ASTNDEA9
Report on the energy assessment of new and existing non-dwellings using Dynamic Simulation Model (DSM)

Overview

This standard covers the competences required to report on the energy assessment of new and existing non-dwellings, in order to provide recommendations for energy efficiency measures and communicating these recommendations to the client.

This standard relates to new and existing Level 5 dwellings, which require the use of a Dynamic Simulation Model (DSM). Level 5 buildings typically include more complex building features and/or building services, for example, an atrium, night ventilation strategies or automatic blind control. In England and Wales, a Level 5 building means a building identified as Level 5 according to the Assessment Level Decision Flow Chart as defined in Conventions published by the Department of Communities and Local Government's Commercial EPC Conventions Group.

Note that the term 'assessment' is used throughout the standards when referring to the overall process of determining the Asset Rating of a property, or its Operational Rating, whereas 'inspection' is used only when referring to on-site inspection of the property and its features.

The references to clients throughout the standard refer both to internal clients, such as line managers, as well as external clients; for example individuals who have contracted your services or representatives of external client organisations.

This standard requires that you produce Recommendations Reports for non-dwellings using DSM and provide a clearly defined and robust hierarchy of energy efficiency measures for reducing the energy use of a non-domestic building. You must be able to communicate the value of a Recommendations Report to your client and provide an Implementation Plan to assist building owners to take action to achieve the possible savings set out in the Report.

ASTNDEA9

Report on the energy assessment of new new and existing non-dwellings using Dynamic Simulation Model (DSM)

Performance criteria

Produce Recommendations Reports for Level 5 non-dwellings using a Dynamic Simulation Model (DSM)

You must be able to:

- P1 use approved DSM software to generate **energy efficiency measures** that improve energy performance
- P2 describe the prescribed format and content of an Energy Performance Certificate Recommendations Report
- P3 identify the range of **energy efficiency measures** to improve the energy performance of a property that may be included within an Energy Performance Certificate Recommendations Report
- P4 check the Energy Performance Certificate Recommendations Report, ensuring compliance with relevant requirements and current conventions
- P5 produce and maintain accurate and legible records of your findings, which are clear, complete and conform to accepted professional and statutory requirements. These will include investigations carried out, values recorded and options considered, to the level of detail required to:
  - P5.1 produce a complete and comprehensive Energy Performance Certificate
  - P5.2 justify your decisions on values recorded and **energy efficiency measures** selected

Be able to provide a clearly defined and robust hierarchy of energy efficiency measures for a non-domestic building

You must be able to:

- P6 use approved DSM software to generate **energy efficiency measures** to improve energy performance
- P7 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
- P8 appreciate the relative costs of any **energy efficiency measures** which may be proposed
- P9 provide a hierarchy of **energy efficiency measures** based on carbon impact and payback period
- P10 produce a valid Energy Performance Certificate Recommendations Report, in accordance with approved guidance and conventions
- P11 provide initial advice on the implementation of the **energy efficiency measures** selected

ASTNDEA9

Report on the energy assessment of new new and existing non-dwellings using Dynamic Simulation Model (DSM)

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

You must be able to:

P12 explain the objective of producing Recommendations Reports

P13 explain the difference between high, medium and low carbon impact **energy efficiency measures**, giving examples of the scale of savings which may be achieved by each

P14 explain which elements have greater impact on the energy performance of the building in question and why

P15 explain how estimates of costs for **energy efficiency measures** have been arrived at and how robust they are

P16 communicate and explain the **energy efficiency measures** to the client

P17 understand the importance of retaining documentation for audit purposes or legal compliance

P18 highlight the essential information contained in the Recommendations report to the client, in writing, in a way which will be comprehensible to the client

ASTNDEA9

Report on the energy assessment of new new and existing non-dwellings using Dynamic Simulation Model (DSM)

Knowledge and understanding

Produce Recommendations Reports for Level 5 non-dwellings using DSM

You need to know and understand:

K1 the prescribed format and content of an Energy Performance Certificate Recommendations Report; the differences in the Recommendations Report format used in England/Wales and in the Devolved Administrations

K2 the approved DSM software used to generate **energy efficiency measures** for the property

K3 the range of **energy efficiency measures** for the property that may be included within an Energy Performance Certificate

K4 the principles underpinning the approved software used to calculate energy ratings and produce Recommendations Reports

K5 the software used to produce Energy Performance Certificates and how to use it correctly

K6 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

K7 how to check the Energy Performance Certificate Recommendations Report for cost-effective improvement, ensuring compliance with relevant requirements and conventions

K8 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

K9 the importance of making and maintaining records that are complete, accurate and legible

K10 the reasons why it is necessary and important to record where and why accurate inspection has not been possible

K11 the circumstances in which records can include the fact that information is ‘unknown’ and the evidence required to support this choice

K12 the importance for storing records securely allowing for future access and the purposes for which your records may be used

Provide a clearly defined and robust hierarchy of energy efficiency measures for reducing the energy use of a non-domestic building

You need to know and understand:

K13 how to use approved DSM software to generate **energy efficiency measures** for the property

K14 the technical specifications, features and benefits of **energy efficiency measures** that may improve the energy performance of Level 5 buildings

K15 the way in which **energy efficiency measures** are generated and circumstances when it is appropriate to delete them

K16 the importance of checking any **energy efficiency measures** generated by approved software, deleting any that are inappropriate, and providing

your reasons

K17 the factors that could affect the choice of **energy efficiency measures** for improvements to the property's energy efficiency, including **issues that make them unsuitable for the property**, interactions between building fabric and building services and listed building status/conservation areas

K18 how to make appropriate deletions/amendments based on the practical and economic feasibility for the building under consideration

K19 current typical costs of **energy efficiency measures** and how to estimate typical costs, for the particular building, of any proposed **energy efficiency measures**

K20 how to assess the carbon impact and payback period of **energy efficiency measures** in order to provide a hierarchy of **energy efficiency measures**

K21 the data and information required to be lodged on the relevant central register

K22 appropriate advice on the implementation of the **energy efficiency measures** that may be given to the client

Communicate the value of a Recommendation Report and how it can be used

You need to know and understand:

K23 the objective of producing Recommendations Reports

K24 the difference between high, medium and low carbon impact **energy efficiency measures** and the scale of savings that each may achieve

K25 which elements have greater impact on the energy performance of the building in question and why

K26 how estimates of costs have been arrived at, how robust they are and for how long they will be valid

K27 how to communicate and explain the **energy efficiency measures** to the client

K28 the importance of retaining documentation for audit purposes or legal compliance

K29 how to convey essential information in a written report in a way which will be comprehensible to the client

K30 where to refer clients for further help and advice

ASTNDEA9

Report on the energy assessment of new new and existing non-dwellings using Dynamic Simulation Model (DSM)

Additional Information

Scope/range

1 **measures**

1.1 all energy performance improvements listed in the current version of the SBEM Technical Manual, published by BRE on behalf of Government

1.2 any other improvements that may be supported by UK Government policy, or that of the Devolved Administrations, as listed in relevant legislation or guidance

2 **issues that make them unsuitable for the property**

2.1 property situation e.g. subject to extreme weather

2.2 property condition e.g. state of repair of external walls

2.3 inadequate ventilation

2.4 traditional construction

2.5 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

3 **Level 5**

3.1 a building identified as Level 5 according to the Assessment Level Decision Flow Chart as defined in Conventions published by the Department of Communities and Local Government's Commercial EPC Conventions Group

ASTNDEA9

Report on the energy assessment of new new and existing non-dwellings using Dynamic Simulation Model (DSM)

Developed by	Asset Skills
Version number	1
Date approved	February 2012
Indicative review date	February 2017
Validity	Current
Status	Original
Originating organisation	Asset Skills
Original URN	NDEA9
Relevant occupations	Professional Occupations; Construction, Planning and the Built Env; Building and Construction; Architects, Town Planners and Surveyors
Suite	Non Domestic Energy Assessors
Key words	inspect non-dwellings; recommendations; cost-effective improvement; energy performance