



FACT SHEET No. 15

PHPP - Hitting Primary Energy requirements

TEACH Passiv

This Fact Sheet focusses on Primary Energy Requirements. In order to meet Passivhaus, the Primary Energy Demand should be a maximum of 120kWh/(m2a). The Primary Energy Demand is calculated from the whole energy demand in the building including:

- Heating
- Cooling
- Dehumidification
- Domestic Hot water
- Household electricity (including lighting)
- Auxiliary Electricity

Generally the Space Heating Demand requirement is harder to meet than the Primary Energy Demand but below are a few critical areas that will help you meet and better the 120 Wh/(m2a) maximum:

- PHPP takes into account the power consumption of consumer electronics and small appliances. A typical television power consumption is 80W but using high efficiency household appliances is crucial for 'reduction of future electrical demands' and is rewarded in PHPP (unlike other Energy Assessment software such as DEAP and SAP):

Electricity			
Lighting	1	1	21 W
Consumer electronics	1	1	67 W
Small appliances, etc.	1	1	50 kWh
Total aux. electricity			
Other:			

Percentage CFLs
100%

- You can therefore specify lower energy appliances; for example you can use an LED TV at 67W rather than the more energy hungry Plasma version (136W). The following URL

gives a good [Plasma vs LED: TV Power Consumption and Electricity Cost Analysis](#) Other energy savings can be made in the same way in PHPP for dish/clothes washing/drying,, refrigerating, freezing and cooking.

- You can also lower the Primary Energy Demand with a combination of low wattage lighting with a higher percentage of energy conserving light fixtures as shown in the screen grab above.

Planned number of occupants
3 User-determined

- Primary Energy & electricity demand are strongly influenced by occupancy; Primary Energy

Demand is therefore reduced in line with the reduction in number of occupants.

- Primary Energy Demand decreases with increased treated floor area in a similar way as Space Heating Demand and is based on the equation $e_{el} = E_{el} / A_{TFA}$

where e_{el} = specific electricity demand E_{el} = annual electricity demand and A_{TFA} = treated floor area



TEACHPASSIV.COM IS AN INITIATIVE OF:

MARK STEPHENS ARCHITECTS

OFFICE

Rooskey
Foxford
Co. Mayo
Ireland

MOBILE

085 159 4084

TEL

094 92 57621

EMAIL

mdstephens@gmail.com

WEB

MarkStephensArchitects.com