


CODEMA
City of Dublin Energy Management Agency

Certification of apartment blocks in Dublin

-based on individual apartment ratings


Dr Gerry Wardell
Director CODEMA
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ICC - Berlin



Overview of Presentation

- Introduction
- Certification of apartments
 - Theoretical vs Actual
 - Example 1: Social apartments
 - Example 2: Private apartments

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City of Dublin Energy Management Agency

CODEMA acts as the local energy
agency for Dublin City Council

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

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Dublin in 2006

-A Rapidly Developing City

- Most rapidly developing of EU25 capital cities
- Housing construction at 5% of stock per year
- Large scale new commercial & educational building developments
- Major new Dublin public transport infrastructure in €34.4 bn 'Transport 21'



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A vision for Dublin

- ***Dublin Chamber of Commerce has a vision for Dublin:***

...a great world city, a leading centre for new economy industries, an exciting tourism destination, a seamless transport system, a great place to live, a fun city, a place we are proud of...



Corporate Plan

Dublin City Council has a Mission:

“To foster a vibrant, attractive, safe and environmentally sustainable capital city with a strong human focus and to advance and promote the physical, social, cultural and economic environment of the city, through effective civic leadership and through the active democratic participation of our citizens”

Dublin Buildings Measure up

- Dublin City Council takes the lead

Energy Performance Certificates

- 1st Certification of Public Building
- Civic Offices – Council HQ
- Presentation of Certificate to the Lord Mayor of Dublin, Cllr Catherine Byrne
- Dublin Energy Day 28th November 2005



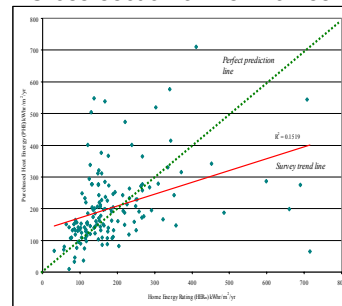
Certification - Residential

- Building Energy Rating (BER)-Ireland

Factors affecting BER:

- Insulation of fabric
- Ventilation
- Location & orientation
- Heating system & controls
- Also affecting actual consumption
 - Temperature
 - Occupancy
 - Lifestyle

Cross-section of Irish homes



X-axis: Theoretical BER (from survey)

Y-axis: Actual energy consumption (from bills)

[Official methodology to be published in 2006]

Certification - Apartments

- 'Identical' apartments in block (reduce variables)

•Social Housing (Example 1)

- Constructed 1960s
- Refurbished 2002
- 5-floor walk-up blocks
- 70 apartments
- 5 similar blocks



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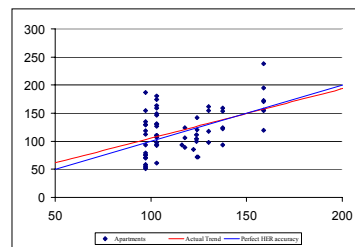
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Certification - Apartments

- Example 1 - Results

Factors affecting BER:

- Insulation of fabric
 - Ventilation
 - Location** & orientation
 - Heating system & controls
- Also affecting actual consumption
- Temperature
 - Occupancy
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X-axis: Theoretical HER (from survey)

Y-axis: Actual energy consumption (from bills)

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Certification - Apartments

- Example 1 – BER vs position in block

BER Values For Different Apartment Locations ($A_v=148 \text{ kWh/m}^2/\text{yr}$)					
east			west		
156	130	130	130	130	165
149	123	123	123	123	157
201		174		201	

% Each location differs from Average BER					
east			west		
6%	-13%	-13%	-13%	-13%	10%
1%	-20%	-20%	-20%	-20%	6%
26%		15%		26%	

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Certification - Apartments

- Example 1 – Average Consumption vs position

Actual Energy Use For Different Apartment Locations ($A_v=132 \text{ kWh/m}^2/\text{yr}$)					
east			west		
146	127	127	127	127	136
133	105	105	105	105	128
200		141		162	

% Each location differs from Average (metered data)					
east			west		
10%	-3%	-3%	-3%	-3%	3%
1%	-26%	-26%	-26%	-26%	-3%
34%		6%		19%	

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Certification - Apartments

- Example 2: New private apartments

- **Private apartment block** (Example 2)
 - Constructed 2003
 - 3-floor block
 - 39 apartments
 - Floor area of each apartment 62 m²
 - Occupied floor area (39 x 62 m²): 2,414 m²
 - Gross floor area (=footprint x 3 floors): 2,864 m²

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Certification - Apartments

- Example 2 - BER vs position in block

BER Values For Different Apartment Locations (Av=112 kWh/m ² /yr)				
		106		112
		91		96
		136		142

% Each location differs from Average BER				
		-5%		0%
		-19%		-14%
		+21%		+27%

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Contact

Dr Gerry Wardell

City of Dublin Energy Management Agency
Unit 50, Guinness Enterprise Centre
Taylors Lane, Dublin 8.

Tel: +353 (0)1 410 0659

Fax: +353 (0)1 410 0576

Email: gerry.wardell@codema.ie

www.codema.ie



Thank you for your attention

Dr Gerry Wardell, CODEMA

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