



# **Part L Energy Management & Certification**

*-Rating of Buildings*

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CODEMA**

Presentation to

**IBCI Conference, 29<sup>th</sup> March 2006**

Corrib Great Southern Hotel, Galway

# Presentation Structure

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- Practical experience with Part L
- Changes to TGD Part L (2006)
- Energy Performance of Buildings Directive
- Certification of dwellings



# Disclaimer

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The new TGD Part L (2006) is not yet published by DEHLG, nor is the new calculation methodology published by SEI. The final documents may differ from what CODEMA anticipates at present.

CODEMA accepts no responsibility for loss or damage resulting directly or indirectly from the use of the information contained in this presentation.



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# Energy-related regulations

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- **Technical Guidance Documents (TGDs):**
  - Part L, Conservation of Fuel & Energy
  - Part F, Ventilation
  - Part J, Heat Producing Appliances
- **Statutory Instrument No. 260 of 1994**
  - European Council Directive 92/42/EEC  
*“Efficiency requirements for new hot-water boilers fired with liquid or gaseous fuels”*
- **Statutory Instrument No. 873 of 2005**
  - 2002/91/EC of 16 December 2002  
*“Energy Performance of Buildings Directive”*





# Practical Experience - Part L

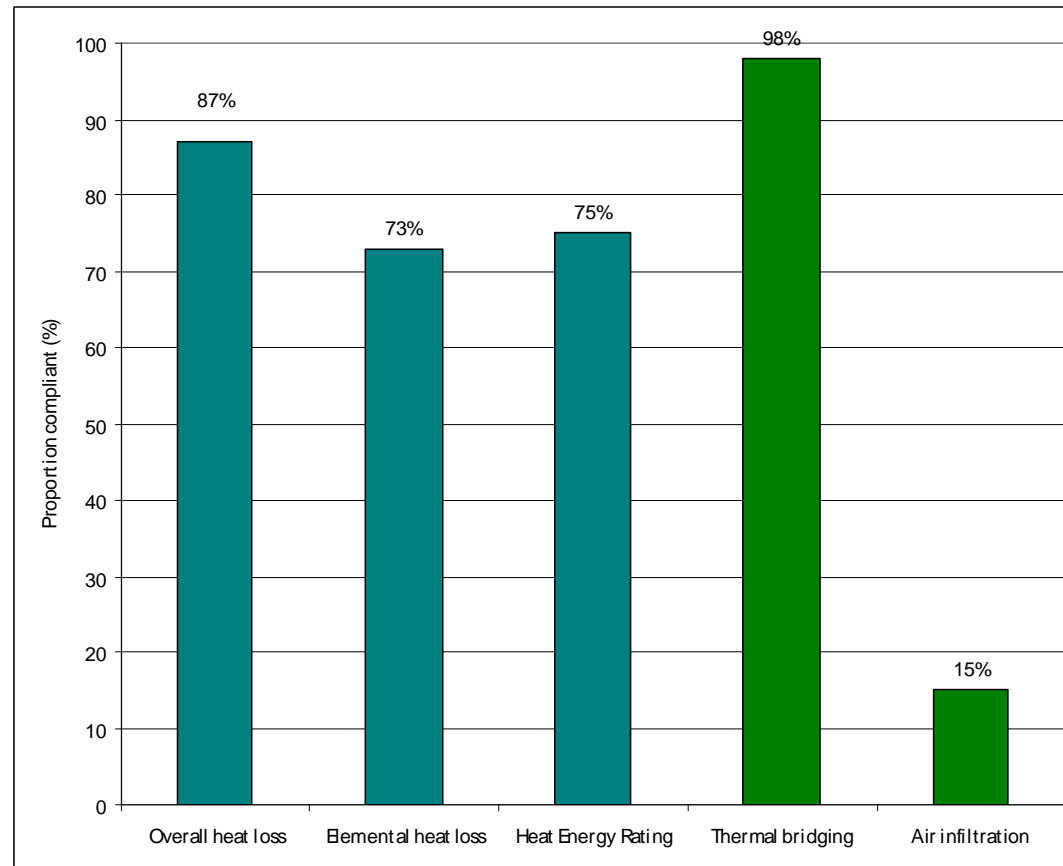
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## ‘Energy Performance Survey of Irish Housing’

- Commissioned by SEI
- Carried out by CODEMA - DIT partnership (January – May 2005)
- 50 dwellings constructed 1997 to 2002
- Sample is statistically small but represents cross-section of Irish Housing

# Practical Experience - Part L

*Limiting heat loss through the building fabric*



Degree of meeting Guidance for Part L (1997)



# Practical Experience - Part L

## *Areas of weaknesses*

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- Under-specified roof insulation thickness
- Air infiltration
  - Sealing the void between dry-lining and masonry walls
  - Sealing vapour control membranes in timber-frame
  - Draught stripping of windows & doors is variable
  - Sealing & insulation of attic hatch doors
  - Sealing of services penetrating ventilated roof space
- Insulation of hot pipes in unheated spaces
- Heating controls are variable



# Changes to TGD Part L (2006)

## *-Dwellings*

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### **What is new?.... From 1<sup>st</sup> July 2006:**

*“For dwellings, the requirement of L1 shall be met by-*

*(a) providing that the CO<sub>2</sub> emissions associated with energy use for space heating, water heating, ventilation and lighting of a new dwelling, calculated using a method published by SEI, are limited insofar as is reasonably possible*

*(b).....etc”*

– S.I. No. 873 of 2005



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# Changes to TGD Part L (2006)

## *-Dwellings*

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### **What does this mean?**

1. The present Heat Energy Rating (HER) will go
2. A new 'Dwelling Energy Assessment Procedure' (DEAP), including the heating system efficiency, will be published by SEI
3. A new criterion will be Carbon Dioxide (CO<sub>2</sub>) Emission Rate (CDER) expressed in terms of kg CO<sub>2</sub> /m<sup>2</sup>/annum



# Changes to TGD Part L (2006)

## *-Dwellings*

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### **How will compliance be assessed?**

- (a) The CDER for the dwelling should be less than the Maximum Permitted CO<sub>2</sub> Emission Rate (MPCDER) derived for a reference dwelling of the same size and shape
- (b) Limit fabric heat loss (as existing)
- (c) Heating system controls (as existing)
- (d) Limiting heat loss from pipes, etc (as existing)





# Energy Performance of Buildings Directive (EPBD)

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- Joint responsibility of 2 Departments:
  - Environment, Heritage and Local Government
  - Communications, Marine and Natural Resources
- EPBD Working Group established, 2003 (co-ordinated by SEI).
- Draft Action Plan April 2005
- Transposition date: Due 4 January 2006 (+3 years)





# EPBD - Main Objective

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**The Directive's main objectives are to promote:**

- improved energy performance of buildings within the EU through cost effective measures
- the convergence of building energy standards towards those of Member States which already have ambitious levels



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# Transposition of EPBD

*-in Ireland*

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**22 December 2005:**

## **Building Control (Amendment) Bill 2005**

- Building Energy Rating (BER)- New & Existing bldgs
- Display of BER Cert in Public Buildings (>1,000m<sup>2</sup>)
- Feasibility of Alternative Energy Systems (>1,000m<sup>2</sup>)

**30 December 2005:**

## **Building Regulations (Amendment) Regulations 2005 (S.I. No. 873)**

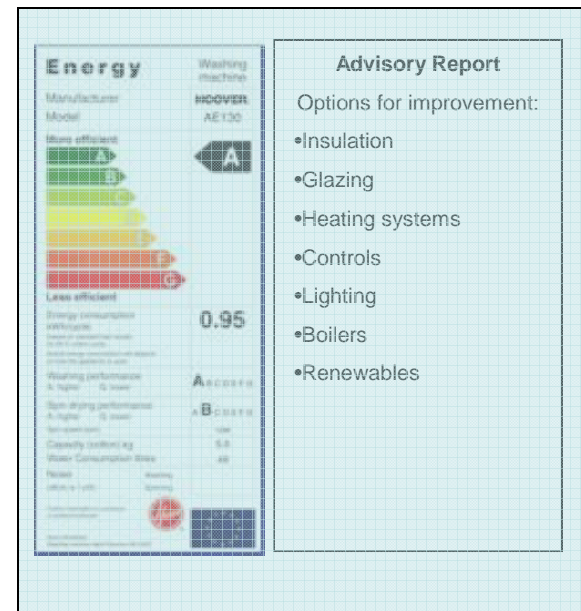
- New methodology for assessment from 1 July 2006 ( with transitional arrangement up to 30 June 2008)

# Certification of dwellings

*-Energy Performance of Buildings Directive (EPBD)*

## **EPBD Article 7:**

*“..when buildings are constructed, sold or rented out an energy performance certificate is made available...”*





# Timescale for Certification

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- **January 2007**
  - New dwellings
- **January 2008**
  - New non-residential buildings
  - New public service buildings
- **January 2009**
  - Existing dwellings
  - Existing non-residential buildings
  - Existing public service buildings



# EU Project 'BUDI'

[www.buildingdirective.org](http://www.buildingdirective.org)



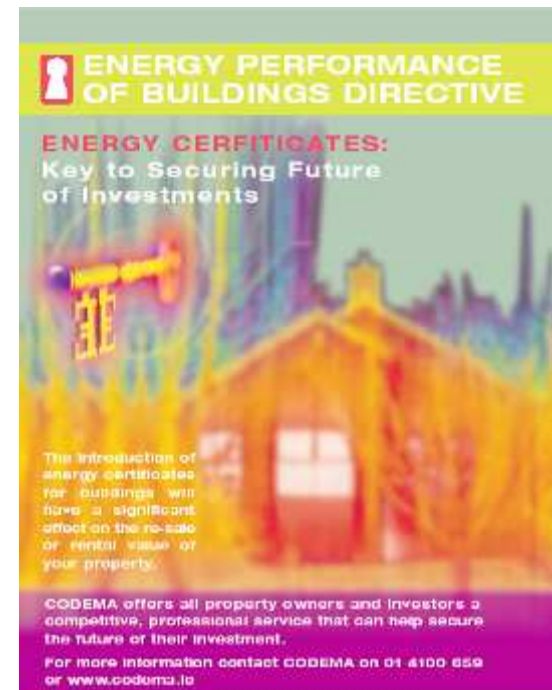
*-Pilot Actions to develop a functioning market for Energy Performance Certificates*


## Trial Certification of:

- 60 Apartment blocks
- 48-60 Public Buildings

## In 6 Countries:

- Ireland
- France
- Austria
- Germany
- Finland
- Slovenia



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# Benefits of Energy Certificates

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**For investments in buildings which have a time horizon in excess of 3 years, a good energy rating can:**

- Increase the Capital value of a property
- Increase return on investment
- Reduce the running costs
- Help the environment





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*CODEMA acts as the local energy agency for  
Dublin City Council – [www.codema.ie](http://www.codema.ie)*

*The aim of CODEMA is to contribute to the  
economic, social and environmental sustainability  
of Dublin through good energy management,  
which will benefit the environment and improve the  
quality of life for the people of Dublin who live and  
work in the City*

Thank you for your attention