

# Sustainable Construction and the Regulatory Framework Summary Report

Presented to  
The Scottish Executive  
Central Research Unit



Gaia Research  
Edinburgh

in association with



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31.05.04

**This report is based on research that was completed in May 2003 and funded by the Scottish Executive. The views expressed in the report are entirely those of the authors and do not necessarily reflect the views of the Scottish Executive."**

Published Gaia Research, Edinburgh  
ISBN 1-904680-16-X  
November 2004

Available from  
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## Introduction

The Building (Scotland) Bill gained Royal Assent in April 2003. The policy objectives of the Bill are to modernize the Scottish Building Control system (now to be known as Building Standards) to provide for greater flexibility, consistency and innovation.

One significant aspect of the new Bill is that it makes provision for Ministers to make building regulations for the purpose of 'furthering the achievement of sustainable development'. By going beyond the framework of purely 'sustainable construction' the bill acknowledges the role of buildings and the built environment in responding to social, cultural and economic imperatives. This has potentially widespread implications in respect of building procurement, design, management and operation, which are beyond the scope of this report.

There are also major implications for the relationship of building and planning regulations, if the regulatory framework is to be proactive in seeking to meet national and international objectives for sustainable development.

In recognition of a broadening of the regulatory backdrop, the Scottish Executive has funded this research to appraise current building legislation in Scotland and abroad as it affects the adoption and practice of sustainable construction techniques.

This report is a summary of research undertaken from March 2002 until September 2003.

## **Aim of the Research**

The overall aim of the research was to identify how the Scottish Building Regulations might be developed in the future to encourage sustainable construction.

## **Objectives of the Research**

The objectives of the research were:-

- to undertake a literature review of existing publications and
- to examine current regulations and identify areas that could be expanded to include sustainable development and
- to recommend how these existing standards can be amended, including worked examples using text from the new Technical Standards.

## **Background**

The fundamental purpose of building control was originally the protection of the public interest with regard to health and safety. The scope has been extended over the years to include the welfare of people in and around buildings and furthering the conservation of fuel and power.

New primary legislation, the Building (Scotland) Act, passed through the Scottish Parliament in 2003 and has introduced fundamental changes to the building regulatory system. The Act makes the furtherance of sustainable development a new underpinning requirement.

A backdrop to the Act is work currently being undertaken by the Executive which will result in the translation of technical standards (secondary

legislation) into expanded functional standards by 2005 with guidance material on performance requirements and prescriptive specifications.

The new regulations are to directly align with the EU Construction Product Directive (CPD) and will replace the previous building regulatory requirements. They are grouped under the following six headings:

- Structure
- Fire
- Environment
- Safety
- Noise
- Energy

It is anticipated that reformed system will have three levels (Act, Regulations and Guidance), the first two of which will be mandatory with Guidance offered as advice in the form of either performance or prescriptive standards.

## **Work Undertaken**

### **Pull Factors**

A significant issue in relation to sustainable development is the inertia that has been apparent in dealing with potential and presumed threats. To facilitate future proofing and appropriate response provision within the Building Regulations it has been necessary to identify those “pull” factors that are determining the future direction of the building regulatory process and associated standards and guidance in the next 20 years in relation to sustainable construction issues. The factors are predicated on emerging scenarios related to physical, social and economic changes that are taking place in Scotland. The issues are diverse and encompass international requirements, human needs and responsibilities, and technological change. These include climate change, resource conservation, waste minimisation, biodiversity and health & well-being of individuals and communities in and around buildings.

Each factor is considered in relation to the proposed building regulations under the Building (Scotland) Act 2003 and the scope for modification that may be required, either under Parts 1-6 or Schedule 1 of the Act.

### **Indicators**

There is a degree of consensus as well as significant redundancy and overlap in the currently used indicators and parameters for defining sustainable construction in relation to sustainable development. A strategic approach to encapsulating the requirements of sustainable construction has been necessary and the current government sustainability indicators, previous research and best practice guidance have therefore been compared and distilled into a short but comprehensive list of six embracing key elements. These are put forward as a strategic framework.

### **Appraisal Tools & Techniques**

In order to evaluate the degree to which sustainability objectives are being met it is necessary to find agreement on the issues and the severity of the

problems. The UK and Scotland independently set sustainability indicators that act as a guide to the direction of future government policy and there is growing consensus on the issues - but little agreement on priorities and targets. As a result a vast and expanding variety of tools & techniques to promote and appraise sustainable construction beyond the current mandatory requirements have emerged. The tools have been reviewed and those that could make a useful contribution within the regulatory framework have been identified.

### **Policy Drivers**

There are policy drivers at a European, UK and Scottish level which are determining the push towards sustainable construction in Scotland.

Within Scotland, policy is now developing rapidly in relation to sustainable development with extensive plans for energy and waste resources. These are potentially major drivers for sustainable construction. Policy on resource use and biodiversity in relation to planning and transportation requires greater attention as these are not yet effective as drivers for sustainable construction. Policy on sustainable construction in Scotland is relatively undeveloped despite a number of independent initiatives by NGO's and local authorities.

UK policy on sustainable development and sustainable construction is well developed in series of government papers. Sustainable construction is being addressed through a number of strategic initiatives by both the DTI, DEFRA, the Office of the Deputy Prime Minister and the Government Construction Clients Panel.

The EU (European Union) has been responsible for a significant raft of environmental legislation that has impacted directly on the construction industry. The UK government has been obliged to incorporate this legislation into its own framework within a given period of time. European policy drivers will continue to have a major effect and will drive policy on sustainable construction in the UK.

## **International Review**

An extensive literature review has considered Building Regulations and best practice in a number of European countries, and the USA, Canada, New Zealand and Australia to compare and contrast how building regulations in these countries are supporting sustainable development. The form, scope and nature of the regulations is identified, and how these have been amended in recent years to respond to the requirements of sustainable building.

The review highlighted that there are examples throughout the world of credible and specific measures for achieving sustainable development objectives through the Building Regulatory Framework, supplemented by other incentives, and significant opportunity to pro-actively set objectives and to develop the appropriate mechanisms for achieving them.

Incentives, disincentives and sources of best practice guidance by way of publications and web sites have been identified that might contribute to policy development. The review identified a number of useful and replicable mechanisms for promoting sustainable construction at the design stage and throughout the lifetime of the building stock.

## **Policy Framework in Scotland**

It has long been apparent that the Current Regulatory Framework in Scotland suffers from inadequacies at the boundaries of the responsibilities of its composite agencies and inevitably policy and development aspirations lead to conflicts and overlap. An ideal situation may be unachievable, but few would argue that no improvement was possible. The sustainable development agenda in particular has already brought many important issues and conflicts to the fore particularly in respect of planning and land use.

The current regulatory framework in Scotland has therefore been explored to identify areas for expansion and integration that can result in closing those gaps that adversely affecting the ability to deliver sustainable construction. This encompasses the present status of sustainable



development in Scotland, both recent initiatives on the part of the Executive and other non-regulatory initiatives, incentives and obligations including those within the public sector, and the best practice identified in other countries' construction regulations. The interplay and overlap between the various Scottish regulatory systems and those key players who influence policy and regulation in relation to sustainable construction are identified and explored in order to identify the scope for integration to promote sustainable construction.

## Outputs

The principal outputs of the research are the identification of areas where the regulations could be expanded to take fuller account of the requirements of sustainable development and policy recommendations for amendments to the standards. A section of the existing Technical Standards has been examined and re-written, using a redefined Functional Standard relating to domestic Sanitary Facilities, to show factors relating to sustainable construction should be included. There is much useful and contemporary work to be done here.

## Conclusions and Recommendations

The conclusions and recommendations are available in the final report Halliday S.P and Stevenson F (2004) **Sustainable Construction and the Regulatory Framework – A Thinkpiece** Gaia Research ISBN 1-904680-19-4 which can be obtained from the Gaia Research website [www.gaiagroup.org/Research/](http://www.gaiagroup.org/Research/).

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