



Directorate-General
for Energy



● EeB.ENERGY.2011.8.1-1

Demonstration of very Low Energy New Buildings

Unit C.2. DG ENER
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● Main Objective

- » Demonstrate **very low energy new buildings** with high energy efficient innovative technologies and measures

● The performance calculation

To be taken into account:

- Space heating/cooling
- Water heating
- Air conditioning
- Electricity use, including lighting

Should not exceed 60 kWh/m²/year

(Primary energy; for m²: use calculation methodology of national legislation)

● Requirements (1/3)

- Innovation in technology, design, planning, operation or systems integration (i.e. BIM)
- Single building or a number of buildings
 - » located in one or more countries
- Construction should be as cost effective as possible
- Information on the building(s) design envelope
 - » its future energy use
 - » Energy Efficiency measures to be applied (complete Building Energy Specification Tables - BEST)

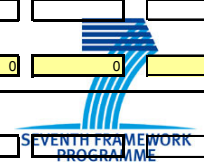
Requirements (2/3)

- See [link to the excel file](ftp://ftp.cordis.europa.eu/pub/fp7/docs/wp/cooperation/energy/e_best_2010_en.xls) (ftp://ftp.cordis.europa.eu/pub/fp7/docs/wp/cooperation/energy/e_best_2010_en.xls)
- **BEST** tables, same info provided for **CONCERTO**

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Building Energy Specification Table (BEST)				Community / site		BEST no.	
1.1	Building Category	residential retrofitted	[1]	total area / category / BEST sheet [2]		m ²	
1.2	Local Climate	January average outside temperature		°C			
		August average outside temperature		°C			
	Climatic Zone (national definition)	Average global horizontal radiation		kWh/m ² ·yr			
		Annual heating degree days [3]		°Cd/yr			
1.3	Maximum requirements of building fabric			Existing building [5]	National regulation for new built [6]	suggested specification [7]	Energy savings [%] [8]
	Façade/wall	U	W / m2K				
	Roof	U	W / m2K				
	Ground floor	U	W / m2K				
	Glazing	U _g	W / m2K				
	Average U-value	U _{av}	W / m2K				
	Glazing	g	total solar energy transmittance of glazing [%]				
	Shading	F _s	Shading correction factor				
	Ventilation rate [4]		air changes/hr				
2	Building Energy Performance						
2.1	Energy demand per m2 of total used conditioned floor area (kWh / m2yr) incl. system losses	specify energy efficiency measures [13]		Existing building [5]	National regulation / normal practice	suggested specification [7]	% Energy savings [8]
	energy carrier existing						
	energy carrier suggested						
	Heating + ventilation						
			kWh/m ² ·yr				
	Cooling + ventilation						
			kWh/m ² ·yr				
	Ventilation (if separate from heating/cooling)						
			kWh/m ² ·yr				
	Lighting						
	electricity		kWh/m ² ·yr				
	Domestic Hot Water (DHW)						
			kWh/m ² ·yr				
	Other energy demand						
			kWh/m ² ·yr				
		kWh/m ² ·yr	Subtotal sum of energy demand	0	0	0	
	Appliances (please indicate, but costs are not eligible)						
	electricity		kWh/m ² ·yr				
2.2	RES contribution per m2 of total used conditioned area (kWh / m2 yr)						



● Requirements (3/3)

- **Monitoring** affecting the future operation of the building including behavioural changes and **post occupancy evaluation** should also be clearly addressed.
- Detailed metering/monitoring programme for at least one year
- A **holistic** approach is expected
- Priority to buildings the typology and use of which could be representative for large geographical areas in Europe.

● Financing

- The grant will be composed of a combination of:
 - » The typical **reimbursement** of eligible costs, and
 - » A **flat rate** financing, determined on the basis of scale of unit costs only for the **Demonstration part** of the buildings

(100 €/m² built eligible cost = 50 €/m² support)
 - » Up to **five** projects could be funded
- About **20 Millions €** earmarked for this activity

Thank you for your attention!