

Level 4 Diploma in Non-Domestic Energy Assessment (6361-08)

September 2017 Version 1.2



Qualification at a glance

Subject area	Energy assessment
City & Guilds number	6361-08
Age group approved	18+
Entry requirements	None
Assessment	Assignment and portfolio of evidence
Support materials	Centre Handbook Assessment Pack Candidate Logbook
Registration and certification	Consult the Walled Garden/Online Catalogue for last dates

Title and level	GLH	TQT	City & Guilds number	Accreditation number
Level 4 Diploma in Non-Domestic Energy Assessment	195	430	6361-08	601/3010/6

Version and date	Change detail	Section
1.1 April 2014	Correction to stated assessment method for unit 433	Assessment
1.2 September 2017	Added GLH and TQT details	Qualification at a glance and Introduction
	Removed QCF	Appendix 1



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1 Introduction

This document tells you what you need to do to deliver the qualification:

Area	Description
Who is the qualification for?	The City & Guilds Level 4 Diploma in Non-domestic Energy Assessment qualification has been developed for learners wishing to become an accredited Non-Domestic Energy Assessor (NDEA).
What does the qualification cover?	This qualification allows learners to learn, develop and practise the skills required for employment and/or career progression in the non-domestic site energy assessment sector.
What opportunities for progression are there?	This qualification allows learners to progress into employment.

Structure

To achieve the **Level 4 Diploma in Non-domestic Energy Assessment (6361-08)**, learners must achieve **43** credits from the mandatory units listed in the table below.

Unit accreditation number	City & Guilds unit number	Unit level	Unit title	Credit value	GL H
Mandatory					
H/503/8162	331	3	Conduct energy assessments in a safe, effective and professional manner	6	30
J/503/8168	335	3	Prepare for energy assessments of non-dwellings to fulfil regulatory requirements for asset ratings	6	30
F/503/8170	433	4	Undertaken energy assessments of existing Level 4 non-dwellings using the Simplified Building Energy Model SBEM	13	50
L/503/8172	434	4	Report on the energy assessment of the new and existing non-dwellings using Simplified Building Energy Model SBEM	7	35
L/506/0009	436	4	Conduct building regulations compliance checks of as-designed and as-built non-domestic new-buildings using the Simplified Building Energy Model SBEM	11	50

Total Qualification Time

Total Qualification Time (TQT) is the total amount of time, in hours, expected to be spent by a Learner to achieve a qualification. It includes

both guided learning hours (which are listed separately) and hours spent in preparation, study and assessment.

Title and level	GLH	TQT
Level 4 Diploma in Non-Domestic Energy Assessment	195	430

2 Approval

Centres that are approved to deliver the:

- **6361-04 Level 4 Diploma in Non-Domestic Energy Assessment** can obtain fast-track approval to deliver the
- **6361-08 Level 4 Diploma in Non-domestic Energy Assessment** using the Fast Track Approval Form available from the City & Guilds website.

Centres not yet approved by City & Guilds to offer qualifications are required to complete both the Centre Approval Process and the Qualification Approval Process.

Please refer to our *Centre Manual - Supporting Customer Excellence* documents for further information, and for guidance on administration and quality assurance.

Resource requirements

Physical resources

Centres must provide access to sufficient equipment in the centre or workplace to ensure candidates have the opportunity to cover all of the practical activities.

Human resources

To meet the quality assurance criteria for this qualification, the centre must ensure that the following internal roles are undertaken:

- quality assurance co-ordinator
- assessor
- examinations secretary
- tutor
- invigilator.

Staff delivering the qualifications

Staff delivering these qualifications must be able to demonstrate that they meet the following occupational expertise requirements. They should:

- be technically competent in the area for which they are delivering training and/or have experience of providing training. This knowledge must be at least to the same level as the training being delivered.
- be occupationally knowledgeable in the area for which they are delivering training, including up-to-date knowledge of the energy assessment industry, its settings, legislative and regulatory requirements, codes of practice and guidance.
- hold an energy rating software certificate (or possibly be recognised as a Competent Person for CO₂ emission rate calculations), or an equivalent qualification
- have occupational expertise relevant to the inspection and reporting of residential property for energy assessment inspection purposes.
- have a sound knowledge and understanding of the National Occupational Standards for Domestic Energy Assessors and the officially published guidance (formerly IRR) which will shortly relate thereto.
- have a sound knowledge and understanding of RDSAP2005 energy rating software.

Centre staff may undertake more than one role, eg a tutor and assessor or internal verifier, but they must never internally verify their own assessments.

Assessors and quality assurance coordinators

While the Assessor/Verifier (A/V) units are valued as qualifications for centre staff, they are not a requirement for the qualification.

Continuing professional development (CPD)

Centres must support their staff to ensure that they have current knowledge of the occupational area, that delivery, mentoring, training, assessment and verification is in line with best practice, and that it takes account of any national or legislative developments.

Candidate entry requirements

Candidates should not be entered for a qualification of the same type, content and level as that of a qualification they already hold. There are no formal entry requirements for candidates undertaking the qualification. However, centres must ensure that candidates have the potential and opportunity to successfully gain the qualification.

Age restrictions

This qualification is not approved for use by candidates under the age of 18, and City & Guilds cannot accept any registrations for candidates in this age group.

Internal quality assurance

Approved centres must have effective quality assurance systems to ensure optimum delivery and assessment of qualifications.

Quality assurance includes initial centre approval, qualification approval and the centre's own internal procedures for monitoring quality. Centres are responsible for internal quality assurance, and City & Guilds is responsible for external quality assurance.

External quality assurance

External quality assurance for the qualification will be provided by City & Guilds external verification process.

External verifiers are appointed by City & Guilds to approve centres, and to monitor the assessment and internal quality assurance carried out by centres. External verification is carried out to ensure that assessment is valid and reliable, and that there is good assessment practice in centres.

To carry out their quality assurance role, external verifiers must have appropriate occupational and verifying knowledge and expertise. They must be familiar with the National Occupational Standards for Domestic Energy Assessors (Domestic) and Building Energy Assessment (Non-Dwellings) on Construction Sale or Rent (non-Domestic). City & Guilds external verifiers attend training and development designed to keep them up-to-date, facilitate standardisation between verifiers and share good practice.



3 Delivering the qualification

Initial assessment and induction

Centres will need to make an initial assessment of each candidate prior to the start of their programme to ensure they are entered for an appropriate type and level of qualification.

The initial assessment should identify any specific training needs the candidate has, and the support and guidance they may require when working towards their qualification.

City & Guilds recommends that centres provide an induction programme to ensure the candidate fully understands the requirements of the qualification they will work towards, their responsibilities as a candidate, and the responsibilities of the centre. It may be helpful to record the information on a learning contract.

Recommended delivery strategies

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualification before designing a course programme.

Centres may design course programmes of study in any way that:

- best meets the needs and capabilities of their candidates
- satisfies the requirements of the qualification.

City & Guilds recommends that centres address the wider curriculum, where appropriate, when designing and delivering the course. Centres should also consider links to the National Occupational Standards, Key/Core Skills and other related qualifications.

Centres may wish to include topics as part of the course programme which will not be assessed through the qualifications.

Recording documents

Candidates and centres may decide to use a paper-based or electronic method of recording evidence.

City & Guilds endorses several ePortfolio systems, including our own, **Learning Assistant**, an easy-to-use and secure online tool to support and evidence learners' progress towards achieving qualifications. Further details are available at: www.cityandguilds.com/eportfolios.

City & Guilds has developed a set of *Recording forms* including examples of completed forms, for new and existing centres to use as appropriate. *Recording forms* are available on the City & Guilds website.

Although new centres are expected to use these forms, centres may devise or customise alternative forms, which must be approved for use by the

external verifier, before they are used by candidates and assessors at the centre. Amendable (MS Word) versions of the forms are available on the City & Guilds website.



4 Assessment

Candidates must:

- successfully complete the assignments for Units 335 and 434.
- have a completed portfolio of evidence for Units 331, 433 and 436.

For these qualifications, learners will be required to complete the following assessments.

Unit	Title	Assessment method	Where to obtain assessment materials
331	Conduct energy assessments in a safe, effective and professional manner	Portfolio This unit will be assessed via observation and the development of a portfolio in a working environment and will be assessed to the assessment criteria set out in the unit.	The logbook for this unit is available to download from the City & Guilds website www.cityandguilds.com
335	Prepare for energy assessments of non-dwellings to fulfil regulatory requirements for asset ratings	Assignment 6361-335 The assessment covers the practical activities for all outcomes and will also sample underpinning knowledge to verify coverage of the unit. City & Guilds devised assignment, internally marked, externally verified.	This assignment will be available from the City & Guilds website www.cityandguilds.com Passwords will be available on the Walled Garden.
433	Undertaken energy assessments of existing Level 4 non-dwellings using the Simplified Building Energy Model SBEM	Assignment 6361-433 The assessment covers the practical activities for all outcomes and will also sample underpinning knowledge to verify coverage of the unit. City & Guilds devised assignment, internally marked, externally verified.	This assignment will be available from the City & Guilds website www.cityandguilds.com Passwords will be available on the Walled Garden.

Unit	Title	Assessment method	Where to obtain assessment materials
434	Report on the energy assessment of the new and existing non-dwellings using Simplified Building Energy Model SBEM	Assignment 6361-434 The assessment covers the practical activities for all outcomes and will also sample underpinning knowledge to verify coverage of the unit. City & Guilds devised assignment, internally marked, externally verified.	This assignment will be available from the City & Guilds website www.cityandguilds.com Passwords will be available on the Walled Garden.
436	Conduct building regulations compliance checks of as-designed and as-built non-domestic new-buildings using the Simplified Building Energy Model SBEM	Portfolio This unit will be assessed via observation and the development of a portfolio in a working environment and will be assessed to the assessment criteria set out in the unit.	The logbook for this unit is available to download from the City & Guilds website www.cityandguilds.com



5 Units

Structure of units

These units each have the following:

- City & Guilds reference number
- Unit Accreditation Number (UAN)
- title
- level
- credit value
- guided learning hours
- unit aim
- information on assessment
- learning outcomes which are comprised of a number of assessment criteria.

Unit 331

Conduct energy assessments in a safe, effective and professional manner

UAN:	H/503/8162
Level:	3
Credit value:	6
GLH:	30

Learning outcome
The learner will: 1. Understand the health and safety requirements when undertaking energy assessments.
Assessment criteria
The learner can: 1.1 explain the relevant legal duties for health, safety and security in the workplace 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 1.3 identify the risks to self which are associated with lone working 1.4 explain why it is important to remain alert to the presence of risks in the workplace 1.5 explain the importance of personal conduct in maintaining the health, safety and security of yourself or others 1.6 explain how to make use of relevant suppliers and manufacturers' instructions for the safe use of equipment, materials and products 1.7 explain who should be informed of any conflicts between different health, safety and security requirements 1.8 describe the procedures for different types of emergency 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 1.10 identify the actions that may be taken to protect customers' property.

Learning outcome

The learner will:

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

Assessment criteria

The learner can:

- 2.1 explain why it is important to promote goodwill and trust when working with others and ways in which this can be achieved
- 2.2 explain how to identify the information you require and the potential sources of such information
- 2.3 describe how to respond to enquiries from others and how to clarify their information needs
- 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
- 2.5 define the extent and limits for your own competence and expertise and the importance of not working beyond these limits
- 2.6 describe the ways in which disputes or differences of opinion should be handled and resolved to minimise offence and maintain respect
- 2.7 describe the formal complaints procedure that covers your work in terms of:
 - a. any specific organisational requirements with regard to complaints
 - b. 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
- 2.8 identify the range of potential conflicts of interest that you may encounter and the action required to manage these
- 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 outcome
The learner will: 3. Understand the legislation, codes of conduct and compliance requirements in relation to energy assessment.
Assessment criteria
The learner can: 3.1 describe the relevant policies and legislation on combating climate change and the reduction of carbon emissions from buildings 3.2 describe the relevant legislation covering: a. the energy performance of buildings b. compliance with safe working practices c. the relevant regulations in the devolved administrations d. where appropriate relevant legislation on the use of refrigerants 3.3 describe the relevant official guidance and conventions relating to the assessment of energy performance 3.4 describe your specific responsibilities under prescribed codes of conduct and ethical standards 3.5 describe why it is important to comply with mandatory and advisory codes of practice 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 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 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.

Learning outcome
The learner will: 4. Be able to comply with organisational and legal requirements at all times.
Assessment criteria
The learner can: 4.1 carry out work in accordance with the relevant legal requirements, legislation and advisory and mandatory codes of practice 4.2 carry out work in accordance with the auditing and monitoring requirements of the relevant accreditation or certification organisation/s 4.3 record customer contact information in accordance with organisational and legal requirements such as the data protection legislation 4.4 identify and maintain appropriate evidence to record to support your decisions and assumptions made when carrying out energy assessments 4.5 identify the evidence requirements defined in scheme operating requirements, or their equivalent in the devolved administrations.

Learning outcome
The learner will: 5. Be able to maintain health, safety and security at work.
Assessment criteria
The learner can: 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: a. equipment b. Personal Protective Equipment (PPE) c. materials d. 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 outcome
The learner will: 6. Be able to develop and maintain effective working relationships with colleagues, professionals, clients and others.
Assessment criteria
The learner can: 6.1 develop and maintain productive working relationships with others 6.2 request information from colleagues, professionals, clients and others in a polite, clear and professional manner 6.3 identify and make use of further sources of information/help deal with enquiries from colleagues, professionals, clients and others and seek clarification where necessary 6.4 handle enquiries which: a. are outside own authority b. are beyond own area of knowledge or expertise c. involve confidential information 6.5 handle and resolve disputes and/or differences of opinion 6.6 adhere to the formal complaints procedure when dealing with a complaint.

Learning outcome
The learner will: 7. Be able to conduct energy assessments in a professional manner.
Assessment criteria
The learner can: 7.1 deal with colleagues, professionals, clients and others in a tactful, courteous and equitable manner 7.2 carry out work in accordance with prescribed codes of conduct, ethical standards and recognised good practice 7.3 record all evidence supporting the assumptions and decisions made during the assessment 7.4 demonstrate effective management of work activities and personal and professional development 7.5 respond appropriately to pressure from any person/s which may affect own judgment 7.6 demonstrate delivery of the appropriate level of customer service 7.7 assess customer expectations as to the outcomes of the energy assessment or advice process.

Unit 335

Prepare for energy assessments of non-dwellings to fulfil regulatory requirements for asset ratings

UAN:	J/503/8168
Level:	3
Credit value:	6
GLH:	30

Learning outcome
The learner will: 1. Understand the regulations and requirements needed to undertake energy assessments.
Assessment criteria
The learner can: 1.1 explain the legislation governing energy assessment and the overall purposes of the energy performance certificate 1.2 identify the relevant regulations for energy performance requirements new buildings 1.3 identify the relevant regulations for energy performance requirements for existing buildings 1.4 describe the types of property and situations that do not by law require energy certification and how to deal with voluntary certification 1.5 identify the building regulations, EPBD regulations and other regulations' energy performance requirements that are relevant to buildings other than dwellings 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 1.7 review the frequency of energy assessments and the validity of certificates and reports 1.8 explain the role of the energy performance certificate in wider government policy including where relevant the green deal.

Range

Stages: Design stage, SBEM data entry, compliance, production of EPC, advising clients.

Learning outcome

The learner will:

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

Assessment criteria

The learner can:

- 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
- 2.2 describe how to identify and explain to clients any circumstances that prevent you from undertaking an energy assessment
- 2.3 identify the limitations and constraints that apply to the conduct of energy assessments
- 2.4 explain the importance of explaining and confirming in writing the arrangements agreed between you and client(s)
- 2.5 explain the importance of explaining the terms and conditions and fee structures and payment arrangements for energy assessments
- 2.6 identify the limitations and constraints of the planned energy assessment
- 2.7 explain how to confirm on-site inspection arrangements with the client(s) or other occupier
- 2.8 identify the **circumstances** that may prevent you from undertaking an energy assessment
- 2.9 explain the importance of explaining politely and clearly to clients the reasons why you cannot undertake an energy assessment
- 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.

Range

Client: internal; external.

Circumstances: properties beyond the learners level of competences; own diary pressures; difficulties in gaining access; conflicts of interest; lack of key information.

Learning outcome

The learner will:

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

Assessment criteria

The learner can:

- 3.1 identify the different types of preparatory information that it is important to obtain to ensure a complete and accurate assessment and certificate
- 3.2 identify the different sources of preparatory information (including existing calculations and energy audit reports) relating to the energy performance of the property
- 3.3 explain how to obtain preparatory information relating to the energy performance of the property
- 3.4 identify prevailing geographical/environmental features that may affect the energy performance of the property
- 3.5 explain how to evaluate relevant information in order to identify any **significant factors** that may influence the energy assessment, including:
 - a. gaps in information concerning the building and its energy use
 - b. health and safety considerations, accessibility
 - c. level of building complexity
- 3.6 explain how to identify circumstances that prevent you from assessing the energy performance of the property
- 3.7 explain the importance of explaining to clients why you may not be able to fulfil the agreed contract.

Range

Significant factors: gaps in information concerning the building and its energy use; health and safety considerations; accessibility.

Learning outcome
The learner will: 4. Be able to agree and confirm instructions to undertake energy assessments.
Assessment criteria
The learner can: 4.1 determine the nature and characteristics of the property to ensure that it requires an operational rating (or) or asset rating as appropriate 4.2 respond to requests to undertake energy assessments from clients 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 4.4 explain to the client the relevant regulations that are legally required and the overall purpose of the energy certificate 4.5 explain to the client why the Energy Certificate has to conform to prescribed protocols and must be accompanied by cost-effective recommendations 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 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 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.
Range
Specific arrangements: access to the property; those present at the property at the time of onsite inspection; health and safety issues.

Learning outcome
The learner will: 5. Be able to investigate relevant matters relating to energy usage within a property.
Assessment criteria
The learner can: 5.1 investigate and record any preparatory information to ensure complete and comprehensive energy assessment and certification 5.2 identify prevailing geographical/environmental features that may affect the energy performance of the property 5.3 evaluate preparatory information to identify inconsistencies and any significant factors that may influence the energy assessment 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 5.5 inform clients promptly in cases where your investigations reveal problems that prevent you from assessing the energy performance of the property 5.6 ensure that the most up-to-date version of the approved software and associated reference materials can be accessed.

Unit 433

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

UAN:	F/503/8170
Level:	4
Credit value:	13
GLH:	50

Learning outcome

The learner will:

1. Understand the equipment and resources needed to undertake energy inspections.

Assessment criteria

The learner can:

- 1.1 explain the principles of building structure elements, fabric, services and overall design philosophy as relevant to energy assessment
- 1.2 identify equipment and **resources** needed to undertake the inspection
- 1.3 explain the detailed inspection requirements that apply to a property as described in relevant **guidance** documents and conventions
- 1.4 explain the definitions and conventions embodied within the approved software used to calculate energy performance ratings
- 1.5 identify, from drawings and building structures, the various types of building construction, materials and services
- 1.6 explain how to conduct the inspection in a thorough, methodical and consistent manner
- 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.

Range

Resources

Observations, building agent questionnaires, local knowledge, building control information, manufactures information.

Guidance

SBEM Technical Manuals, modelling guide, CLG guidance documents, accreditation body, technical support documents, technical conventions documentation, approved documents ADL2A and ADL2B, non-domestic building services compliance guide.

Learning outcome

The learner will:

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

Assessment criteria

The learner can:

- 2.1 identify **assumptions** that are made in determining energy performance
- 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
- 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**
- 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
- 2.5 describe the relative sensitivity of the different building characteristics that affect the energy performance of the building structure and fabric
- 2.6 identify critical property features and activities where incorrect choice of values will be significantly detrimental to accuracy, including:
 - a. allocation of the most appropriate activity to zones
 - b. lighting
 - c. choice of default HVAC in zones where none exists
 - d. selection of HVAC efficiency and its allocation to the appropriate zone
 - e. availability of daylight and presence of low and zero carbon technologies
- 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.

Range**Assumptions**

Layers of construction, floor type, glazing pane depth, building regulations.

Level

Simple existing buildings, complex existing building, new buildings.

Hazardous

Asbestos, unsafe floors, dangerous substances, chemicals, threats to health and safety, trips, slips.

Learning outcome
The learner will: 3. Understand how to collate information from the on-site inspection and other sources to assess the energy performance of the property.
Assessment criteria
The learner can: 3.1 explain how to make accurate observations and take accurate measurements 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 3.3 explain how to collate information required to assess the energy performance of property.

Range
Observations External, internal, building type, construction, insulation, glazing, lighting, heating, cooling and ventilation systems, renewable.
Measurements All envelopes, zone height, glazing area, door area, shading.

Learning outcome
The learner will: 4. Understand how to prepare and issue an Energy Performance Certificate which includes recommendations for cost-effective improvements and meets relevant regulations.
Assessment criteria
The learner can: 4.1 state the prescribed format and content of an Energy Performance Certificate 4.2 state the range of energy efficiency measures that may be included within an Energy Performance Certificate 4.3 identify the approved software used for the production and lodgement of completed Energy Performance Certificates 4.4 explain how to correctly use the approved software for the production and lodgement of completed Energy Performance Certificates 4.5 explain the principles underpinning the approved tools used to calculate the energy performance ratings 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

<p>generated prior to lodgement, deleting any that are inappropriate, and providing your reasons</p> <p>4.10 explain the way in which energy efficiency measures are generated and circumstances when it is appropriate to delete them</p> <p>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</p> <p>4.12 explain how to use the information technology underpinning the National Register for Lodgement and retrieval of Energy Performance Certificates</p> <p>4.13 explain how to provide necessary audit evidence via electronic transfer.</p>
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Range
Measures
Improve lighting, upgrade heating, cooling and ventilation, thermally insulate the building, replace glazing, install renewable: wind turbines, solar hot water, photovoltaic cells, heat pumps, shading.

Learning outcome
The learner will:
5. Understand how to make and maintain complete, accurate and legible records of your work.
Assessment criteria
The learner can:
5.1 explain the level of detail within your records required to produce a complete and comprehensive Energy Performance Certificate
5.2 explain the level of detail within your records required to justify your decisions on the values recorded and energy efficiency measures included
5.3 state why it is important to make and maintain complete, accurate and legible records
5.4 explain the reasons why it is necessary and important to record where and why accurate inspection has not been possible
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
5.6 explain the importance of storing records securely allowing for future access and the purposes for which those records may be used.

Learning outcome
The learner will: 6. Be able to inspect a Level 4 non-dwelling.
Assessment criteria
The learner can: 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.

Range
Equipment PPE, laser measurer, tape measure, data collection forms, compass, scaled ruler, camera, pens, pencil.
Method of construction Cavity, timber frame, masonry, metal clad, weatherboard, curtain wall.
Circumstances The discovery of unexpected or hazardous conditions or materials, other potential threats to health and safety.

Learning outcome
The learner will: 7. Be able to collate information from the on-site inspection and other sources to assess the energy performance of the property.
Assessment criteria
The learner can: 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 7.2 obtain all additional information that is needed about the property and ensure that defaults are not used except where justified 7.3 identify where observations are inconsistent with existing evidence and expected findings and conduct further investigations to establish the causes of these inconsistencies 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 7.5 follow the correct procedures for collecting information to enable the energy efficiency of the property to be determined.

Range
Additional information System efficiencies, fabric information, evidence of insulation, conservation status, manufacturer data, ECA credits.

Learning outcome
The learner will: 8. Be able to prepare and issue an Energy Performance Certificate which includes recommendations for energy efficiency measures and meets relevant regulations.
Assessment criteria
The learner can: 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 8.10 provide necessary audit evidence via electronic transfer.

Learning outcome
The learner will: 9. Be able to make and maintain complete, accurate and legible records of your work.
Assessment criteria
The learner can: 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 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 9.3 collate relevant information as evidence to support the specific decisions made on values chosen and energy efficiency measures considered, including: a. legible site notes b. clear site sketches (plan, elevation) to give an adequate record of the inspection for audit purposes c. clear photographs containing mandated data (eg time and date) appropriately staged and annotated where necessary d. legibly completed survey forms e. records of web searches or other research f. any other information you consider necessary to support your decisions g. any other information required by scheme operating requirements 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.

Range
Records Diary information, site notes, floor plans, photographs, evidence, building agent questionnaire, contracts, terms and conditions, building service information, photographic information.

Unit 434

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

UAN:	L/503/8172
Level:	4
Credit value:	7
GLH:	35

Learning outcome

The learner will:

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

Assessment criteria

The learner can:

- 1.1 describe the prescribed format and content of an Energy Performance Certificate Recommendations Report
- 1.2 identify the range of energy efficiency measures that may be included within an Energy Performance Certificate 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 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 the effect of choosing default data options on the energy efficiency measures offered by SBEM
- 1.8 explain how to check the Energy Performance Certificate Recommendations Report for cost-effective improvement, ensuring compliance with relevant requirements and conventions
- 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
- 1.10 explain the importance of making and maintaining **records** that are complete, accurate and legible

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| <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> |
|--|

Range

Approved software

ISBEM, other software approved by the CLG for the production of EPCs and recommendation reports.
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Records

Site notes, floor plans, photographs, evidence, building agent questionnaire, contracts, terms and conditions, building service information.
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Learning outcome

The learner will:

- | |
|---|
| <p>2. Understand how to provide a clearly defined and robust hierarchy of energy efficiency measures for non-dwellings.</p> |
|---|

Assessment criteria

The learner can:

- 2.1 explain how to use **approved software** to generate energy efficiency measures for the property
- 2.2 explain the way in which energy efficiency measures are generated and circumstances when it is appropriate to delete them
- 2.3 explain the importance of checking the energy efficiency measures generated, deleting any that are inappropriate, and providing your reasons
- 2.4 identify the factors that could affect the choice of energy efficiency measures for improvements to the property, including:
 - a. issues that make them unsuitable for the property
 - b. interactions between building fabric and building services
 - c. listed building status/conservation areas
- 2.5 identify the issues that could make energy efficiency measures unsuitable for the property, including:
 - a. property situation eg subject to extreme weather
 - b. property condition eg state of repair of external walls
 - c. inadequate ventilation
 - d. traditional construction
 - e. 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
- 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.

Range

Approved software

ISBEM, other SBEM software approved by CLG.

Learning outcome

The learner will:

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

Assessment criteria

The learner can:

- 3.1 state the objective of producing Recommendations Reports
- 3.2 explain the difference between high, medium and low carbon impact energy efficiency measures and the scale of savings that each may achieve
- 3.3 identify which elements have greater **impact** on the energy performance of the building in question and why
- 3.4 explain how estimates of costs for energy efficiency measures have been arrived at and how robust they are
- 3.5 explain how to **communicate** and explain the energy efficiency measures to the client
- 3.6 explain the importance of retaining **documentation** for audit purposes or legal compliance
- 3.7 explain how to convey essential information in a written report in a way which will be comprehensible to the client
- 3.8 identify where to refer clients for further help and advice.

Range

Impact

High, medium, low.

Communicate

In person, telephone conversation, letter, email, report.

Documentation

Site notes, floor plans, dated photographic evidence, (including all elevations, HVAC, lighting, activities, construction, insulation, lamp types and controls) evidence, building agent questionnaire, building service information, justification of assumptions, ariel view, evidence of efficiencies, calculations.

Learning outcome
The learner will: 4. Be able to produce Recommendations Reports for non-dwellings using SBEM.
Assessment criteria
The learner can: 4.1 use approved software to generate energy efficiency measures that improve energy performance 4.2 check the Recommendations Report, ensuring compliance with relevant requirements and current conventions 4.3 produce and maintain accurate and legible records which are clear, complete and conform to accepted professional and statutory requirements to include: a. records investigations carried out b. values recorded c. options considered 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 4.5 describe the circumstances in which records can include the fact that information is 'unknown' and the evidence required to support this choice 4.6 store records securely allowing for future access and explain the purposes for which the records may be used.

Range
Recommendations High, medium, low CO ² impact and short, medium and long-term payback.

Learning outcome
The learner will: 5. Be able to provide a clearly defined and robust hierarchy of energy efficiency measures for non-dwellings.
Assessment criteria
The learner can: 5.1 use the approved software to generate energy efficiency measures to improve energy performance 5.2 explain the effect of choosing default data options on the energy efficiency measures offered by SBEM 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 5.4 identify the factors that could affect the choice of energy efficiency measures for improvements to the property, including:

	<ul style="list-style-type: none"> a. issues that make them unsuitable for the property b. interactions between building fabric and building services c. listed building status/conservation areas
5.5	identify the relative costs of any energy efficiency measures which may be proposed
5.6	provide a hierarchy of improvement measures based on carbon impact and payback period
5.7	identify the data and information required to be lodged on the relevant central register and show understanding of the lodging procedures
5.8	produce a valid Recommendations Report, in accordance with approved guidance
5.9	provide initial advice on the implementation of the recommendations made.

Range
Valid Lodged at the landmark registry, accurate, appropriate, compliant with conventions.

Learning outcome
The learner will: 6. Be able to communicate the value of a Recommendations Report and how it can be used.
Assessment criteria
The learner can: 6.1 explain to clients the objective of producing Recommendations Reports 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 6.3 explain to clients which recommendations have greater impact on the energy performance of the building in question and why 6.4 explain to clients how estimates of costs for energy efficiency measures have been arrived at and how robust they are 6.5 explain energy efficiency measures to the client 6.6 understand the importance of retaining documentation for audit purposes or legal compliance 6.7 highlight the essential information contained in the Recommendations Report in a way which will be comprehensible to the client.

Unit 436

Conduct building regulations compliance checks of as-designed and as-built non-domestic new-buildings using the Simplified Building Energy Model SBEM

UAN:	L/506/0009
Level:	4
Credit value:	11
GLH:	50

Learning outcome
The learner will: <ol style="list-style-type: none">1. Understand the energy efficiency requirements for meeting EU and national legislation for non-domestic new buildings.
Assessment criteria
The learner can: <ol style="list-style-type: none">1.1 identify the EU Directives relating to energy efficiency in non-domestic new buildings1.2 describe how the EU Directives for non-domestic new buildings is applied through national legislation1.3 explain how building regulations apply in relation to the energy efficiency of non-domestic new buildings1.4 state the buildings which are subject to building regulations compliance checks1.5 identify those buildings which are subject to special considerations1.6 explain why some types of non-domestic new buildings are exempt from building regulations1.7 state the purpose of the National Calculation Methodology (NCM) in relation to checking compliance of non-domestic new buildings1.8 explain how the NCM is applied using the Simplified Building Energy Model (SBEM)1.9 describe the procedure for the reporting of compliance information to the building control body.

Learning outcome
The learner will: 2. Understand the role of the energy assessor in checking compliance with the energy efficiency requirements of the building regulations for non-domestic new buildings.
Assessment criteria
The learner can: 2.1 list the key stages in the obtaining, design, construction, commissioning and handover of a non-domestic new building 2.2 describe the role of the energy assessor in the design, construction and handover of a non-domestic new building 2.3 explain how information affecting the energy performance of a building design can be delivered by the energy assessor 2.4 explain the role of the building control body in the compliance checking process 2.5 explain the role of the energy assessor in response to a non-domestic new building being deemed non-compliant with building regulations.

Learning outcome
The learner will: 3. Understand the factors affecting compliance with the energy efficiency requirements of the Building Regulations for Non-domestic New Buildings.
Assessment criteria
The learner can: 3.1 describe how a non-domestic new building's location, construction and building services can affect its energy performance 3.2 describe how U- and Kappa (KM) values are calculated from the information presented to the energy assessor 3.3 describe how a model in SBEM of new-design and as-built buildings is created from drawings, specifications, calculations and tests 3.4 explain the purpose of the SBEM emission ratings for non-domestic new buildings 3.5 explain the purpose of: a. the notional building b. the reference building 3.6 explain the use of approved documents in checking compliance with Building Regulations of Non-domestic New Buildings 3.7 explain the use of 2nd tier documentation in checking compliance with Building Regulations of Non-domestic New Buildings 3.8 list the Building Regulations Part L Criteria For Non-Domestic New Buildings 3.9 explain how the Building Regulations Part L Criteria can be used to demonstrate that non-domestic new buildings are compliant 3.10 explain how the use of low and zero carbon and renewables technologies can assist in making a building compliant with Building

Regulations Part L

- 3.11 explain what an air permeability test
- 3.12 describe how an air permeability test is conducted.

Learning outcome

The learner will:

- 4. Be able to carry out a compliance check of non-domestic new buildings with the energy efficiency requirements of the building regulations.

Assessment criteria

The learner can:

- 4.1 collate evidence of a non-domestic new-build from drawings, specifications, tests and accredited details
- 4.2 explain the suitability of the building design for modelling in SBEM or Dynamic Simulation Modelling (DSM)
- 4.3 create a model of the non-domestic new-build in SBEM from information gathered
- 4.4 carry out a building regulations compliance check using the model of the non-domestic new-build in SBEM
- 4.5 utilise the SBEM model to compare the outputs of the model with those required for compliance with building regulations
- 4.6 state how parameters could be changed in order to produce a non-domestic new building that is compliant with building regulations, from relevant documentation
- 4.7 inform the client on a range of alternative changes required to deliver a non-domestic new building that is compliant with building regulations
- 4.8 explain any assumptions that have been used in the original or updated SBEM models
- 4.9 prepare an EPC of the 'as built' non-dwelling, in accordance with current building regulations, including evidence of compliance with the energy efficiency requirements of the building regulations.



6 Relationships to other qualifications

Literacy, language, numeracy and ICT skills development

This qualification can develop skills that can be used in the following qualifications:

- Functional Skills (England) – see www.cityandguilds.com/functionalskills
- Essential Skills (Northern Ireland) – see www.cityandguilds.com/essentialskillsni
- Essential Skills Wales – see www.cityandguilds.com/esw



Appendix 1 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the **Centres and Training Providers homepage** on www.cityandguilds.com.

Centre Manual - Supporting Customer Excellence contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve 'approved centre' status, or to offer a particular qualification, as well as updates and good practice exemplars for City & Guilds assessment and policy issues. Specifically, the document includes sections on:

- The centre and qualification approval process
- Assessment, internal quality assurance and examination roles at the centre
- Registration and certification of candidates
- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Management systems
- Maintaining records
- Assessment
- Internal quality assurance
- External quality assurance.

Our Quality Assurance Requirements encompasses all of the relevant requirements of key regulatory documents such as:

- SQA Awarding Body Criteria (2007)
- NVQ Code of Practice (2006)

and sets out the criteria that centres should adhere to pre and post centre and qualification approval.

Access to Assessment & Qualifications provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The **centre homepage** section of the City & Guilds website also contains useful information on such things as:

- **Walled Garden:** how to register and certificate candidates on line
- **Events:** dates and information on the latest Centre events
- **Online assessment:** how to register for e-assessments.

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Useful contacts

UK learners General qualification information	T: +44 (0)844 543 0033 E: learnersupport@cityandguilds.com
International learners General qualification information	T: +44 (0)844 543 0033 F: +44 (0)20 7294 2413 E: intcg@cityandguilds.com
Centres Exam entries, Certificates, Registrations/enrolment, Invoices, Missing or late exam materials, Nominal roll reports, Results	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: centresupport@cityandguilds.com
Single subject qualifications Exam entries, Results, Certification, Missing or late exam materials, Incorrect exam papers, Forms request (BB, results entry), Exam date and time change	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 F: +44 (0)20 7294 2404 (BB forms) E: singlesubjects@cityandguilds.com
International awards Results, Entries, Enrolments, Invoices, Missing or late exam materials, Nominal roll reports	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: intops@cityandguilds.com
Walled Garden Re-issue of password or username, Technical problems, Entries, Results, e-assessment, Navigation, User/menu option, Problems	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: walledgarden@cityandguilds.com
Employer Employer solutions, Mapping, Accreditation, Development Skills, Consultancy	T: +44 (0)121 503 8993 E: business@cityandguilds.com
Publications Logbooks, Centre documents, Forms, Free literature	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413

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City & Guilds Group

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HB-08-6361