


FIG WORKING WEEK 2012  
May 6–10 2012  
Rome, Italy

**The energy efficiency of a building**

*Ezio Piantedosi – cng member*



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*What is the European Union doing?*




*Kyoto Protocol*


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*Increase share of renewables to 20%*



*Reduce energy consumption by 20%*



*Reduce greenhouse gas emission by 20%*

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*What is Italy doing?*



Energy class

A  
B  
C  
D  
E  
F  
G



**National guidelines for energy certificate of buildings**

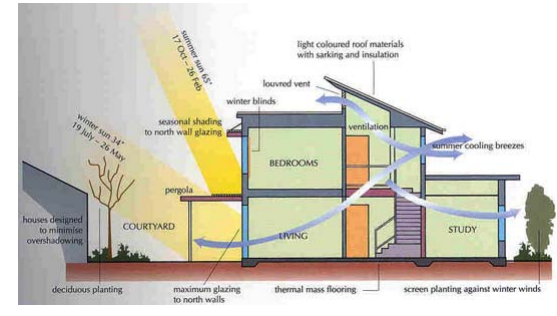
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*How does one calculate the energy efficiency of a building?*



light coloured roof materials with sarking and insulation

insulated vent

winter blinds

seasonal shading to north wall glazing

summer sun 65°C 17°C Oct - 20°C

summer cooling breezes

ventilation

BEDROOMS

LIVING

STUDY

COURTYARD

pergola

houses designed to minimise overshadowing

deciduous planting

maximum glazing to north walls

thermal mass flooring

screen planting against winter winds

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*What is the impact of energy certification on building value?*




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*What is the reason for these differences?*



*Greater cost for running the building  
(Winter heating, Summer air-conditioning, Hot water production, Artificial lighting)*

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**An example:**

Class	EPgl Kwh/ mq	Cost per kwh euros	Cost of building energy management euros/mq	Diff. W.r.t. class A+ euros/mq
A+	25	0,15	3,75	---
A	30	0,15	4,50	1,25
B	50	0,15	7,50	3,75
C	70	0,15	10,50	6,75
D	90	0,15	13,50	9,75
E	120	0,15	18,00	14,25
F	160	0,15	24,00	20,25
G	>160	0,15	>24,00	>20,25


Class	Unit Capitalization euro/mq	Diff. w.r.t. class A+ euro/mq
A+		
A	euros/mq 1,25 : 0,04 =	30,00
B	euros/mq 3,75 : 0,04 =	95,00
C	euros/mq 6,75 : 0,04 =	170,00
D	euros/mq 9,75 : 0,04 =	245,00
E	euros/mq 14,25 : 0,04 =	355,00
F	euros/mq 20,25 : 0,04 =	505,00
G	euros/mq >20,25 : 0,04 =	>505,00




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**How does the market react?**



**In Italy the Energy Certification is preparatory to the design**


**The Italian Government provides tax discounts amounting to 55% of the costs for required works**



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*What are Italian Land Surveyors doing?*

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*Better design leads to:*

-  **Buildings with greater market value**
-  **More healthy and comfortable living quarters**
-  **Lower building management costs**
-  **Less pollution**

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***in short:***

***live and let live better!***

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***thanks for your attention***

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