

EPLabel: a graduated response to EPBD energy certification based on a measured energy rating

**Presentation to Enper-Exist workshop
Calculated or measured – is there a preferred rating method?**

Budapest, 10 May 2006

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Parallel universes

ITWORLD

Calculated (Asset) rating for buildings

- Calculate **energy efficiency** of a building ... and predict how to make it more efficient
- Inspect a used car and estimate by computer model the kms/litre it achieves under standard driving conditions – **no testing allowed**

REALWORLD

Measured (Operational) rating for buildings

- Measure **energy use** of a building ...and identify ways to use less energy
- To get the kms/litre, ask the used car owner how much fuel it used and how many kms it travelled in last year

Parallel universes

ITWORLD

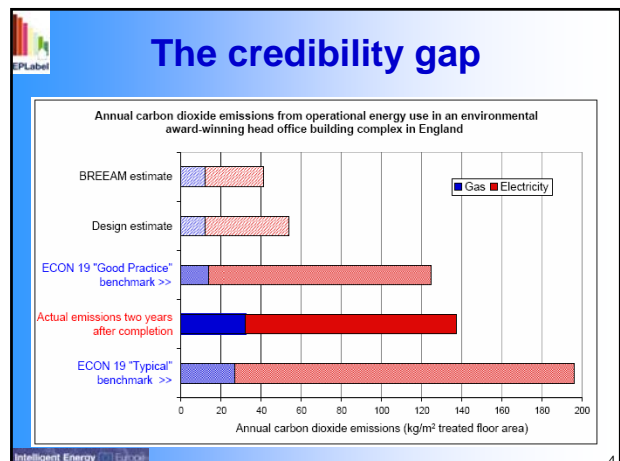
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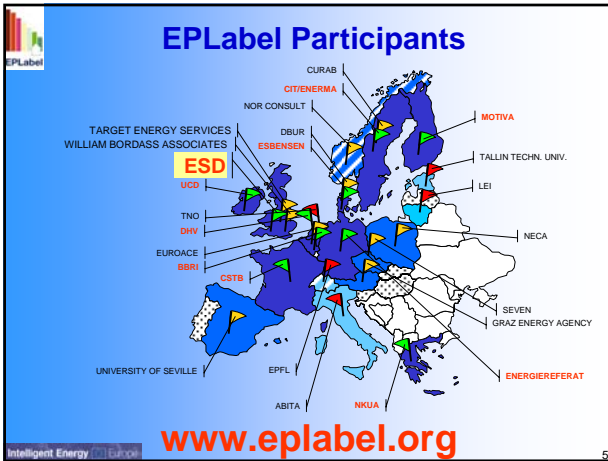
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EPLABEL Mission

To deliver 'graduated response' methodology for display of energy Certificate by Public Buildings in six sectors, based on Operational Ratings (measured energy):

1. Public administration offices
2. Higher education (Universities, Colleges)
3. Schools
4. Sports facilities
5. Hospitals and other health facilities
6. Hotels and restaurants

(this complements work on residential and catering facilities in the other sectors)

Summary of Method based on Operational Rating

1. Calculate energy intensity (kWh weighted energy or kgCO₂/m²/yr).
2. Identify appropriate benchmarks
3. Classify energy efficiency (eg A to G)
4. Identify energy saving measures
5. Produce Energy Certificate

Graduated response strategy: allows progressive levels of detail within a cohesive framework.

For example, benchmarking.....

1. **Entry level** Operational Rating procedure, no benchmarks! **Gets started. Identifies highest energy buildings.**
 - Method is available from EPLabel web site.
2. **Initial benchmarking** using statistics and allowance for specials.
 - Being tested – will demonstrate
3. **Customised benchmarking** procedure taking account of the building's schedule of accommodation, activities and use.
 - Coming soon

Graduated response strategy:
For example, recommending measures....

- 1. Check List** of standard measures for building type
- 2. Estimation** of each measure's cost effectiveness for specific building
- 3. Detailed appraisal** of technical and financial viability of each measure

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Entry level (no benchmarks):
Operational Rating = weighted energy/year
EPI = weighted energy/m²/year

ACTUAL ENERGY USE
Annual fuel Statement data

Gas Electricity

183 kgCO₂/m²

kg of carbon dioxide per m² of floor area per year

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Level 1: Initial benchmarking
(Statistical benchmarks, suitable for most buildings)

ACTUAL
Gas Electricity 183 kgCO₂/m²

Typical 138 kgCO₂/m²

Good Practice 77 kgCO₂/m²

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Level 2: Corrected benchmarking
(Allows correction for special energy uses)

ACTUAL
Gas Electricity Special (20 kgCO₂/m²) 183 kgCO₂/m²

↑ 163 kgCO₂/m²

Typical 138 kgCO₂/m²

Good Practice 77 kgCO₂/m²

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