

GUIDANCE LEAFLET

CONSIDERATION OF HIGH-EFFICIENCY ALTERNATIVE SYSTEMS IN NEW BUILDINGS

EPC - 10

Introduction

From 9 January 2013, a new requirement within building regulations is introduced in response to Article 6 (new buildings) of [Directive 2010/31/EU](#) on the Energy Performance of Buildings -

Article 6 - New buildings

1. Member States shall take the necessary measures to ensure that new buildings meet the minimum energy performance requirements set in accordance with Article 4.

For new buildings, Member States shall ensure that, before construction starts, the technical, environmental and economic feasibility of high-efficiency alternative systems such as those listed below, if available, is considered and taken into account:

- (a) decentralised energy supply systems based on energy from renewable sources;
 - (b) cogeneration;
 - (c) district or block heating or cooling, particularly where it is based entirely or partially on energy from renewable sources;
 - (d) heat pumps.
2. Member States shall ensure that the analysis of alternative systems referred to in paragraph 1 is documented and available for verification purposes.
 3. That analysis of alternative systems may be carried out for individual buildings or for groups of similar buildings or for common typologies of buildings in the same area. As far as collective heating and cooling systems are concerned, the analysis may be carried out for all buildings connected to the system in the same area.

What does this mean for new development?

This has no direct implications for the design, specification and construction of new buildings. Current functional standards and guidance applicable to heating and cooling systems are unchanged within the [Technical Handbooks](#).

This is a procedural change which is implemented to encourage awareness, within the design process, of the benefits of such systems as part of newbuild development. This is relevant to systems specified in relation to standards 6.3 (heating systems) and, where mechanical cooling is proposed, standard 6.6 (mechanical ventilation and air conditioning) and also to use of low or zero carbon generating technologies which contribute to meeting emissions targets set under standard 6.1 (carbon dioxide emissions).

When does this requirement apply?

A statement on how these technologies were considered should accompany each application for building warrant for a new building made **on or after 9 January 2013**.

What should applicants do where this requirement applies?

When submitting a building warrant, applicants should include a short design statement identifying how the technologies identified in the Directive were discussed and considered as options during the design process and the outcome of that process as shown in submitted proposals.

These technologies include, but need not be limited to:

- decentralised energy supply systems (technologies that do not rely directly on the high-voltage electricity transmission network or gas grid) based on energy from renewable sources;
- cogeneration - e.g. combined heat and power (CHP);
- district or block heating or cooling - including partial or full use of renewable energy sources; and
- heat pump technologies

How should applicants present my information?

There is no prescribed format or standard form for this exercise but the statement should include at least the following elements.

- Applicant – name, address and contact details
- Duly authorised Agent (if any) – name, address and contact details
- Owner (only if different from applicant) – name, address and contact details
- Location of building or site to which the application relates – address & post code (if known)
- Proposed use of building

All the above information should be as recorded on the building warrant application form, plus

- In providing solutions which meet standards:
 - 6.1 – carbon dioxide emissions;
 - 6.3 – heating system;
 - 6.6 – mechanical ventilation and air conditioning,
 is use of high-efficiency alternative systems specified? (if yes, list solutions used)
- If such systems are present, main reasons influencing the decision to use?
- If such systems not used, main reasons influencing the decision to not adopt options?

Analysis may be as concise or as comprehensive as the applicant or their agent consider to be appropriate to the level of discussion that occurred and type and complexity of the project.

Can applicants provide a single assessment with each building warrant?

Yes, though the assessment may have to include separate analysis sections where buildings are different in form or use. Article 6(3) clearly notes that “analysis of alternative systems may be carried out for individual buildings or for groups of similar buildings or for common typologies of buildings in the same area”.

Are applicants required to use the described technologies?

No. The purpose of this article of the Directive is to encourage awareness and consideration of such solutions.

New buildings do not have to incorporate such technologies but the challenging standards set under standard 6.1 (carbon dioxide emissions) do mean that they are a more common part of design solutions in energy efficient, low carbon buildings. For example, an air to water heat pump is used in the electricity fuel package specification to set the Target Emissions Rate for new homes.

Is this analysis an extra requirement for applicants and their agents?

No, as noted above, the challenging emissions standard set for new building means that a range of ‘high-efficiency alternative systems’ will be considered as a matter of course as part of the design process for new homes and non-domestic buildings.

This process is not intended to generate a separate and detailed options analysis but is simply to record the key outcomes of discussions on this topic during the design process.

What is done with this information once submitted?

The statement is retained with other building warrant information as a document of record.

The verifier is only required to record receipt of the statement and takes no action in respect of the content.

What other facilities are available to assist in this process?

A basic facility to record this information within SAP and SBEM software output may be specified and enabled later in 2013, if practical. Should this occur it would provide an alternative to submission of a separate statement.

Contact Information

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Further advice and information on implementation of the Energy Performance of Buildings Directive in Scotland is available at: <http://www.scotland.gov.uk/epc>

Contact information for the building standards department in your area can be found on your local authority website and through Local Authority Building Standards Scotland (LABSS) at www.labss.org.uk.