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Riaghaltas na h-Alba

Improving Building Standards

Bill Dodds

25 March 2009

Today

- Evolution of building standards system
- Key elements of the system
- Durability and workmanship
- Building Standards Division (BSD)
Development work for the future



History

- Dean of Guild Court from Victorian times
- Scotland were first in UK to bring in national regulations in 1964
- Main purpose was for health and safety



Health and Safety



- Structural safety
- Fire safety
- Noise
- Drainage
- Stairs
- Fires
- Housing Standards

Ronan Point 1968



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Why Change?

- Old system had worked well but was over 40 years old
- Slow and unresponsive
- Consistency of interpretation
- Freedom to design to particular situations, flexibility
- New functions such as sustainability
- Construction Products Directive



Construction Products Directive



- Open market for construction products in Europe
- To prevent barriers to trade
- Harmonised product standards being introduced
- All technical specifications from act downwards to make use of the harmonised standards



Construction Products Directive



- When building regulations mention a building material, test or product they have to use harmonised European Standards
- Failure may result in infraction proceedings against Scottish Ministers
- Split legal and technical requirements



Building Standards System 2005

Building (Scotland) Act 2003

- Secure the health, safety, welfare and convenience of persons in or about buildings;
- Further the conservation of fuel and power; and **importantly**
- Further the achievement of sustainable development.



Technical Handbooks

1 - Structure

2 - Fire

3 - Environment

4 - Safety

5 - Noise

6 - Energy

- Follows Construction Products Directive (CPD)
- Expanded functional standards
- Performance requirements
- Prescriptive specifications
- Guidance



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Functional Standard

- Structural frame of a building should survive in a fire as long as it takes for all the occupants to leave the building, or be helped out by the fire brigade
- What you are trying to achieve and why
- Many designers and verifiers had an inadequate understanding of the basic principles



Innovative Design

- Has to be developed from first principles
- Concentration on critical issues
- Not unthinking application of detailed specification even when inappropriate



Building Warrant

- New functional system requires a level of competence from both designer and verifier
- Applicability of standards needs to be determined
- Suitability of test methods
- Alternative methods of compliance



Completion Certificate

- Reasonable Enquiry
- Materials test
- Separating wall or even a whole building
- As well as individual materials
- Verifier may undertake the test
- Cost borne by owner



Regulation 8

(1) Work to every building designed, constructed and provided with services, fittings and equipment to meet a requirement of regulations 9 to 12 must be carried out in a technically proper and workmanlike manner, and the materials used must be durable and fit for their intended purpose.



Durability

- With normal maintenance a product should last its working life
- Dependant on the use and its service conditions
- Assessment of durability of construction products may use performance based methods, descriptive solutions or a combination of both



Regulation 8

(2) All materials, services, fittings and equipment used to comply with a requirement of the regulations 9 to 12 must, so far as reasonably practicable, be sufficiently accessible to enable any necessary maintenance or repair work to be carried out.



Workmanship

- Where crucial and performance depends - i.e. separating wall
- Compliance with BS8000 or equivalent European standards
- Recognised test methods



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Certification

- Certifiers can be for the Design or Construction of a building
- Suitably qualified people, businesses or other bodies
- Present design schemes for structure and energy
- Full range of relevant building standards requirements
- Verifier does not need to check those matters covered by certificate

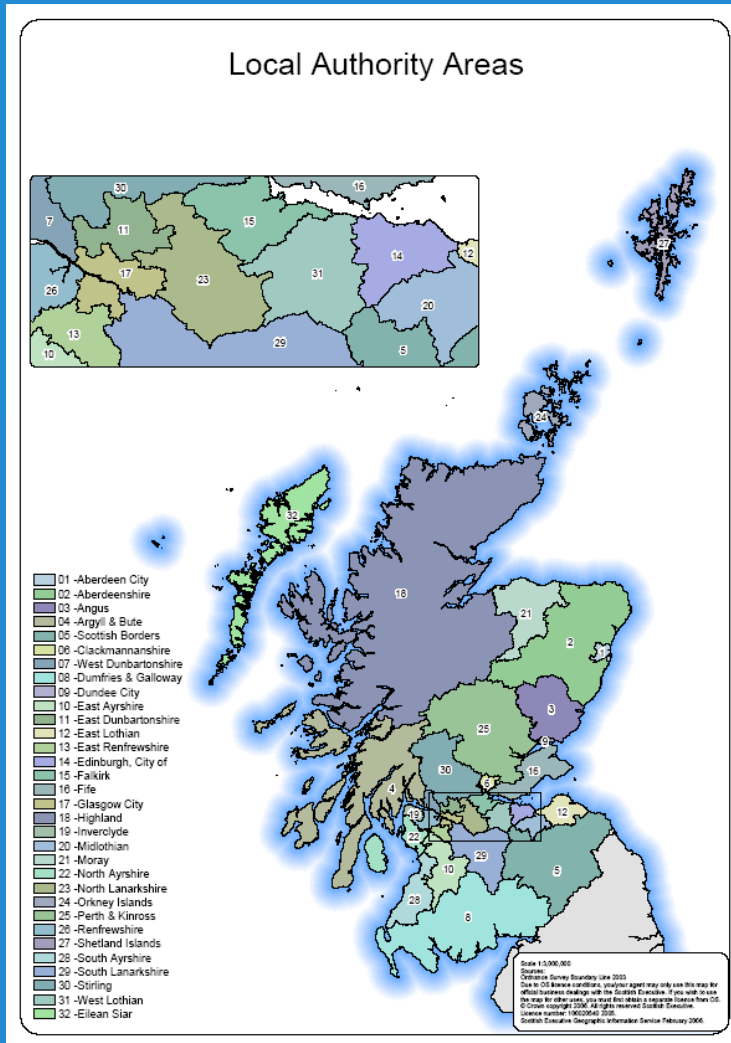


Verification

- Balanced Scorecard approach (Business Plan)
- Scottish Ministers have appointed councils as verifiers for 6 years (subject to performance evaluation)
- Partnership working
- 5 Perspectives
- Public Interest, Private Customer, Internal Business, Continuous Improvement, Finance



Scottish Local Authorities



- Population 5.1 million
- 78 thousand square kilometres
- 32 Councils
- Cities largest with 500,000
- Islands smallest with 20,000



Audit

- 21 Audits of LA Verifiers
- 8 Verifiers have had at least one cause for concern
- 4 Follow up audits
 - now all ok
- Recently Edinburgh and Shetland Islands



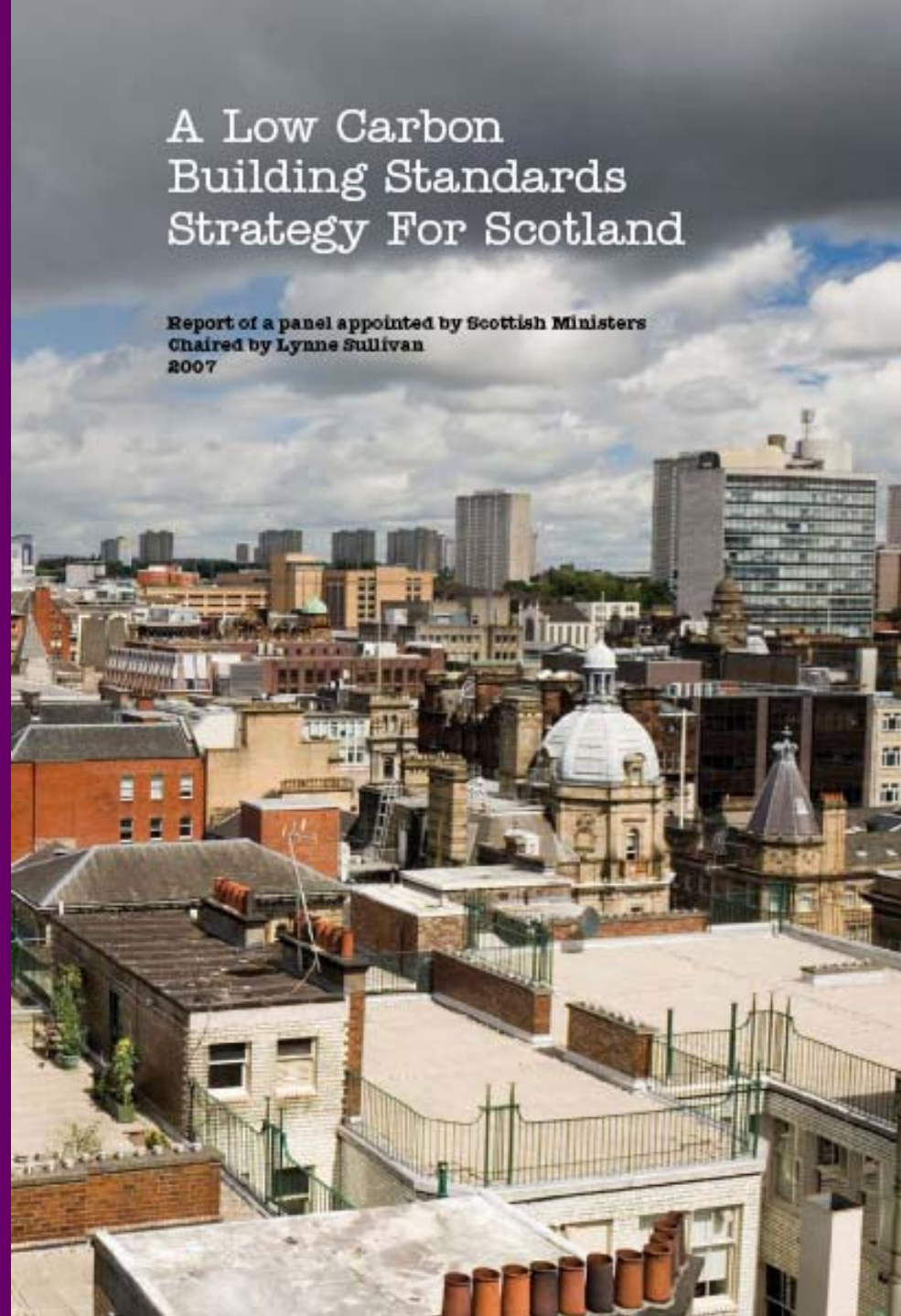
Manifesto Commitments

...expert panel to report on the changes we need to make to building regulations in Scotland to increase energy efficiency

...the SNP will improve the enforcement of building regulations

A Low Carbon Building Standards Strategy For Scotland

Report of a panel appointed by Scottish Ministers
Chaired by Lynne Sullivan
2007



Ministerial Press Release

- 30% High level CO₂ reductions for all buildings
- Consultation in summer
- New energy regulations in 2010

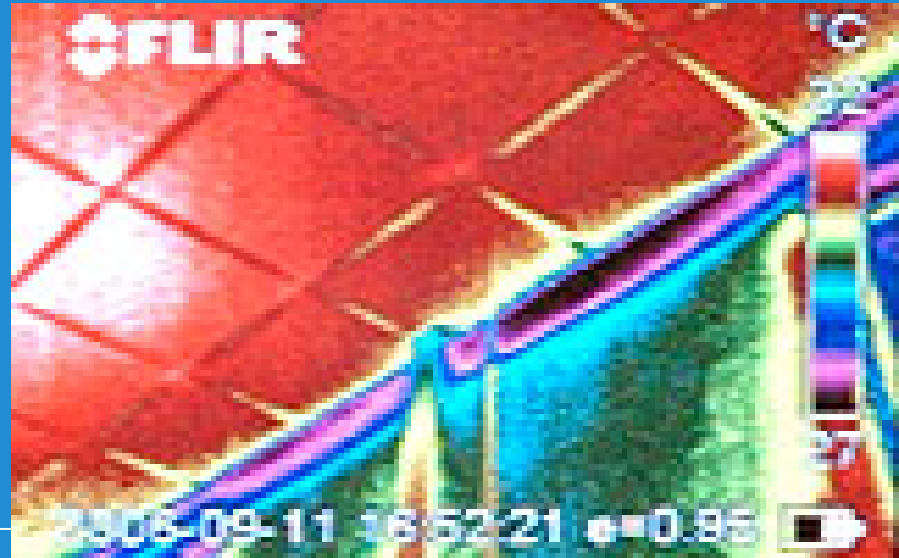


2010 Standards

- 2010 will show a 70% CO₂ reduction compared with 1990 baseline
- Office Building - 105 to 31 tonnes (70%)
- 3 Bed Detached house - 6.3 to 1.7 tonnes (73%)
- 1 Bed Flat - 2.7 to 0.9 tonnes (67%)



Compliance



Study using airtightness testing, infrared thermography, and a walk round survey to assess as-built pre-completion performance against approved warrant design, for dwellings



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Compliance

- Monitoring of thermal images taken pre-completion by local authority BS officials
- Consideration of guidance on 'reasonable enquiry'
- Performance testing for noise



Edinburgh May 2009

- CEBC Consortium of European Building Control
- IRCC an international building regulatory collaboration committee
- Joint workshop on compliance
- Bavarian Energy Exhibition



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St Andrews Old Course



Thank You



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