BUDI Meeting
26th September 2005

Energy Performance of Buildings Directive (EPBD) in Ireland

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26th September 2005

Sustainable Energy Ireland

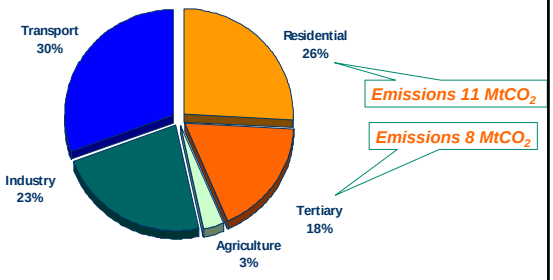
- Statutory authority, established 1st May 2002
- Promoting and assisting sustainable energy:
  - Delivering programmes as directed by Government
  - Providing policy advice to Government
  - Networking with market players
- Five teams including Built Environment
- 42 full time staff, statutory Board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

Ireland: breakdown of energy related CO_2 emissions, 2003



Irish Housing: Status & Challenges

STATUS:
- Housing stock 1.4 million units
- Energy spend €1.9 billion
- CO_2 emissions 11.3 million tonnes (c. 55% fuel, 45% elec.)
- 26% of national energy consumption and related CO_2
- "Average" house: 2 TOE, €1500, 9 TCO_2

CHALLENGES:
- 70,000+ new homes per annum
- Tackling barriers to upgrading 800,000 pre-1980 homes
- Systematically tackling fuel poverty
- Engaging with suppliers & specifiers
- Engaging with Local Authorities Agenda 21 strategic role
- Implementing EU Building Energy Performance Directive

Ireland's Tertiary Sector: Status & Challenges

STATUS

- Energy spend – €1.5 billion (€500 M fuel, €1,000 M electricity)
- CO_2 emissions – 8Mt (2.9Mt direct (fuel use), 5.1Mt indirect (electricity use)
- 18% of national energy consumption and related CO_2
- Industrial buildings could represent a further 1Mt CO_2

CHALLENGES

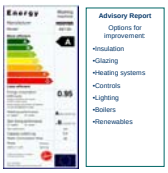
- Support the design and specification of new-build construction
- Stimulate uptake of best practice technologies
- Influencing the financial framework of investment decisions
- Building capability among professions and trades
- Encouraging appropriate business models for service provision
- Implementing EU Building Energy Performance Directive

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:
Overview, Requirements, Principles, Timescale

Section 2: Policy, Legislation

Section 3: Institutional Arrangements

Section 4: Technical Systems Development

Section 5:
Consultation, Promotion, Information

Appendices
Including Draft Timetable for Implementation

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 >1,000m^2)
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 >1,000m^2 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

Energy Performance Standards

- Regular review of Building Regulations (5 years)
- Demands for higher standards of energy efficiency
- Renovation – retrofitting of energy efficient measures
- Impact on building design, management decisions and property value
- Increased potential exposure and liability for non-compliance with Building Regulations

Building Energy Rating

- Requirements for upskilling, probably in CPD framework, capacity of market
- Independence issue for designers producing BERs for their own work
- Energy rating as marketing tool

Other

- Alternative energy assessments large developments (>1,000m²)

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

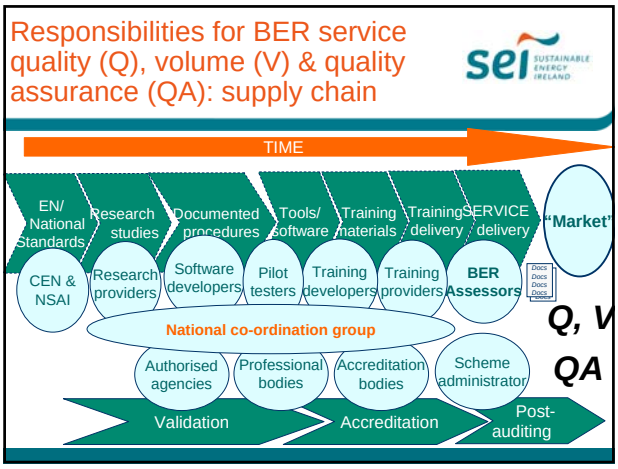
Conclusions

- 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
TIME
EN/ National Standards
Research studies
Documented procedures
Tools/ software
Training materials
Training delivery
SERVICE delivery
"Market"
CEN & NSAI
Research providers
Software developers
Pilot testers
Training developers
Training providers
BER Assessors
National co-ordination group
Q, V
QA
Authorised agencies
Professional bodies
Accreditation bodies
Scheme administrator
Validation
Accreditation
Post-auditing


SUSTAINABLE ENERGY IRELAND