heating source		

Essential resources

Internet access

Approved SBEM software

Authorised user access to the non-domestic EPC register

Indicative resource materials

Documents

BSRIA – The Illustrated Guide to Mechanical Building Services (AG 15/2002)

BSRIA – The Illustrated Guide to Electrical Building Services (BG 5/2005)

Department of Communities and Local Government – *A guide to Energy Performance Certificates for the construction, sale and let of non-dwellings* (ISBN 9781409837237)

Department of Communities and Local Government – *A guide to air conditioning inspections for buildings* (ISBN 9781409837268)

Department of Communities and Local Government – *A User Guide to iSBEM* (Part of the National Calculation Methodology)

Department of Communities and Local Government – *A technical Manual for SBEM* (Part of the National Calculation Methodology)

Department of Communities and Local Government – *Non-domestic Building Services Compliance Guide* (Current version)

HM Government (Published by NBS, Part of RIBA Enterprises Ltd) – *The Building Regulations 2010 edition, Approved document L1B* (ISBN 978 1 85946 325 3)

HM Government (Published by NBS, Part of RIBA Enterprises Ltd) – *The Building Regulations 2010 edition, Approved document L2B* (ISBN 978 1 85946 327 7)

Royal Institution of Chartered Surveyors – *RICS Code of Measuring Practice*

UK Legislation – *Energy Performance of Buildings (England and Wales) Regulations 2012*

Journals

CIBSE Journal

Websites

www.gov.uk/government/organisations/department-for-communities-and-local-government

www.ndepcregister.com

Unit 10: Undertake energy assessments of existing Level 5 non-dwellings requiring the use of Dynamic Simulation Models DSMs

Unit code:	J/503/8171
QCF Level:	Level 5
Credit value:	13
Guided learning hours:	50

Unit aim

This unit will help to develop the knowledge and skills needed to inspect non-dwellings to determine the energy performance of a Level 5 property, using the Dynamic Simulation Model, make recommendations for cost-effective improvements and issue Energy Performance Certificates in compliance with regulatory requirements.

Unit introduction

Energy Performance Certificates (EPCs) are a requirement of the The Energy Performance of Buildings Regulations and a duty under Building Regulations. An EPC is required for a building on construction, sale or rent. It is also a relevant document in relation to government initiatives including the Feed in Tariff, Renewable Heat Incentive and Green Deal.

An EPC is an asset rating for the property which indicates how energy efficient a building is, the likely energy use for a typical occupier and its impact on the environment. It is produced in a prescribed manner using approved software.

The EPC is a document which has a legal status and must be lodged on a central register in order to be valid. It has a validity of up to 10 years unless superseded, during which time it may be used for a number of permitted purposes. There are specific rules regarding the production and lodgement of EPCs which can only be carried out by qualified and accredited energy assessors.

Learners will undertake the process of assessing non-domestic buildings with complex heating, ventilation and air conditioning services and other energy performance features requiring advanced thermal modelling (Level 5 buildings) in the prescribed manner in order to produce accurate, robust and fully compliant EPCs using approved dynamic simulation modelling (DSM) software.

The learner needs to demonstrate a solid knowledge of the procedures involved, understanding of the underpinning principles, appropriate surveying and record-keeping skills and the ability to communicate effectively with the customer and other parties to obtain and impart relevant information appropriately.

The learner needs to show that they can collect information using a range of methods, verify its accuracy and relevance, record and process it accurately and do so in a safe and professional manner in accordance with the prescribed methodology.

Learning outcomes and assessment criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

On completion of this unit a learner should:

Learning outcomes	Assessment criteria
<p>1 Understand the equipment and resources needed to undertake energy inspections</p>	<p>1.1 Explain the principles of building structure elements, fabric, services and overall design philosophy as relevant to energy assessment</p>
	<p>1.2 Identify equipment and resources needed to undertake the inspection</p>
	<p>1.3 Explain the detailed inspection requirements that apply to a property as described in relevant guidance documents and Convention</p>
	<p>1.4 Explain the definitions and conventions embodied within the approved software used to calculate energy performance ratings</p>
	<p>1.5 Identify, from drawings and building structures, the various types of building construction, materials and services</p>
	<p>1.6 Explain how to conduct the inspection in a thorough, methodical and consistent manner</p>
	<p>1.7 Identify the range of measures to improve the energy performance of a property that may be included within an Energy Performance Certificate Recommendations Report</p>

Learning outcomes	Assessment criteria
<p>2 Understand the implications of building characteristics affecting the energy performance of a property</p>	<p>2.1 Identify assumptions that are made in determining energy performance</p>
	<p>2.2 State the factors that are relevant to determining the energy performance of a property and those that are deemed not to affect the energy performance of the property</p>
	<p>2.3 Identify and evaluate the relevance of building characteristics which affect the energy performance of a Level 5 building and make it distinct from Level 4</p>
	<p>2.4 Identify and classify variations in building use and activities, as defined in Dynamic Simulation Models (DSMs) and conventions, including the use of planning classifications</p>
	<p>2.5 Describe the relative sensitivity of the different building characteristics that affect the energy performance of the building structure and fabric</p>
	<p>2.6 Identify critical property features and activities where incorrect choice of values will be significantly detrimental to accuracy, including:</p> <ul style="list-style-type: none"> • Allocation of the most appropriate activity to zones • Lighting • Choice of default HVAC in zones where none exists • Selection of HVAC efficiency and its • Allocation to the appropriate zone • Availability of daylight and presence of Low and Zero Carbon Technologies

Learning outcomes	Assessment criteria
	2.7 Identify the problems that can affect the energy performance of the building fabric and services
	2.8 Review the implications of hazardous building fabric for the energy assessment and reporting

Learning outcomes	Assessment criteria
<p>3 Understand how to collate information from the on-site inspection and other sources to assess the energy performance of the property</p>	<p>3.1 How to make accurate observations and take accurate measurements</p>
	<p>3.2 How to make further investigations where observations are inconsistent with existing evidence and expected findings, and how to identify the causes of these inconsistencies</p>
	<p>3.3 How to collate information required to assess the energy performance of property</p>

Learning outcomes	Assessment criteria
<p>4 Understand how to prepare and issue an Energy Performance Certificate which includes recommendations for cost-effective improvements and meets relevant regulations</p>	<p>4.1 State the prescribed format and content of an Energy Performance Certificate</p>
	<p>4.2 State the range of energy efficiency measures that may be included within an Energy Performance Certificate</p>
	<p>4.3 Identify the approved software used for the production and lodgement of completed Energy Performance Certificates</p>
	<p>4.4 Explain how to correctly use the approved software for the production and lodgement of completed Energy Performance Certificates</p>
	<p>4.5 Explain the principles underpinning the approved tools used to calculate the energy performance ratings</p>
	<p>4.6 Explain how to input data using the approved software in order to determine energy performance ratings</p>
	<p>4.7 Explain how to use approved software to generate energy efficiency measures for the property</p>
	<p>4.8 Explain the importance of checking that data has been inputted correctly prior to lodgement and how to review data if the calculation will not process or appears incorrect</p>
	<p>4.9 Explain the importance of checking the energy efficiency measures generated prior to lodgement, deleting any that are inappropriate and providing your reasons</p>

Learning outcomes	Assessment criteria
	4.10 Explain the way in which energy efficiency measures are generated and circumstances when it is appropriate to delete them
	4.11 Explain the importance of checking the Energy Performance Certificate and energy efficiency measures for the property to ensure they comply with relevant requirements
	4.12 Explain how to use the information technology underpinning the national register for lodgement and retrieval of Energy Performance Certificates and how to provide necessary audit evidence via electronic transfer

Learning outcomes	Assessment criteria
<p>5 Understand how to make and maintain complete, accurate and legible records of your work</p>	<p>5.1 Explain the level of detail within your records required to produce a complete and comprehensive Energy Performance Certificate and justify your decisions on the values recorded and energy efficiency measures</p>
	<p>5.2 Explain the importance of making and maintaining records that are complete, accurate and legible</p>
	<p>5.3 Explain the reasons why it is necessary and important to record where and why accurate inspection has not been possible</p>
	<p>5.4 Explain the circumstances in which records can include the fact that information is 'unknown' and the evidence required to support the use of defaults in these circumstances</p>
	<p>5.5 Explain the importance of storing records securely allowing for future access and the purposes for which those records may be used</p>

Learning outcomes		Assessment criteria
6	Be able to inspect a Level 5 non-dwelling	6.1 Ensure that equipment and resources needed are available for the inspection of Level 5 non-dwellings
		6.2 Identify yourself to those present at the property before commencing inspection
		6.3 Identify and record the method of construction of the property and the main materials used, the installed building services and the activities which take place in the building
		6.4 Use surveying equipment correctly and record and interpret data accurately
		6.5 Identify circumstances when at the property which prevent you continuing with the property inspection and explain the reasons to the client(s)
		6.6 Undertake a methodical visual inspection of the property in accordance with the requirements of the approved software and current Conventions
		6.7 Draw a suitable sketch plan and elevations where none exist
		6.8 Confirm by on-site inspection that the building fabric and installed building services are consistent with the drawings and specifications, where provided

Learning outcomes	Assessment criteria
<p>7 Be able to collate information from the on-site inspection and other sources to assess the energy performance of the property</p>	<p>7.1 Make accurate observations and measurements which are necessary to provide data for the calculation of an energy performance rating and production of energy efficiency measures for the property</p>
	<p>7.2 Obtain all additional information that is needed about the property and ensure that defaults are not used except where justified</p>
	<p>7.3 Identify where observations are inconsistent with existing evidence and expected findings and conduct further investigations to establish the causes of these inconsistencies</p>
	<p>7.4 Identify critical property features and activities where incorrect choice of values will be significantly detrimental to accuracy and take appropriate steps to correctly represent these features to arrive at an accurate assessment of the property</p>
	<p>7.5 Follow the correct procedures for collecting information to enable the energy efficiency of the property to be determined</p>

Learning outcomes	Assessment criteria
<p>8 Be able to prepare and issue an Energy Performance Certificate which includes recommendations for energy efficiency measures and meets relevant regulations</p>	<p>8.1 Describe the prescribed format and content of an Energy Performance Certificate</p>
	<p>8.2 Explain the way in which energy efficiency measures are generated and circumstances when it is appropriate to delete them</p>
	<p>8.3 Use approved software correctly to determine energy performance ratings and to generate energy efficiency measures for the property</p>
	<p>8.4 Check that data has been inputted correctly prior to lodgement and review data if calculations do not work or if the result appears incorrect</p>
	<p>8.5 Recognise a result that is unlikely to be correct for the property in question</p>
	<p>8.6 Check the Energy Performance Certificate and energy efficiency measures prior to lodgement, ensuring compliance with relevant requirements and make any necessary amendments</p>
	<p>8.7 Take the necessary corrective action where any of your checks indicate a possible misattribution of data or error in the resulting rating or energy efficiency measures</p>
	<p>8.8 Use the information technology underpinning the national register for lodgement and retrieval of Energy Performance Certificates</p>
	<p>8.9 Lodge Energy Performance Certificates on the prescribed national databank on completion</p>

Learning outcomes	Assessment criteria
	8.10 Provide necessary audit evidence via electronic transfer

Learning outcomes	Assessment criteria
<p>9 Be able to make and maintain complete, accurate and legible records of your work</p>	<p>9.1 Produce and maintain accurate and legible records of your findings, which are clear, complete and conform to accepted professional and statutory requirements, including investigations carried out, values recorded and options considered</p>
	<p>9.2 Include in your records the level of detail required to produce a complete and comprehensive Energy Performance Certificate and justify your decisions on values recorded and energy efficiency measures selected</p>
	<p>9.3 Collate relevant information as evidence to support the specific decisions made on values chosen and energy efficiency measures considered, including:</p> <ul style="list-style-type: none"> • Legible site notes, clear site sketches (plan, elevation) to give an adequate record of the inspection for audit purposes • Clear photographs containing mandated data (e.g. time and date) appropriately staged and annotated where necessary • Legibly completed survey forms • Records of web searches or other research • Any other information you consider necessary to support your decisions • Any other information required by Scheme Operating Requirements

Learning outcomes	Assessment criteria
	9.4 Explain the circumstances in which records can include the fact that information is 'unknown' and the evidence required to support the use of defaults in these circumstances
	9.5 Store records securely allowing for future access and state the purposes for which your records may be used

Unit content

1 Understand the equipment and resources needed to undertake energy inspections

Equipment and resources needed for energy inspections: principles of building structure elements; fabric; building services; design philosophy; energy efficiency; energy assessment; thermal envelope; occupied space; usable floor area; volume; thermal mass; fast response; slow response; heating; ventilation; air conditioning; cooling; controls; installation; airtightness; lighting; day lighting; solar gain; passive; active; delivery methods; emitters; equipment; resources; undertaking inspection; access equipment; measuring equipment; testing tools; photography; drawings; records; guidance; scheme operating requirements; conventions; best practice; level of detail; default values; assumptions; building regulation; construction age; net efficiency; gross efficiency; seasonal efficiency; control correction; assessment level; air permeability; whether location; planning use class; activity types; adjacency; frame factor; atria; die mentions; measurement accuracy; electric power factor; room heaters; storage losses; ventilation rates; fan power; display lighting; display windows; zone height; inspection methods; consistent approach; thorough; energy efficiency measures; scope of energy performance certificate recommendations.

2 Understand the implications of building characteristics affecting the energy performance of a property

Implications of building characteristics on energy performance: building characteristics; implications on energy performance; assumptions; activity types; typical occupancy hours; heating/cooling set points; air permeability; ventilation requirements; light level; display lighting; display glazing; thermal performance; construction date; efficiencies; control; factors determining energy performance; heating; ventilation; cooling; air conditioning; domestic water; thermal performance; limiting fabric parameters; building size; building shape; fabric elements; thermal bridging; factors not deemed to affect energy performance; occupier specific use; processes; elements which are not fixed; level 3 buildings; level 4 buildings; atria; Ventilation with enhanced thermal coupling to structure; automatic blind control; night ventilation strategy; demand control ventilation; medium or high temperature hot water; steam distribution; air conditioning systems; centralised air supply; fan coil systems; induction systems; multi-zone systems; chilled ceiling; relative impact of building characteristics; critical features; impact of incorrect values; allocating activity; lighting types; default HVAC; bivalent systems; unconditioned spaces; indirectly conditioned spaces; zones with no fixed heating; HVAC efficiencies; availability of daylight; renewables; low and zero carbon technologies; problems affecting energy performance; maintenance; degradation; health and safety; hazardous fabric; asbestos; damage; holes; voids loose element.

3 Understand how to collate information from the on-site inspection and other sources to assess the energy performance of the property

Collating information: On-site inspection; other sources; accurate observation; measuring accuracy; conventions; code of measuring practice; zone height; area; volume; measurement points; merging zones; dividing zones; frame factor; shading and overhangs; orientation further investigations; inconsistent observations; conflicting evidence; main indicators; methodical; questioning; access limitations; expected findings; causes of inconsistencies; collate information; sketches; floor plan; photographs; documentary evidence; air pressure test certificate; inspection records; site notes; reflections; indexing; record-keeping; date stamp.

4 Understand how to prepare and issue an Energy Performance Certificate which includes recommendations for cost-effective improvements and meets relevant regulations

Prepare and issue an energy performance certificate and recommendations report: Energy Performance Certificate (EPC); dynamic simulation; prescribed format; content; limitations; certificate reference number; asset rating; main heating fuel; building environment; useful floor area; building complexity; modular and portable building; building emission rate; benchmark; green deal information; assessment software; property reference number; assessor details; accreditation scheme; issue date; validity until; related party disclosure; associated recommendations report number; complaints process; confirming authenticity; range of measures; heating; cooling; ventilation; lighting; domestic hot water; glazing; installation; draught proofing; controls; replacement plant; renewables; low and zero carbon technologies; alternative fuels; approved software; SBEM; DSM; third-party user interface software; production of EPCs; lodgement; Correct use of software; checking data entry; accuracy; verifying output; finalising; underpinning principles; calculation methodology; NCM; assumptions; activity types; typical occupancy hours; heating/cooling set points; air changes; ventilation requirements; light level; display lighting; display glazing; thermal performance; construction date; efficiencies; thermal performance; thermal mass; adjacency; space conditioning; process energy use; data input; measurement units; principle; accuracy; generating outputs; efficiency measures; recommendations report; payback period; potential impact; software generated; other recommendations; user-defined; suppression of recommendations; data checking; error messages; key indicators; finalising for lodgement; output checking; relevance of measures; suitability for property; evidence storage; evidence retrieval; providing audit evidence.

5 **Understand how to make and maintain complete, accurate and legible records of your work**

Make and maintain records of your work: Work records; complete; accurate; legible; level of detail; requirement; comprehensive; Energy Performance Certificate (EPC); floor plan; elevation; layout; site notes; observation; conversation; data collected; data source; evidence requirements; date; photographs; limitations; decisions; reflection; research; results; calculation; audit; measurement; measurement accuracy; zone height; adjacency; activities; planning use class; building age; services; equipment type; manufacturer; model; ID plate; length; area; volume; code of practice; scheme operating requirements; best practice; dimensions; sketch; annotate; colour code; reference key; importance of; reasons for; accurate and legible records; unable to inspect; access issues; health and safety; unknown; use of defaults; conventions; storing records; security; retrieval; reasons for future access.

6 **Be able to inspect a Level 5 non-dwelling**

Inspect a level 5 non-dwelling: Inspect; non-dwelling; non-domestic property; survey; inspect; site visit; equipment; resources needed; preparation; equipment check; maintenance of tools and equipment; safe use; best practice; identify yourself; responsible person; commence inspection; scope of inspection; extent of building or building part; level 3; level 4; level 5; identify; record; method of construction; construction age; main materials; building fabric; wall; floor; roof; ceiling; windows; frame factors; solar shading; doors; roof lights; external envelope; internal envelope; intermediate floors; insulation; light partition; heavy partition; thermal mass; installed building services; heating; natural ventilation; mechanical ventilation; cooling; air conditioning; lighting; domestic hot water; process use; night ventilation strategy; demand control ventilation; medium temperature hot water; high temperature hot water; steam distribution; variable air volume; fan coil systems; induction systems; constant volume systems; multi-zone hot deck/cold deck systems; terminal reheat; chilled ceilings; chilled beams; displacement ventilation; Waterloo heat pump systems; air conditioning systems incorporating centralised air supply; ventilation with enhanced thermal coupling to structure; automatic blind control; building regulations; zoning; controls; enhanced management and control systems; building management systems (BMS); automatic monitoring and targeting; out of range alarms; digitally addressable lighting systems; sensors; bivalent combination; activities; zone types; planning use classes; correct tools; correct use of tools; measurement accuracy; floor plan; elevation; layout; site notes; data collected; photographic evidence; complete; accurate; legible; interpret; justify; record; circumstances preventing inspection; limitations; communication with client; methodical visual inspection; comprehensive; non-invasive; risk assessment; health and safety; interaction with occupiers; code of practice; scheme operating requirements; data collection; software requirements; level of detail; suitability for audit; verify consistency with drawings; checking specifications against documentation; 'as built' consistency with 'as designed'.

7 Be able to collate information from the on-site inspection and other sources to assess the energy performance of the property

Collate information to assess the energy performance: Collate information; on-site inspection; other sources; accurate observation; measurement; obtain data required for calculation; shell and core buildings; energy performance rating; recommendation of measures; additional information; evidence sources; evidence documents; suitable information; avoiding default; justification of defaults; inconsistent evidence; expected findings; further investigation; unknown; planning records; building control documents; as built plan; logbook; maintenance records; inspection by others; cause of inconsistencies; critical property features; allocating activities; correct choice of values; impact of incorrect choice; factors detrimental to accuracy; mitigating steps; appropriate treatment of features; accurate assessment; recording; level of detail; completeness; code of practice; scheme operating requirements; suitability for audit.

8 Be able to prepare and issue an Energy Performance Certificate which includes recommendations for energy efficiency measures and meets relevant regulations

Prepare and issue an EPC and recommendations report: Energy Performance Certificate (EPC); prepare; issues; recommendations; energy efficiency measures; regulations; prescribed format; content of an EPC; certificate reference number; property address; explanatory text; energy performance asset rating; A to G chart; main heating fuel; building environment; useful floor area; complexity; building emission rate; benchmarks; green deal information; assessment software; property reference (UPRN); assessor details; validity date; related party disclosure; confirming authenticity; separate documents; recommendation report; building type; planning use class; administrative information; contents; background; introduction; recommendations; short payback; median payback; Long payback; other recommendations; next steps; implementing recommendations; legal disclaimer; complaints; glossary; generation of recommendations; how measures are identified; methodology; dynamic simulation modelling; limitations; circumstances for deleting recommendations; proper use of approved software; determining energy performance rating; generate recommended measures list; check data input; review data; check outputs; correct errors; recognise incorrect results; comparison to design calculations; BRUKL; shell and core buildings; compliance levels of performance; building emissions rate; target emission rate; limiting fabric parameters; design limits for building services; system efficiency minimum values; Non-Domestic Building Services Compliance Guide; final check before lodgement; ensure compliance; make amendments; correct date errors; error messages; finalise certificate; lodgement; retrieval; nondomestic energy performance certificate register; providing audit evidence; prescribed format; electronic transfer.

9 Be able to make and maintain complete, accurate and legible records of your work

Make and maintain records of your work: Records of findings; produce; maintain; complete; accurate; legible; conform to professional and statutory requirements; level of detail; comprehensive; investigations carried out; values recorded; options considered; information collated; Energy Performance Certificate (EPC); floor plan; elevation; layout; site notes; observation; conversation; data collected; justify decisions; data source; evidence requirements; date; photographs; limitations; decisions; reflection; research; web searches; manufacturers data; manufacturers support desk; online resources; SEDBUK, ECA list; results; calculation; Energy efficiency measures selected; recommendations deleted; measurement; scheme operating requirements; best practice; dimensions; sketch; annotate; colour code; reference key; importance of; reasons for; accurate and legible records; unable to inspect; access issues; unknown; use of defaults; conventions; storing records; security; retrieval; reasons for future access; audit; complaint; insurance requirements.

Essential guidance for tutors

Delivery

It is recommended that centres use a wide range of delivery methods to achieve all the learning outcomes in the unit. These could include lectures, seminars, workshops, presentations, site visits, project work research using the Internet and/or library resources and the use of personal and/or industry experience.

Delivery should revolve around real-life situations and case studies. Centres are encouraged to organise talks from key parties and organisations.

Learners should be given the opportunity to apply and evaluate their practice in this field, in as many situations as possible, preferably through observed practical exercises. It is essential for the learner to be exposed to a range of buildings, building services, activity types, energy uses and occupiers representative of the scenarios they will encounter in the role this unit is intended to prepare them for. Specifically this must include complex building services and ventilation strategies of the types which differentiate Level 5 buildings from Level 3 or 4 buildings.

Shadowing a non-domestic energy assessor, or a trainer, may be a particularly effective means of providing some of the guided learning however assessment of the learner must not be undertaken against a property in which they have shadowed.

Simulated scenarios may be appropriate provided they are realistic and still involve the learner undertaking an energy inspection within a real building to obtain the required data. Learning outcomes 6 and 7 will not be met if the learner is given simulated data instead of obtaining the data themselves in a real-life or simulated scenario.

Delivery of learning outcomes 1, 2, 3, 4, and 5 could be achieved through the use of set questions, exercises or workbooks or through tutor led discussion and professional interview.

Delivery of learning outcomes 8 and 9 could be achieved through a portfolio of evidence generated by undertaking actual inspections in simulated or real-life situations supported by observed assessment and professional interviews. It is essential that the learner be given the opportunity to use all the main functions of the approved software.

Assessment

This unit must be assessed in the workplace, or conditions resembling the workplace. The assessment requirements for the Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice(QCF) document must be followed; please see Annexe E

There is a requirement for the Learner to demonstrate that they are competent to actually carry out the essential tasks in a professional manner. The Learner must also demonstrate that they are able to utilise the skills and knowledge covered by the qualification in a live situation. It is not sufficient for the assessment to be based entirely on portfolio evidence, questions and exercises. Assessment needs to be based on real-life or carefully selected and well-developed simulated situations.

For learning outcomes 1, 2, 3, 4, and 5 learners will need to demonstrate through questioning, discussion and written or practical exercises, an understanding of the principles and processes involved. Through professional interview and short answer questions learners should demonstrate sound knowledge of the reasons behind the actions they take. Portfolio evidence may contribute to this provided the learner shows, through annotation and explanation, their understanding of the process in addition to the evidence showing they are able to undertake the process.

For learning outcomes 6, 7, 8 and 9 a portfolio of evidence should be presented by the learner based on at least three significantly different scenarios typical of Level 5 buildings. The learner will need to present evidence of having followed the correct procedure, undertaken the assessment in an appropriate manner, obtained and recorded the relevant information, processed it correctly, produced relevant output documents and drawn suitable conclusions.

Additionally for learning outcomes 6 and 7 the learner must demonstrate within a live or realistic simulation environment the ability to carry out the site assessment in an appropriate manner, correctly recognising building features and collecting all necessary information.

Programme of suggested assignments

The table below shows a programme of suggested assignments that cover the learning outcomes for this unit. This is for guidance only and it is recommended that centres either write their own assignments or adapt Edexcel assignments to meet local needs and resources.

Criteria covered	Assignment title	Scenario	Assessment method
Learning outcomes 1, 2, 3, 4, and 5	Demonstrate understanding.	You are required to understand, identify, explain and describe all elements of the process for carrying out non-domestic energy inspections of buildings with Level 5 features to produce an EPC and recommendation report.	A combination of methods selected from multiple-choice or short answer questions, workbooks, exercises, observed activities and professional interview.
Learning outcomes 6 and 7	Carry out the on-site inspection of a non-domestic property with Level 5 features. Collect and collate all necessary information to assess the energy performance of the property.	You are required to undertake an energy inspection for a minimum of three non-domestic buildings incorporating Level 5 features, identify relevant factors and produce appropriate EPCs and Advice Reports.	A portfolio of evidence supported by an observed assessment and professional discussion.

Criteria covered	Assignment title	Scenario	Assessment method
Learning outcomes 8 and 9	Use the information collected to prepare and issue a non-domestic EPC and Advice Report.	You are required to record, process and store appropriate records of all relevant information related to non-domestic energy inspections to determine an asset rating and give advice.	A portfolio of evidence supported by professional discussion. <i>Assessment criteria 9.5</i> – A method statement for how records will be catalogued and stored including reference to the period they will be kept, means of retrieval and how security will be protected.

Evidence matrix for portfolio assignments

In order to adequately cover the full assessment criteria the energy assessments must include properties of various ages and with a mixture of key features. The table below shows the range of features expected to be covered by the portfolio evidence presented by the learner. Each property will probably meet several of the criteria but every criterion must be met by at least one and the portfolio must include inspections of at least three different properties.

	Built to pre 1995 building regulations	Built to 1995 building regulations onwards
Office & Workshop type business		
Retail type business		
Commercial catering kitchen		
Centralised (serving multiple zones) supply of heating and/or hot water		
Cooling		
Mechanical ventilation and/or extraction		
Air conditioning system incorporating centralised air supply		
Atria (as defined in the non-domestic EPC conventions)		
No gas supply		

Essential resources

Internet access

Approved DSM software

Authorised user access to the non-domestic EPC register

Indicative resource materials

Documents

BSRIA — *The Illustrated Guide to Mechanical Building Services* (AG 15/2002)

BSRIA — *The Illustrated Guide to Electrical Building Services* (BG 5/2005)

Department of Communities and Local Government – *A guide to Energy Performance Certificates for the construction, sale and let of non-dwellings* (ISBN 9781409837237)

Department of Communities and Local Government – *A guide to air conditioning inspections for buildings* (ISBN 9781409837268)

Department of Communities and Local Government – *Non-domestic Building Services Compliance Guide* (Current version)

HM Government (Published by NBS, Part of RIBA Enterprises Ltd) – *The Building Regulations 2010 edition, Approved document L1B* (ISBN 978 1 85946 325 3)

HM Government (Published by NBS, Part of RIBA Enterprises Ltd) – *The Building Regulations 2010 edition, Approved document L2B* (ISBN 978 1 85946 327 7)

Royal Institution of Chartered Surveyors — *RICS Code of Measuring Practice*

UK Legislation — *Energy Performance of Buildings (England and Wales) Regulations 2012*

Journals

CIBSE Journal

Websites

www.gov.uk/government/organisations/department-for-communities-and-local-government

www.ndepcregister.com

Unit 11: Report on the energy assessment of new and existing non-dwellings using Dynamic Simulation Model DSM

Unit code:	R/503/8173
QCF Level:	Level 5
Credit value:	9
Guided learning hours:	45

Unit aim

This unit will help to develop the knowledge and skills needed to prepare a report on the energy assessment of new and existing non-dwellings using Dynamic Simulation Model (DSM).

Unit introduction

Energy Performance Certificates (EPCs) are a requirement of the The Energy Performance of Buildings Regulations and a duty under Building Regulations. An EPC is required for a building on construction, sale or rent. It is also a relevant document in relation to government initiatives including the Feed in Tariff, Renewable Heat Incentive and Green Deal.

An EPC is an asset rating for the property which indicates how energy efficient a building is, the likely energy use for a typical occupier and its impact on the environment. It is produced in a prescribed manner using approved software.

The EPC is a document which has a legal status and must be lodged on a central register in order to be valid. It has a validity of up to 10 years unless superseded, during which time it may be used for a number of permitted purposes. There are specific rules regarding the production and lodgement of EPCs which can only be carried out by qualified and accredited energy assessors.

Learners will undertake the process of assessing new and existing non-domestic buildings in the prescribed manner in order to produce accurate, robust and fully compliant EPCs using approved DSM software. The learner needs to demonstrate a solid knowledge of the procedures involved, understanding of the underpinning principles, the ability to interpret building plans, appropriate surveying and record-keeping skills and the ability to communicate effectively with the customer and other parties to obtain and impart relevant information appropriately.

The learner needs to show that they can collect information using a range of methods, verify its accuracy and relevance, record and process it accurately and do so in a safe and professional manner in accordance with the prescribed methodology.

Learning outcomes and assessment criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria determine the standard required to achieve the unit.

On completion of this unit a learner should:

Learning outcomes	Assessment criteria
1 Understand how to produce Recommendations Reports for non-dwellings using DSM	1.1 Describe the prescribed format and content of a Recommendations Report
	1.2 Identify the range of energy efficiency measures that may be included within a Recommendations Report
	1.3 State the approved software used to generate energy efficiency measures for the property
	1.4 Explain the principles underpinning the approved software used to calculate energy ratings and produce Recommendations Reports
	1.5 Explain how to correctly use the approved software used to produce Energy Performance Certificates
	1.6 Explain the importance of checking that data has been inputted correctly and how to review data if the calculation will not process or if the result appears incorrect
	1.7 Explain how to check the Energy Performance Certificate Recommendations Report for cost-effective improvement, ensuring compliance with relevant requirements and conventions

Learning outcomes	Assessment criteria
	<p>1.8 Identify the level of detail within your records required to produce a complete and comprehensive Recommendations Report and justify your decisions on the values recorded and energy efficiency measures selected</p>
	<p>1.9 Explain the importance of making and maintaining records that are complete, accurate and legible</p>
	<p>1.10 Explain the reasons why it is necessary and important to record where and why accurate inspection has not been possible</p>
	<p>1.11 Identify the circumstances in which records can include the fact that information is 'unknown' and the evidence required to support this choice</p>
	<p>1.12 Explain the importance of storing records securely allowing for future access and the purposes for which your records may be used</p>

Learning outcomes	Assessment criteria
<p>2 Understand how to provide a clearly defined and robust hierarchy of energy efficiency measures for non-dwellings</p>	<p>2.1 Explain how to use approved software to generate energy efficiency measures for the property</p>
	<p>2.2 Explain the way in which energy efficiency measures are generated and circumstances when it is appropriate to delete them</p>
	<p>2.3 Explain the importance of checking the energy efficiency measures generated, deleting any that are inappropriate and providing your reasons</p>
	<p>2.4 Identify the factors that could affect the choice of energy efficiency measures in relation to:</p> <ul style="list-style-type: none"> • Issues that make them unsuitable for the property • Interactions between building fabric and building services • Listed buildings/conservation areas
	<p>2.5 Identify the issues that could make energy efficiency measures unsuitable for the property, including:</p> <ul style="list-style-type: none"> • Property situation e.g. subject to extreme weather • Property condition e.g. state of repair of external walls • Inadequate ventilation • Traditional construction • Any other features of the property, or its site/location, which might adversely affect the performance of the recommended improvement, or the building's performance after improvement

Learning outcomes	Assessment criteria
	2.6 Explain how to make appropriate deletions/amendments based on the practical and economic feasibility for the building under consideration
	2.7 Identify current typical costs of energy efficiency measures
	2.8 Explain how to estimate typical costs, for the particular building, of any proposed energy efficiency measures
	2.9 Explain how to assess the carbon impact and payback period of energy efficiency measures in order to provide an hierarchy of improvement measures
	2.10 Identify the data and information required to be lodged on the relevant central register
	2.11 Identify appropriate advice on the implementation of the energy efficiency measures that may be given to the client

Learning outcomes	Assessment criteria
<p>3 Understand how to communicate the value of a Recommendations Report and how it can be used</p>	<p>3.1 State the objective of producing Recommendations Reports</p>
	<p>3.2 Explain the difference between high, medium and low carbon impact energy efficiency measures and the scale of savings that each may achieve</p>
	<p>3.3 Identify which recommendations have greater impact on the energy performance of the building in question and why</p>
	<p>3.4 Explain how estimates of costs for energy efficiency measures have been arrived at and how robust they are</p>
	<p>3.5 Explain how to communicate and explain the energy efficiency measures to the client</p>
	<p>3.6 Explain the importance of retaining documentation for audit purposes or legal compliance</p>
	<p>3.7 Explain how to convey essential information in a written report in a way which will be comprehensible to the client</p>
	<p>3.8 Identify where to refer clients for further help and advice</p>

Learning outcomes	Assessment criteria
<p>4 Be able to produce Recommendations Reports for non-dwellings using DSM</p>	<p>4.1 Describe the prescribed format and content of Recommendations Report</p>
	<p>4.2 Identify the range of energy efficiency measures that may be included within Recommendations Report</p>
	<p>4.3 Use approved software to generate energy efficiency measures that improve energy performance</p>
	<p>4.4 Check the Recommendations Report, ensuring compliance with relevant requirements and current conventions</p>
	<p>4.5 Produce and maintain accurate and legible records which are clear, complete and conform to accepted professional and statutory requirements including:</p> <ul style="list-style-type: none"> • Records investigations carried out • Values recorded • Options considered
	<p>4.6 Keep detailed records which ensure you can produce a complete and comprehensive Energy Performance Certificate and justify your decisions on values recorded and energy efficiency measures selected</p>
	<p>4.7 Describe the circumstances in which records can include the fact that information is 'unknown' and the evidence required to support this choice</p>
	<p>4.8 Store records securely allowing for future access and explain the purposes for which the records may be used</p>

Learning outcomes	Assessment criteria
<p>5 Be able to provide a clearly defined and robust hierarchy of recommendations for reducing the energy use of non-dwellings</p>	<p>5.1 Use the approved software to generate energy efficiency measures to improve energy performance</p>
	<p>5.2 Check the energy efficiency measures generated and make appropriate deletions, additions and amendments based on the practical and economic feasibility for the building under consideration</p>
	<p>5.3 Provide documented reasons for the proposed energy efficiency measures selected</p>
	<p>5.4 Take account of factors that could affect the choice of energy efficiency measures for improvements to the property, including:</p> <ul style="list-style-type: none"> • Issues that make them unsuitable for the property • Interactions between building fabric and building services • Listed building status/conservation areas
	<p>5.5 Describe the technical specifications, features and benefits of energy efficiency measures that may improve the energy performance of Level 5 buildings</p>
	<p>5.6 Identify the relative costs of any energy efficiency measures which may be proposed</p>
	<p>5.7 Provide a hierarchy of improvement measures based on carbon impact and payback period</p>
	<p>5.8 Identify the data and information required to be lodged on the relevant central register and show understanding of the lodging procedures</p>

Learning outcomes	Assessment criteria
	5.9 Produce a valid Recommendations Report, in accordance with approved guidance
	5.10 Provide initial advice on the implementation of the recommendations made

Learning outcomes	Assessment criteria
<p>6 Be able to communicate the value of a recommendations report and how it can be used</p>	<p>6.1 Explain to clients the objective of producing Recommendations Reports</p>
	<p>6.2 Explain to clients the difference between high, medium and low carbon impact measures, giving examples of the scale of savings which may be achieved by each</p>
	<p>6.3 Explain to clients which elements have greater impact on the energy performance of the building in question and why</p>
	<p>6.4 Explain to clients how estimates of costs for energy efficiency measures have been arrived at and how robust they are</p>
	<p>6.5 Explain to clients the energy efficiency measures to the client</p>
	<p>6.6 Understand the importance of retaining documentation for audit purposes or legal compliance</p>
	<p>6.7 Highlight the essential information contained in the Recommendations Report to the client, in writing, in a way which will be comprehensible to the client</p>

Unit content

1 Understand how to produce Recommendations Reports for non-dwellings using DSM

Produce a Recommendations Report: Energy Performance Certificate (EPC); Recommendations Report; prescribed format; content; limitations; certificate reference number; building type; planning use class; administrative information; total useful floor area; calculation tool; property reference number; assessor details; related party disclosure; table of contents; background; building environment; introduction; recommendations; short payback; medium payback; long payback; other recommendations; potential impact; next steps; legal disclaimer; complaints; glossary; green deal information; range of measures; heating; cooling; ventilation; lighting; domestic hot water; glazing; installation; draught proofing; controls; replacement plant; renewables; low and zero carbon technologies; alternative fuels; Project database; geometry; building services; approved software; Dynamic Simulation Modelling (DSM); 3D model-based geometry; real site weather data; hourly (or sub-hourly) simulation; natural and/or demand-controlled ventilation; external and/or internal solar shading; transfer of solar radiation; holistic approach; natural daylight; solar gain; fabric loss; facade design; underpinning principles; assumptions; activity types; typical occupancy hours; heating/cooling set points; air changes; ventilation requirements; light level; display lighting; display glazing; thermal performance; construction date; efficiencies; thermal performance; thermal mass; adjacency; space conditioning; process energy use; data input; measurement units; principle; accuracy; generating outputs; data checking; error messages; key indicators; finalising for lodgement; output checking; relevance of measures; suitability for property; conventions; code of practice; scheme operating requirements; output versus expectations; level of detail; completeness; accuracy; legibility; suitability for audit; recording barriers to inspection; use of unknown; evidence requirements; record storage; security; retrieval; reasons for future access.

2 **Understand how to provide a clearly defined and robust hierarchy of energy efficiency measures for non-dwellings**

Provide a hierarchy of energy efficiency measures: Recommendations Report; energy efficiency measures; hierarchy of measures; approved software; convention; code of practice; data entry; accurate values; avoiding defaults; comprehensive evaluation; 3D modelling; real site weather data; hourly (or sub-hourly) simulation; natural and/or demand-controlled ventilation; external and/or internal solar shading; transfer of solar radiation; holistic approach; natural daylight; solar gain; fabric loss; facade design; database of possible recommendations; standard paybacks; assigned to an end use; whole-building information; calculation of impact; heating; cooling; lighting; hot water; auxiliary energy; presence in building; attributable carbon emissions; percentage of energy; percentage of carbon emissions attributable; comparison with notional and typical; recommendations triggered by threshold values; double-checking; generated measures; suitability for property; deleting inappropriate; providing reason; audit trail; factors affecting choice of measures; issues causing unsuitability; practical limitations; restrictions on use; interaction between building fabric and building services; listed status; heritage; conservation areas; planning restrictions; property situation; location; exposure; state of repair; inadequate ventilation; traditional construction; non-standard construction; access; deletions/amendments; practical and economic feasibility; typical costs; estimating costs; assessing carbon impact; relative impact; data required; address; unique property reference number (UPRN), report reference number (RRN); Energy Performance Certificate (EPC); Display Energy Certificate (DEC); air conditioning assessment; cooling capacity; advice on implementation; building regulations compliance.

3 **Understand how to communicate the value of a Recommendations Report and how it can be used**

Communicating the value of a Recommendations Report: Recommendations report; communicating; objective of producing Recommendations Reports; value to clients; impact on property value; impact on occupants; energy bills; corporate and social responsibility; government policy; regulations; carbon emissions reduction; energy security; high medium and low carbon impact; scale of saving; energy efficiency measures; package of measures; hierarchy of impact; estimating costs; robustness of cost estimates; circumstances affecting cost; market forces; funding options; packaging measures; explaining measures to clients; terminology; features and benefits; client motivation; needs and aspirations; record-keeping; retaining documentation; audit purposes; legal compliance; further assessment; operational profile assessment; green deal; conveying essential information; written report; clear and legible; comprehensible; appropriate; professional; refer to further help and advice; information sources; next steps; Energy Saving Advice Service; web based resources.

4 **Be able to produce Recommendations Reports for non-dwellings using DSM**

Produce recommendations reports: Recommendations Report; prescribed format; content; limitations; certificate reference number; building type; planning use class; administrative information; total useful floor area; calculation tool; property reference number; assessor details; related party disclosure; table of contents; background; building environment; introduction; recommendations; short payback; medium payback; long payback; other recommendations; potential impact; next steps; legal disclaimer; complaints; glossary; green deal information; range of measures; heating; cooling; ventilation; lighting; domestic hot water; glazing; installation; draught proofing; controls; replacement plant; renewables; low and zero carbon technologies; alternative fuels; approved software; collate and process information; data entry; double-check; verify; consider outputs; generate recommendations; check recommendations against expectations; suitability for building; practical; cost-effective; beneficial; compliance; best practice; conventions; code of practice; guidance; Dynamic Simulation Modelling (DSM); 3D model-based geometry; hierarchy of measures; building regulation; health and safety; occupier comfort; record-keeping; accurate and legible; clarity; completeness; professional standards; statutory requirements; investigations carried out; observation; limitations; values recorded; reasons for values; written evidence; photographs; professional reflection; options considered; options selected; justification of decisions; recording as unknown; use of defaults; impact on rating; impact on recommendations; supporting evidence; record security; methods of retrieval; purposes of record storage; reasons for retrieval; insurance obligation; audit requirements.

5 Be able to provide a clearly defined and robust hierarchy of recommendations for reducing the energy use of non-dwellings

Provide a hierarchy of energy efficiency measures: Recommendations; energy efficiency measures; robust hierarchy; approved software; collate and process information; data entry; double-check; verify; consider outputs; generate recommendations; check recommendations against expectations; suitability for building; practical; cost-effective; beneficial; compliance; best practice; conventions; code of practice; guidance; Dynamic Simulation Modelling (DSM); 3D model-based geometry; checking recommendations for measures generated; deleting appropriately; amending recommendations; adding recommendations; practicality; economic feasibility; impact on building; limitations; documented reasoning; factors affecting the choice of measures; issues causing unsuitability; location; orientation; weather region; interactions between fabric and building services; listed status; heritage buildings; traditional construction; conservation areas; planning consent; technical specifications; features and benefits of energy efficiency measures; improving the energy performance of level 5 buildings; considerations related to complex building services; ventilation with enhanced thermal coupling to structure; automatic blind control; atria; relative costs; carbon impact; payback period; required data; information to be lodged on the central register; understanding the lodgement procedure; unique property reference number (UPRN); report reference number (RRN), security certificates; authorised users; structure of addresses; base address; building parts; site building; air conditioning inspection; display energy certificate; approved guidance; advice on implementation; validity of measures; practicality; further advice; specialist surveys; next steps.

6 Be able to communicate the value of a recommendations report and how it can be used

Communicating the value of a Recommendations Report: Recommendations report; communicating; objective of producing Recommendations Reports; value to clients; examples of scale of saving; cost benefit; relative benefit of alternative measures; reasons for scale of benefit; impact on property value; impact on occupants; energy bills; corporate and social responsibility; government policy; regulations; carbon emissions reduction; energy security; high medium and low carbon impact; scale of saving; energy efficiency measures; package of measures; hierarchy of impact; estimating costs; robustness of cost estimates; circumstances affecting cost; market forces; funding options; packaging measures; explaining measures to clients; terminology; features and benefits; client motivation; needs and aspirations; record-keeping; retaining documentation; audit purposes; legal compliance; further assessment; operational profile assessment; green deal; conveying essential information; written report; clear and legible; comprehensible; appropriate; professional; explain energy efficiency measures; description of measures; installation of measures; time and disruption; impact of installation process; refer to further help and advice; information sources; next steps; Energy Saving Advice Service; web based resources; highlighting essential information; maximising comprehensibility to the client.

Essential guidance for tutors

Delivery

It is recommended that centres use a wide range of delivery methods to achieve all the learning outcomes in the unit. These could include lectures, seminars, workshops, presentations, site visits, project work research using the Internet and/or library resources and the use of personal and/or industry experience.

Delivery should revolve around real-life situations and case studies. Centres are encouraged to organise talks from key parties and organisations.

Learners should be given the opportunity to apply and evaluate their practice in this field, in as many situations as possible, preferably through observed practical exercises. It is essential for the learner to be exposed to a range of buildings, building services, activity types, energy uses and occupiers representative of the scenarios they will encounter in the role this unit is intended to prepare them for.

Shadowing a non-domestic energy assessor, or a trainer, may be a particularly effective means of providing some of the guided learning however assessment of the learner must not be undertaken against a property in which they have shadowed.

Simulated scenarios may be appropriate provided they are realistic and still involve the learner assessing a real building.

Delivery of learning outcomes 1, 2, 3 and 6 could be achieved through the use of set questions, exercises or workbooks combined with tutor led discussion and professional interview.

Delivery of learning outcomes 4 and 5 could be achieved through a portfolio of evidence generated in simulated or real-life situations supported by exercises, workbooks or tutor led discussion and professional interview to cover features and circumstances not arising in the portfolio evidence. It is essential that the learner be given the opportunity to use all the main functions of the approved DSM software.

Assessment

This unit must be assessed in the workplace, or conditions resembling the workplace. The assessment requirements for the Pearson BTEC Level 4 Diploma in Green Deal Non-Domestic Advice (QCF) document must be followed; please see Annex E

There is a requirement for the Learner to demonstrate that they are competent to actually carry out the essential tasks in a professional manner. The Learner must also demonstrate that they are able to utilise the skills and knowledge covered by the qualification in a live situation. It is not sufficient for the assessment to be based entirely on portfolio evidence, questions and exercises. Assessment needs to be based on real-life or carefully selected and well-developed simulated situations.

For learning outcomes 1, 2, 3 and 6 learners will need to demonstrate through questioning, discussion and written or practical exercises, an understanding of the principles and processes involved. Through professional interview and short answer questions learners should demonstrate sound knowledge of the reasons behind the actions they take. Portfolio evidence may contribute to this provided the learner shows, through annotation and explanation, their understanding of the process in addition to the evidence showing they are able to undertake the process.

For learning outcomes 4 and 5 a portfolio of evidence should be presented by the learner based on at least three significantly different scenarios. The learner will need to present evidence of having followed the correct procedure, correctly process the information, produced relevant output documents and drawn suitable conclusions.

There are no specific requirements for this unit in terms of the range of different scenarios to be covered in the assessment except that they should cover a broad range of construction types, occupancy types and complex building services typical of Level 5 buildings. However, since this unit is part of a wider qualification it is suggested that the scenarios be matched to the requirements of the corresponding 'Undertake energy assessments of existing Level 5 Non Dwellings...' unit.

Essential resources

Internet access

Approved DSM software

Authorised user access to the non-domestic EPC register

Indicative resource materials

Documents

BSRIA — *The Illustrated Guide to Mechanical Building Services (AG 15/2002)*

BSRIA — *The Illustrated Guide to Electrical Building Services (BG 5/2005)*

Department of Communities and Local Government – *A guide to Energy Performance Certificates for the construction, sale and let of non-dwellings* (ISBN 9781409837237)

Department of Communities and Local Government – *A guide to air conditioning inspections for buildings* (ISBN 9781409837268)

Department of Communities and Local Government – *Non-domestic Building Services Compliance Guide* (Current version)

HM Government (Published by NBS, Part of RIBA Enterprises Ltd) – *The Building Regulations 2010 edition, Approved document L1B* (ISBN 978 1 85946 325 3)

HM Government (Published by NBS, Part of RIBA Enterprises Ltd) – *The Building Regulations 2010 edition, Approved document L2B* (ISBN 978 1 85946 327 7)

Royal Institution of Chartered Surveyors — *RICS Code of Measuring Practice*

Journals

CIBSE Journal

Websites

www.gov.uk/government/organisations/department-for-communities-and-local-government

www.ndepcregister.com

Further information and useful publications

To get in touch with us visit our 'Contact us' pages:

- Edexcel: www.edexcel.com/contactus
- BTEC: www.edexcel.com/btec/Pages/Contactus
- Pearson Work Based Learning and Colleges: www.edexcel.com/about.wbl/Pages/Contact-us
- books, software and online resources for UK schools and colleges: www.pearsonschoolsandcolleges.co.uk

Key publications:

- *Adjustments for candidates with disabilities and learning difficulties – Access and Arrangements and Reasonable Adjustments, General and Vocational qualifications* (Joint Council for Qualifications (JCQ))
- *Equality Policy* (Pearson)
- *Recognition of Prior Learning Policy and Process* (Pearson)
- *UK Information Manual* (Pearson)
- *UK Quality Vocational Assurance Handbook* (Pearson).

All of these publications are available on our website.

Publications on the quality assurance of BTEC qualifications are available on our website at www.edexcel.com/btec/delivering-BTEC/quality/Pages

Our publications catalogue lists all the material available to support our qualifications. To access the catalogue and order publications, please go to www.edexcel.com/resources/publications/Pages

Additional resources

If you need further learning and teaching materials to support planning and delivery for your learners, there is a wide range of BTEC resources available.

Any publisher can seek endorsement for their resources, and, if they are successful, we will list their BTEC resources on our website at:

www.edexcel.com/resources/publications/Pages

How to obtain National Occupational Standards

Please contact:

Asset Skills
23 Longbrook Street
Exeter
EX4 6AD

Telephone: 0800 056 7160

Email: info@assetskills.org

website: www.assetskills.org

Professional development and training

Pearson supports UK and international customers with training related to BTEC qualifications. This support is available through a choice of training options offered in our published training directory, or through customised training at your centre.

The support we offer focuses on a range of issues, including:

- planning for the delivery of a new programme
- planning for assessment and grading
- developing effective assignments
- building your team and teamwork skills
- developing learner-centred learning and teaching approaches
- building functional skills into your programme
- building in effective and efficient quality assurance systems.

The national programme of training we offer is on our website at: www.edexcel.com/resources/Training/Pages. You can request customised training through the website or you can contact one of our advisers in the Training from Pearson UK team via Customer Services to discuss your training needs.

BTEC training and support for the lifetime of the qualifications

Training and networks: our training programme ranges from free introductory events through sector-specific opportunities to detailed training on all aspects of delivery, assignments and assessment. We have designed our new network events programme to allow you to share your experiences, ideas and best practice with other BTEC colleagues in your region. Sign up to the training you need at: www.edexcel.com/btec/delivering-BTEC/training/Pages

Regional support: our team of Curriculum Development Managers and Curriculum Support Consultants, based around the country, are responsible for providing advice and support in centres. They can help you with planning and curriculum developments. If you would like your Curriculum Development Manager to contact you, please get in touch with your regional office on: 0844 463 2535.

Your Pearson support team

Whether you want to talk to a sector specialist, browse online or submit your query for an individual response, there's someone in our Pearson support team to help you whenever – and however – you need:

- **Subject Advisors:** find out more about our subject advisor team – immediate, reliable support from a fellow subject expert – at: www.edexcel.com/Aboutus/contact-us/Pages
- **Ask the Expert:** submit your question online to our Ask the Expert online service www.edexcel.com/aboutus/contact-us/ask-expert/Pages and we will make sure your query is handled by a subject specialist.

Annexe A

Wider curriculum mapping

BTEC Level 4 qualifications give learners opportunities to develop an understanding of spiritual, moral, ethical, social and cultural issues as well as an awareness of citizenship, environmental issues, European developments, health and safety considerations and equal opportunities issues.

Spiritual, moral, ethical, social and cultural issues

Throughout the delivery of these qualifications learners will have the opportunity to actively participate in different kinds of decision making. They will have to consider fair and unfair situations and explore how to resolve conflict. Working in small groups they will learn how to respect and value others' beliefs, backgrounds and traditions.

Citizenship

Learners undertaking these qualifications will have the opportunity to develop their understanding of citizenship issues.

Environmental issues

Developing a responsible attitude towards the care of the environment is an integral part of this qualification. Learners are encouraged to minimise waste and discuss controversial issues.

European developments

Much of the content of the qualification applies throughout Europe, even though the delivery is in a UK context.

Health and safety considerations

Health and safety is embedded within many of the units in this qualification. Learners will consider their own health and safety at work, how to identify risks and hazards and how to minimise those risks.

Equal opportunities issues

There will be opportunities throughout this qualification to explore different kinds of rights and how these affect both individuals and communities, for example learners will consider their rights at work and the rights of employers and how these rights affect the work community.

Annexe B

National Occupational Standards mapping

The grid below maps the Pearson BTEC Level 4 Professional qualifications in Green Deal Non-domestic Advice (QCF) against the National Occupational Standards in Property Services

KEY

indicates partial coverage of the NVQ unit

a blank space indicates no coverage of the underpinning knowledge

NOS \ Units	1	2	3	4	5	6	7	8	9	10	11
ASTGDA5	#										
ASTGDA6		#									
ASTGDA1			#								
ASTGDA7				#							
ASTACEA1					#						
ASTNDEA2						#					
ASTNDEA5							#				
ASTNDEA8								#			
ASTNDEA6									#		
ASTNDEA7										#	
ASTNDEA9											#

Annexe C

Glossary of accreditation terminology

Accreditation start/end date	The first/last dates that Pearson can register learners for a qualification.
Certification end date	The last date on which a certificate may be issued by Pearson.
Credit value	All units have a credit value. The minimum credit value that may be determined for a unit is one, and credits can only be awarded in whole numbers. Learners will be awarded credits for the successful completion of whole units.
Guided Learning Hours (GLH)	Guided learning hours are defined as all the times when a tutor, trainer or facilitator is present to give specific guidance towards the learning aim being studied on a programme. This definition includes lectures, tutorials and supervised study in, for example, open learning centres and learning workshops. It also includes time spent by staff assessing learners' achievements. It does not include time spent by staff in day-to-day marking of assignments or homework where the learner is not present.
Learning Aims Database	Link to the Learning Aims Database, which features detailed funding information by specific learning aim reference.
Learning Aim Reference	Unique reference number given to the qualification by the funding authorities on accreditation.
Level	The level at which the qualification is positioned in the Qualifications and Credit Framework (QCF).
Performance tables	This/these qualifications' is/are listed on the Department for Education (DfE) website School and College Achievement and Attainment Tables (SCAAT) as performance indicators for schools and colleges.
Qualification Number (QN)	Unique reference number given to the qualification by the regulatory authorities on accreditation.
Register of Regulated Qualifications	Link to the entry on the Register of Regulated Qualifications for a particular qualification. This database features detailed accreditation information for the particular qualification.
Section 96	Section 96 is a section of the Learning and Skills Act 2000. This shows for which age ranges the qualification is publicly funded for under-19 learners.
Title	The accredited title of the qualification.
UCAS points	This/these qualification(s) is/are listed on the Universities and Colleges Admissions Service (UCAS) tariff for those wishing to progress to higher education.

Annexe D

BTEC Specialist and Professional qualifications

BTEC qualifications on the NQF	Level	BTEC Specialist and Professional qualifications on the QCF	BTEC qualification suites on the QCF
BTEC Level 7 Advanced Professional qualifications BTEC Advanced Professional Award, Certificate and Diploma	7	BTEC Level 7 Professional qualifications BTEC Level 7 Award, Certificate, Extended Certificate and Diploma	
BTEC Level 6 Professional qualifications BTEC Professional Award, Certificate and Diploma	6	BTEC Level 6 Professional qualifications BTEC Level 6 Award, Certificate, Extended Certificate and Diploma	
BTEC Level 5 Professional qualifications BTEC Professional Award, Certificate and Diploma	5	BTEC Level 5 Professional qualifications BTEC Level 5 Award, Certificate, Extended Certificate and Diploma	BTEC Level 5 Higher Nationals BTEC Level 5 HND Diploma
BTEC Level 4 Professional qualifications BTEC Professional Award, Certificate and Diploma	4	Pearson BTEC Level 4 Professional Diploma in Green Deal Non-domestic Advice (QCF) BTEC Level 4 Award, Certificate, Extended Certificate and Diploma	BTEC Level 4 Higher Nationals BTEC Level 4 HNC Diploma
BTEC Level 3 qualifications BTEC Award, Certificate, Extended Certificate and Diploma	3	BTEC Level 3 Specialist qualifications BTEC Level 3 Award, Certificate, Extended Certificate and Diploma	BTEC Level 3 Nationals BTEC Level 3 Certificate, Subsidiary Diploma, Diploma and Extended Diploma

BTEC qualifications on the NQF	Level	BTEC Specialist and Professional qualifications on the QCF	BTEC qualification suites on the QCF
BTEC Level 2 qualifications BTEC Award, Certificate, Extended Certificate and Diploma	2	BTEC Level 2 Specialist qualifications BTEC Level 2 Award, Certificate, Extended Certificate and Diploma	BTEC Level 2 Firsts BTEC Level 2 Certificate, Extended Certificate and Diploma
BTEC Level 1 qualifications BTEC Award, Certificate, Extended Certificate and Diploma	1	BTEC Level 1 Specialist qualifications BTEC Level 1 Award, Certificate, Extended Certificate and Diploma	BTEC Level 1 qualifications BTEC Level 1 Award, Certificate and Diploma (vocational component of Foundation Learning)
	E	BTEC Entry Level Specialist qualifications BTEC Entry Level Award, Certificate, Extended Certificate and Diploma	BTEC Entry Level qualifications (E3) BTEC Entry Level 3 Award, Certificate and Diploma (vocational component of Foundation Learning)

NQF = National Qualifications Framework

QCF = Qualifications and Credit Framework

For most qualifications on the **NQF**, the accreditation end date is normally 31 August 2010 or 31 December 2010.

For qualifications on the **QCF**, the accreditation start date is usually 1 September 2010 or 1 January 2011.

QCF qualification sizes	
Award	1-12 credits
Certificate	13-36 credits
Diploma	37+ credits

Annexe E

Assessment Strategy

1 INTRODUCTION

All SSCs have the responsibility for developing an Assessment Strategy for the N/SVQs that they develop within their sectors. The cleaning industry SSC (ASSET SKILLS), has worked with the industry representatives, Awarding Bodies (City & Guilds, Hospitality Awarding Body, Scottish Qualifications Authority/British Institute of Cleaning Science, WAMITAB, FDQ and EDI) to develop this Assessment Strategy for the Cleaning and Support Services N/SVQs.

ASSET SKILLS, with the support of industry, is dedicated to embedding the National Occupational Standards and the N/SVQs into the workplace and to upholding the quality and integrity of the Standards and the awards.

2 ASSESSMENT PRINCIPLES

2.1 *The following principles will apply to Awarding Bodies:*

- 2.1.1 Assessment should normally be at the candidate's workplace, but where the opportunity to assess across the range of standards is unavailable other comparable working environments may be used, following agreement from the External Verifier.
- 2.1.2 A holistic approach towards the collection of evidence should be encouraged, assessing activities generated by the whole work experience rather than focusing on specific tasks. E.g. If the candidate communicates with a customer whilst engaged in cleaning activities these can be assessed against both cleaning and customer service elements.
- 2.1.3 Assessors can only assess in their acknowledged area of occupational competence.
- 2.1.4 Assessors and Internal Verifiers will be registered with their Approved Centre and be accountable to the organisation for their assessment practice.
- 2.1.5 Health and safety of customers/clients and employees must be maintained throughout the assessment process and if any person carrying out assessment or verification activities does not feel that there is due regard to health and safety then that person should refuse to continue with the activity (ies) until satisfied that due regard to health and safety is being taken.

3 SIMULATION AND WITNESS TESTIMONY

There are a few occasions when simulation or witness testimony is warranted where the centre can demonstrate that performance evidence has been impossible to obtain.

The underlying reasons for either simulation or witness testimony are:

- health and safety considerations
- activities that would cause serious inconvenience or loss to an employer if there was an undue delay in their being carried out
- Infrequently occurring activities
- equality of access

3.1 *Simulation*

Simulation may be necessary for specific elements of the units. It is advisable that centres refer to the Awarding Bodies in these cases for clear guidelines.

Awarding Body guidance to centres must ensure that demands on the candidate during simulation are neither more nor less than they would encounter in a real work situation. In particular:

- All simulations must be planned, developed and documented by the centre in a way that ensures the simulation accurately reflects what the unit seeks to assess
- All simulations should follow these documented plans
- A centre's overall strategy for simulation must be examined and approved by the external verifier
- There should be a range of simulations to cover the same aspect of the standard so that the risk of candidates successfully colluding is reduced
- The physical environment for the simulation must be as realistic as possible and draw on real resources that would be used in the industry
- The nature of the contingency must be realistic.

3.2 *Witness Testimony*

Witness testimony should not form the primary source of evidence. Centres must comply with Awarding Body guidance over the occupational competence and briefing of witnesses in the use of witness testimony.

4 RECOGNITION OF PRIOR LEARNING AND EXPERIENCE

- 4.1 Evidence from past achievement may be included as permissible evidence within N/SVQ assessment methods.
- 4.2 Evidence of knowledge and understanding can be offered as supplementary evidence as long as it is a measurable assessed outcome of learning which links to aspects of knowledge and understanding detailed in the National Occupational Standards and confirms current competence.
- 4.3 Assessors should make best use of all the assessment methods available to them in ensuring the most reliable and effective use is made of claims of prior learning and experience which relate to the individual circumstances.
- 4.4 All candidates must demonstrate current competence with respect to accreditation of prior learning (APL).

5 EXTERNAL QUALITY ASSURANCE OF ASSESSMENT

- 5.1 Awarding bodies will operate a Risk Rating system of Approved Centres. This will be applied UK wide. Awarding bodies will provide details of their plans and criteria for risk rating at the time of qualifications' submissions.
 - 5.1.1 The Awarding Bodies will carry out risk assessment annually and risk rate each Approved Centre and will take appropriate action to ensure quality assurance is maintained.

6 FRAMEWORK CRITERIA FOR THE APPOINTMENT OF EXTERNAL VERIFIERS

- 6.1 ASSET SKILLS aims to ensure that the technical and quality aspirations of industry are met, in order to inspire confidence in the national occupational standards and qualifications. ASSET SKILLS will work with the Awarding Bodies to implement a practical and cost effective external verification process that will strengthen the rigour and consistency of assessment.
- 6.2 The criteria will apply to existing and new External Verifiers.
- 6.3 Verification Competence
 - 6.3.1 Awarding Bodies will ensure that External Verifiers:
 - Hold an appropriate external verifier qualification (D35 or V2), or be working towards the V2 qualification, and demonstrate evidence of knowledge, understanding and experience of the assessment process (together with the occupational competence requirements below).
 - In England, Wales, Northern Ireland new External Verifiers must achieve unit V2 within 12 months of beginning external verification.
 - In Scotland ,all new EVs should have an assessment plan for achieving the V2 and be working towards achieving the awards. There is no timescale attached to the achievement of Unit V2.

6.4 Occupational Competence

All External Verifiers must

- 6.4.1 provide evidence of knowledge, understanding and application of the ational Occupational Standards and Assessment Strategy, together with technical definitions where appropriate. Awarding Bodies should cover this requirement as part of their normal appointment process.
- 6.4.2 have verifiable relevant experience and current knowledge of the occupational working area at or above the level being verified. This experience and knowledge must be of sufficient depth to be effective and reliable when verifying judgements about assessors' assessment processes and decisions.

External verifiers' experience and knowledge could be verified by:

- curriculum vitae and references
 - possession of a relevant NVQ/SVQ
 - corporate membership of a relevant professional institution
- 6.4.3 have expertise so they have up to date knowledge and experience of the particular aspects of work they are verifying. This could be verified by records of continuing professional development achievements
 - 6.4.4 have a sound in-depth knowledge of, and uphold the integrity of the NOS and this Assessment Strategy (this document)
 - 6.4.5 have completed continuous professional development to ensure that they are working to the current National Occupational Standards in assessment and verification.
 - 6.4.6 be aware of national issues affecting vocational education, training and qualifications in the sector.
 - 6.4.7 have appropriate knowledge of the ASSET SKILLS framework of qualifications in relevant areas to the qualifications being externally verified.
 - 6.4.8 demonstrate their ability to maintain credibility and retain the confidence of the industry through commitment to continuous personal and professional development.
 - 6.4.9 provide evidence of knowledge, understanding and application of the Regulatory Authorities' codes of practice

- 6.5 Awarding Bodies may have generic criteria and personnel specifications in addition to the above.

7 FRAMEWORK CRITERIA FOR THE APPOINTMENT OF INTERNAL VERIFIERS

- 7.1 Internal Verifiers are appointed by an Approved Centre and approved by the Awarding Body through their External Verifier.
- 7.2 This criteria will apply to existing and new Internal Verifiers.
- 7.3 Internal Verifiers should only verify the decisions of assessors which fall within their acknowledged area of technical and occupational competence.
- 7.4 Internal Verifiers should be seen as the person responsible for an approved centre's assessment quality in order to facilitate the assessment process and should be one of the following:
- 7.4.1 Internal Verifiers will be employed directly or contractually by the same organisation (approved centre) as the assessors

Or

- 7.4.2 Acting as a counter-signatory on a short term basis, a maximum period of 18 months, where Internal Verifier(s) have not yet achieved their V1 award.
- 7.5 Internal Verifiers will:
- 7.5.1 Hold an appropriate internal verifier qualification (D34 or V1), or be working towards a V1 qualification.
- In England, Wales and Northern Ireland all new internal verifiers should achieve unit V1 within 18 months of beginning internal verification duties. Internal verification decisions by verifiers who are still working towards certification must be countersigned by a Verifier who has gained certification.
 - In Scotland, all new Verifiers should have an assessment plan for achieving the V1 and be working towards achieving the award. External Verifiers will monitor progress and achievement towards the achievement of V1 during centre visits
 - All new Internal Verifiers must hold units A1 and/or A2
- 7.5.2 It is desirable that all Internal Verifiers hold a relevant cleaning qualification

Internal Verifiers will:

- 7.5.3 have verifiable relevant experience and current knowledge of the occupational working area at or above the level being verified. This experience and knowledge must be of sufficient depth to be effective and reliable when verifying judgements about assessors' assessment processes and decisions. Internal verifiers' experience and knowledge could be verified by:
- curriculum vitae and references
 - possession of a relevant NVQ/SVQ
 - corporate membership of a relevant professional institution

- 7.5.4 have expertise so they have up to date knowledge and experience of the particular aspects of work they are verifying. This could be verified by records of continuing professional development achievements
- 7.5.5 have a sound in-depth knowledge of, and uphold the integrity of the NOS and this Assessment Strategy (this document)
- 7.5.6 be prepared to participate in training activities for their continued professional development
- 7.5.7 demonstrate their ability to maintain occupational competence by continuous professional development
- 7.5.8 have completed continuous professional development to ensure that they are working to the current National Occupational Standards in assessment and verification.
- 7.5.9 have knowledge of the requirements and application of the Asset Skills Cleaning Services assessment strategy
- 7.5.10 provide evidence of knowledge, understanding and application of the Regulatory Authorities' codes of practice
- 7.6 Centres will be responsible for ensuring that internal verifiers plan and maintain continuous professional development
- 7.7 Approved Centres may have generic criteria and personnel specifications in addition to the above.

8 FRAMEWORK CRITERIA FOR THE APPOINTMENT OF ASSESSORS

- 8.1 This section is intended to assist Approved Centres in the recruitment of those individuals who will act as Assessors within the Approved Centre.
- 8.2 Assessors are appointed by an Approved Centre and approved by the Awarding Body through their External Verifier.
- 8.2.1 They should only assess in their area of technical and occupational competence as approved by their Awarding Bodies.
- 8.3 Assessors should be one of the following:
- 8.3.1 Employed directly or contractually by the same organisation (centre) as the candidate

Or

- 8.3.2 Acting as a counter signatory on a short term basis (18 months) where the Centre Assessor has not yet achieved their A1 or A2 awards.
- 8.4 The Assessor should have the following:
- Assessment Competence*
- 8.4.1 Hold D32 and/or D33 or A1 and or A2 or be working towards A1 and/or
- 8.4.2 A2 Assessor Awards.

- In England, Wales and Northern Ireland, new Assessors must achieve unit A1 or A2 within 18 months of beginning assessment duties.

Assessment decisions by Assessors who are still working towards certification must be countersigned by an Assessor who has gained certification.

- In Scotland, all new Assessors should have an assessment plan for achieving A1 or A2 and be working towards achieving the award.

External Verifiers will monitor progress and achievement towards the achievement of A1 or A2 during centre visits.

Candidates in possession of a TQFE without having an appropriate A1 or A2 award should undertake continuing professional development to demonstrate that they are working to the appropriate A Unit standard.

- 8.5 Occupational Competence
All assessors must
- 8.5.1 have verifiable relevant current industry experience and knowledge of the occupational working area at or above the level being assessed. This experience and knowledge must be of sufficient depth to be effective and reliable when judging candidates' competence. Assessors' experience and knowledge could be verified by:
- curriculum vitae and references
 - possession of a relevant NVQ/SVQ
 - corporate membership of a relevant professional institution
- 8.5.2 have sufficient occupational expertise so they have up to date knowledge and experience of the particular aspects of work they are assessing. This could be verified by records of continuing professional development achievements
- 8.5.3 have a sound in-depth knowledge of, and uphold the integrity of the sector's NOS and this Assessment Strategy (this document)
- 8.5.4 be prepared to participate in training activities for their continued professional development
- 8.6 Centres will be responsible for ensuring that assessors plan and maintain continuous professional development
- 8.7 Approved Centres may have generic criteria and personnel specifications in addition to the above.



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