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## Overview

This standard covers assessing the energy performance of new-build non-dwellings prior to first occupancy. It is about gathering data and information on existing new-build non-dwellings, to confirm compliance with the relevant aspects of the relevant devolved nation's Building Regulations and to enable the generation of Regulation 17C calculations for England and Wales and their equivalent in Scotland and Northern Ireland. The standard is about the production of Energy Performance Certificates and recommendations for cost-effective improvement.

This standard relates to new-build non-dwellings that can only be assessed using the Simplified Building Energy Model (SBEM). It does not cover new-build non-dwellings that require the use of a Dynamic Simulation Model (DSM).

You will need to understand the requirements within each devolved nation.

## Performance criteria

### You must be able to:

#### **Conduct energy assessment of new-build non-dwellings**

1. conduct energy assessments of the design and construction of existing new-build non-dwellings prior to their first occupancy, in accordance with the relevant devolved nation's requirements
2. identify the energy design from drawings and specifications
3. apply the assessment conventions of the Simplified Building Energy Model (SBEM) to establish site factors, built form and dimensions of new-build non-dwellings from drawings and specifications
4. identify the construction and thermal properties of new-build non-dwellings from drawings and specifications
5. calculate the thermal transmittances (u values) of opaque elements in accordance with the relevant technical standards for the types of construction used
6. apply the conventions of the Simplified Building Energy Model (SBEM) to identify the air-tightness and ventilation of new-build non-dwellings from drawings, tests and specifications
7. apply the conventions of the Simplified Building Energy Model (SBEM) to identify the heating, cooling and hot water systems used in new-build non-dwellings from drawings and specifications
8. apply the conventions of the Simplified Building Energy Model (SBEM) to identify the lighting and renewable energy used in new-build non-dwellings from drawings and specifications
9. apply the conventions of the Simplified Building Energy Model (SBEM) to assess new technologies in new-build non-dwellings
10. identify and communicate options to customers for improvement in the energy performance of new-build non-dwellings

#### **Produce Energy Performance Certificates, Recommendation Reports and Reports on Regulation 17C Calculations and their equivalent in Scotland and Northern Ireland**

1. use the Simplified Building Energy Model (SBEM) approved software as per the developer's instructions to determine energy performance ratings
2. use the Simplified Building Energy Model (SBEM) approved software to generate recommendations for measures to improve the energy performance of the property
3. check the recommendations generated and make required amendments
4. delete recommendations that will not improve the energy performance of the property, providing your reasons
5. prepare and issue an Energy Performance Certificate and

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- recommendations for cost- effective improvement that meet relevant regulations
  - 6. explain the Energy Performance Certificate and recommendations for cost-effective improvement to the customer
  - 7. maintain internal records which conform to the relevant professional and statutory requirements and data protection legislation

## Knowledge and understanding

### You need to know and understand:

#### **Conduct energy assessment of new-build non-dwellings**

1. the requirements for the assessment of the energy performance of new-build non-dwellings
2. the relevant aspects of the legislation and regulations and the points at which an Energy Performance Certificate is required for new-build non-dwellings
3. the detailed assessment requirements that apply to the property as defined by the Simplified Building Energy Model (SBEM) approved software
4. the definitions and conventions within the Simplified Building Energy Model (SBEM) approved software
5. the principles of building structure, elements, fabric, services and overall design
6. how to recognise the various types of new-build non-dwelling building construction and materials from drawings, specifications and services
7. the requirements and application of the relevant devolved nation's Building Regulations that apply to the energy performance of new-build non-dwellings
8. the types of emission rates and how to calculate each
9. the factors which are relevant to determining the energy performance of new-build non-dwellings
10. how to collate information required to assess the energy performance of new-build non-dwellings from drawings and specifications
11. the Target Emission Rating (TER) and Built Emission Rating (BER) and how to calculate each

#### **Produce Energy Performance Certificates, Recommendation Reports and Reports on Regulation 17C Calculations and their equivalent in Scotland and Northern Ireland**

1. the relevant devolved nation's format and content of Energy Performance Certificates
2. the relevant devolved nation's Energy Performance Certificate software used to produce Energy Performance Certificates and recommendations for cost-effective improvement
3. the principles underpinning the relevant devolved nation's Energy Performance Certificate software used to calculate energy ratings
4. how to input data in the relevant approved software to determine energy performance ratings
5. how to use the relevant devolved nation's Energy Performance

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- Certificate software to generate recommendations for measures to improve the energy performance of property
6. the importance of checking that data has been entered to the relevant devolved nation's Energy Performance Certificate standards and how to review data if the calculation will not process
  7. the importance of checking the recommendations generated, deleting those that will not improve the energy performance of the property, and providing reasons within the approved software
  8. the way in which recommendations are generated and circumstances when it is relevant to delete them
  9. the importance of complying with the relevant data protection legislation
  10. the importance of checking the Energy Performance Certificate to confirm that it meets the relevant devolved nation's codes of practice and standards

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## Scope/range

### **Conduct energy assessment of new-build non-dwellings**

Options for improvement:

- measures to ensure compliance with relevant Building Regulations
- further improvements to energy performance

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