



Promoting a Sustainable Energy Culture in Europe
22nd – 23rd September 2005



Energy Performance of Buildings Directive (EPBD) in Ireland

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Sustainable Energy Ireland




- Statutory authority, established 1st May 2002
- Promoting and assisting sustainable energy:
 - Delivering programmes as directed by Government
 - Providing policy advice to Government
 - Networking with market players
- Five teams including Built Environment
- 42 full time staff, statutory Board
- Reporting to Dept. of Communications, Marine & Natural Resources

Presentation




- Background
- Irish & European Initiatives
- Draft Action Plan for Implementation of EPBD in Ireland
- Conclusions
- Further Information

Background




Rationale for EPBD




- Buildings (non-industrial) are responsible for:
 - 45% of Ireland's energy use and related CO₂ emissions
- Annual Energy Spend & CO₂ Emissions (2004)
 - Residential - €1.9 Billion, 12Mt CO₂
 - Non-Res - €1.5 Billion, 8Mt CO₂
- EU studies indicate large energy saving potential in buildings:
 - Estimated at >20%
 - Deficits in clear information and advice
- Energy Labelling & Market Transformation
 - Success of energy labelling of domestic appliances

Summary of EPBD Requirements



Compulsory provision to (or by) building owners of:

- Information & Advice
- Independent & Actionable



Irish & European Initiatives

Irish Initiatives

- Implementation is the joint responsibility of:
 - Department of the Environment, Heritage and Local Government (DEHLG)
 - Department of Communications, Marine and Natural Resources (DCMNR)
- EPBD Working Group established (co-ordinated by SEI)
- NSAI Energy Performance Standards Committee established to review European Standards (CEN)

European Initiatives

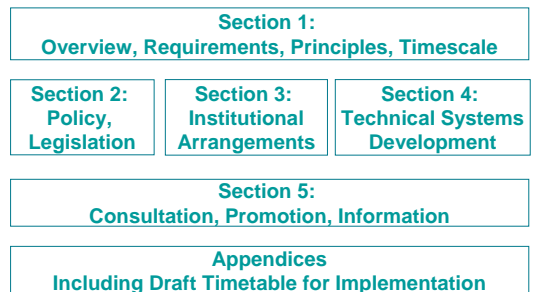
- European standards for calculating energy performance of buildings produced by CEN
- Energy Demand Management Committee (EDMC) (Article 14 Committee)
- SEI and DEHLG represented on EDMC
- EDMC Sub-Group Monitoring CEN Standards development
- EPBD Concerted Action Project (23 Member States)

Draft Action Plan for Implementation of EPBD in Ireland

Draft Action Plan: Process and Status

- Proposes tasks, lead responsibilities & timescales for implementation of EPBD in Ireland
- Drawn up by Interdepartmental Working Group and published 27th April 2005
- Key principles: Practicality, clarity, consistency, cost efficiency
- 3 months public consultation period (ended 29th July 2005)
- 68 written responses received
- Revised Action Plan – Autumn 2005 (to be submitted for Ministerial approval)

Draft Action Plan Structure



Section 1 – EPBD



Summary of Key Requirements:

1. Building energy performance standards (new build)
2. Minimum energy performance standards (major renovations)
3. Feasibility assessment of alternative energy systems (large new buildings >1,000m²)
4. Building Energy Rating (BER) - new & existing buildings
5. BER Public Service Buildings (continuous requirement)
6. Energy efficiency of large boiler systems (advice or inspection)
7. Inspection of air-conditioning systems (>12 kW)

Section 2 - Legal Transposition



- Transpose by **4 January 2006**
 - via Building Control (Amendment) Bill 2005, or
 - by Regulation under European Communities Act 1972, and
 - by Building Regulations under Building Control Act 1990 and
 - by associated Technical Guidance Documents
- Extension can only be considered for Articles 7, 8 & 9
 - BER, inspection of boilers and air conditioning systems

Section 2 – Proposed Timetable Building Energy Rating



January 2007

- BER for new dwellings

January 2008

- BER for new non-residential buildings
- BER for new public service buildings

January 2009

- BER for existing dwellings
- BER for existing non-residential buildings
- BER for existing public service buildings

Section 2 – Proposed Timetable Other Key Requirements



January 2006

- Minimum energy performance standards for major renovations
- Building energy performance standards [Phase 1]

July 2006

- Feasibility assessment of alternative energy systems

January 2008

- Building energy performance standards [Phase 2]
- Energy efficiency of large boiler systems
- Inspection of large air-conditioning systems

Section 2 – Proposed Vendor Information Pack (VIP)



- Comparable to UK Home Information Pack (HIP)
- Basic condition survey & BER for existing homes
- Eliminate need for multiple surveys by potential buyers
- Risk that purchasers may question accuracy of data
- Estimated cost of €600 (BER = up to €300)

Section 3 – Institutional Arrangements



- EPBD Working Group
- Energy Demand Management Committee (EDMC)
- EDMC Sub Group Monitoring CEN Standards development
- NSAI EPB Standards Committee
- EPBD Concerted Action Project (23 Member States)
- Other EU Member States (including UK/ Northern Ireland)

Section 4 – Technical Systems Development Measures



National Methodologies (BER, boilers and air-conditioning)

- Review CEN standards / existing methodologies
- If suitable, convert into practical national procedures
- Collate and integrate national technical data
- Chain of events: implications for implementation timescale

Setting Minimum Energy Performance Requirements

- Differing scope (e.g. lighting, air-conditioning) and methodologies for housing and non-residential buildings
- Phase 1 and Phase 2 review of Part L

Section 4 – Technical Systems Development Measures



Feasibility Assessment of Alternative Energy Systems

- To apply to large new buildings >1,000m² from **July 2007**
- "The technical, environmental and economic feasibility of alternative energy systems.... is considered and is taken into account before construction starts"
- Renewable energy systems, CHP, district heating, heat pumps, etc.
- National study and guide to assist design teams: scheduled for completion in 2005

Section 4 – Technical Systems Development Measures



Development of Software

- Software required for:
 - Calculation and surveying (possibly)
 - Administration, registration and support systems
- Strategic assessment of software options commissioned by SEI (development, licensing or validation of software)

Section 4 – Technical Systems Development Measures



Advisory Report

- Stimulate investment in energy performance improvements
- Recommendations for building works – ranked
- Updated rating
- Benefits – estimated cost savings
- Consultation on format and content

Section 4 – Technical Systems Development Measures



Estimated Cost & Timescale (BER & Advisory Report)

- Costs:
 - Estimated at up to €300 per house for BER
 - May be lower for housing estates and apartments
 - Will be more marginal for new buildings
 - Will be more significant for existing buildings
- Target turnaround time <2 weeks for housing

Section 4 – Technical Systems Development Measures



Training and Accreditation of Assessors & Inspectors

- Certified assessors and inspectors required
- BER Residential Market: Estimate of up to 2,000 full and/or part-time assessors
- Proposed that assessors be drawn from existing base of building professionals
- Pre-qualifications will depend on complexity of methods
- Training courses and competent, registered trainers required

Section 4 – Technical Systems Development Measures

Underpinning systems:

- Quality Assurance
- National Databases
 - Register of assessors, inspectors, buildings
 - Records of BERs, Advisory Reports and Inspections
 - Register of energy efficiency improvement options
- Administration
 - Administrative Committee
 - Secretariat

Section 5 – Consultation, Promotion & Information Campaign

- Consultation with interested parties throughout:
 - Construction & property interests, consumers, designers, energy service industries, public bodies, financial bodies, legal.....etc.
- Proposed information sessions/workshops on various elements:
 - Draft Action Plan, BER format, Advisory Report, boilers, air-conditioning systems, etc.
- Promotion and information campaign to be developed
- National EPBD website – www.epbd.ie

SEI Studies 2004 - 2005

Commissioned Studies

- Review of existing Home Energy Rating Schemes (completed)
- Review of Heat Energy Rating Vs EN832 (completed)
- Options for meeting the EPBD requirements with regard to Boilers (completed)
- Review of calculation & survey software options (completed)
- Review of administration software options (completed)
- Study on adaptation of UK SAP with regard to meeting the EPBD requirements for dwellings in Ireland (2005)
- National study on feasibility of alternative energy systems (2005)
- Review of current practices regarding inspection of air-conditioning systems in Ireland (2005)

Overview of feedback on Draft Action Plan: Issues

- Costs
- VIP
- Methodology
- Design, asset and operational ratings
- Professional liability
- Competent persons: qualifications and training
- Article 8 (boiler) options
- Exemptions and classifications
- Timelines

Conclusions

Possible Impacts

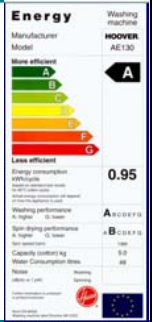
- Requirements for upskilling, probably in CPD framework
- Regular review of Building Regulations (5 years)
- Impact on building design, management decisions and property value
- Energy rating as marketing tool
- Increased potential exposure and liability for non-compliance with Building Regulations
- Demands for higher standards of energy efficiency
- Renovation – retrofitting of energy efficient measures

Next steps: for 2006 deadlines

- > **Draft Action Plan**
 - > Public consultation closed 29th July 2005
 - > Submit revised Action Plan for Ministerial approval – Autumn 2005
- > **Residential Buildings**
 - > Develop methodology & software (based on UK SAP)
 - > Training & certification of assessors
- > **Alternative Energy Systems**
 - > Carrying out national study and producing guide
- > **Legislation**
 - > Legislation to be developed & introduced in January 2006

Conclusions

- > Making energy performance of buildings visible to consumers
- > Stimulating:
 - > Higher spec standards in new buildings
 - > Investment in upgrading of existing buildings
- > New demand for energy assessors, energy efficient materials, products and services
- > Impact on property prices?
- > *Significant lever to improve the energy, environmental & economic performance of Irish Buildings*



Further Information

Further Information

- www.sei.ie & www.epbd.ie
- EPBD Webzine (2005)
- www.kyotobuildings.net
- www.diag.co.uk
- www.enper.org
- www.europrosper.org

Responsibilities for BER service quality (Q), volume (V) & quality assurance (QA): supply chain

