The Scottish Government

BUILDING STANDARDS DIVISION

Low carbon equipment and building regulations
A guide to safe and sustainable construction

Introduction

This guidance document is intended to be read in conjunction with the chapters on individual types of low carbon equipment

Document Version Control

Title: Low Carbon Equipment & Building Regulations: Introduction

Purpose: To provide a guide to safe and sustainable installation

Version	Date	Notes
1.0	March 2010	Introduction chapter to the guidance series
1.1	September 2012	Minor update following the publication of the Biomass and Photovoltaic chapters, as well as amendments to the text on certification.

Local Government and Communities Directorate

Building Standards Division

The Scottish Government

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Carbon dioxide (CO_2) is one of the greenhouse gases that contributes to climate change. CO_2 is produced by natural processes, such as volcanic activity and the respiration of plants and animals, but human activity is also responsible for generating increasing amounts of CO_2. Over 40% of such emissions are produced from buildings, due to people's demand for energy for hot water, space heating, cooling, ventilation, and lighting.

Energy demand can be reduced by:

- making the building more energy efficient (with insulation, draught proofing, efficient equipment and controls); and
- energy saving behaviour to avoid wasting energy.

Once these steps have been taken, there are a number of ways to further reduce emissions and decrease reliance on fossil fuels:

- install low carbon equipment for individual buildings to provide space heating and water heating, or to generate electricity;
- link buildings to an energy and/or carbon efficient district heating system;
- use a local supply of electricity that is generated using renewable energy.

Safe and sustainable installation of low carbon equipment

All installations of low carbon equipment and connections to district heating systems must comply with the building regulations. Whether the building is newly built or existing, the installation should be safe, should not damage the building, and should ensure the equipment works efficiently and can be operated effectively.

This guide outlines the main features of each technology and identifies issues that need to be considered in the design and installation of low carbon equipment, for compliance with the building regulations, including good practice to optimise the energy efficiency of installations. More detailed guidance on the Scottish building regulations, including the functional standards, is given in the Technical Handbooks.

For advice about your own particular project please contact your local authority's Building Standards service. Find them in your phone directory, the local authority website, or from the website of the Local Authority Building Standards Scotland (LABSS).

Contents

This guide is a work in progress and further technologies will be added in the future.

Future chapters

Micro combined heat and power (CHP)

District heating systems

Fuel cells

Wind turbines

Micro-hydro

Grants and accredited installers

Advice on the Energy Saving Scotland home renewables grant scheme is available from the website of the Energy Saving Trust: http://www.energysavingtrust.org.uk/scotland/Scotland-Welcome-page/At-Home/Grants-and-offers. Certification schemes below may be relevant for securing grant funding.

The Energy Saving Trust website includes a frequently updated list of small scale accredited installers for many low carbon technologies based or operating in Scotland: http://www.energysavingtrust.org.uk/scotland/Generate-your-own-energy/Getting-started/List-of-certificated-installers-in-Scotland.

The installer information contains references to the Microgeneration Certification Scheme (MCS). More information on the UK-based MCS including full installer and product lists for the UK can be obtained at http://www.microgenerationcertification.org within the 'Information for Home and Business Owners' section.

If you need any further help please contact your local Energy Saving Scotland advice centre on 0800 512 012.

The Scottish and Northern Ireland Plumbing Employers Federation (SNIPF) administer a Certification of Construction Scheme for compliance with the Scottish building regulations. The Scheme covers solar thermal, ground and air source heat pumps and biomass boilers. The current Electrical Certification of Construction Scheme will soon be extended to include photovoltaic, microwind and micro hydro installations. It will be administered by SELECT and National Inspection Council for Electrical Installation Contracting (NICEIC). Details of each scheme can be found on the Building Standards Division website and also the Scottish Building Services Certification website.

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