

# Peckham Power

## Energy Efficiency Model House

Loft insulation info from the EST:

	£/yr saving		kgC/yr saving	
	from	to	from	to
Loft insulation 270mm in empty loft	85	295	270	705
Loft insulation top up from 75mm to 270mm	10	45	35	75
Loft insulation top up from 100mm to 270mm	10	40	30	70

**Minimum Loft Insulation**  
80mm glass wool between joists  
U-value = 0.48

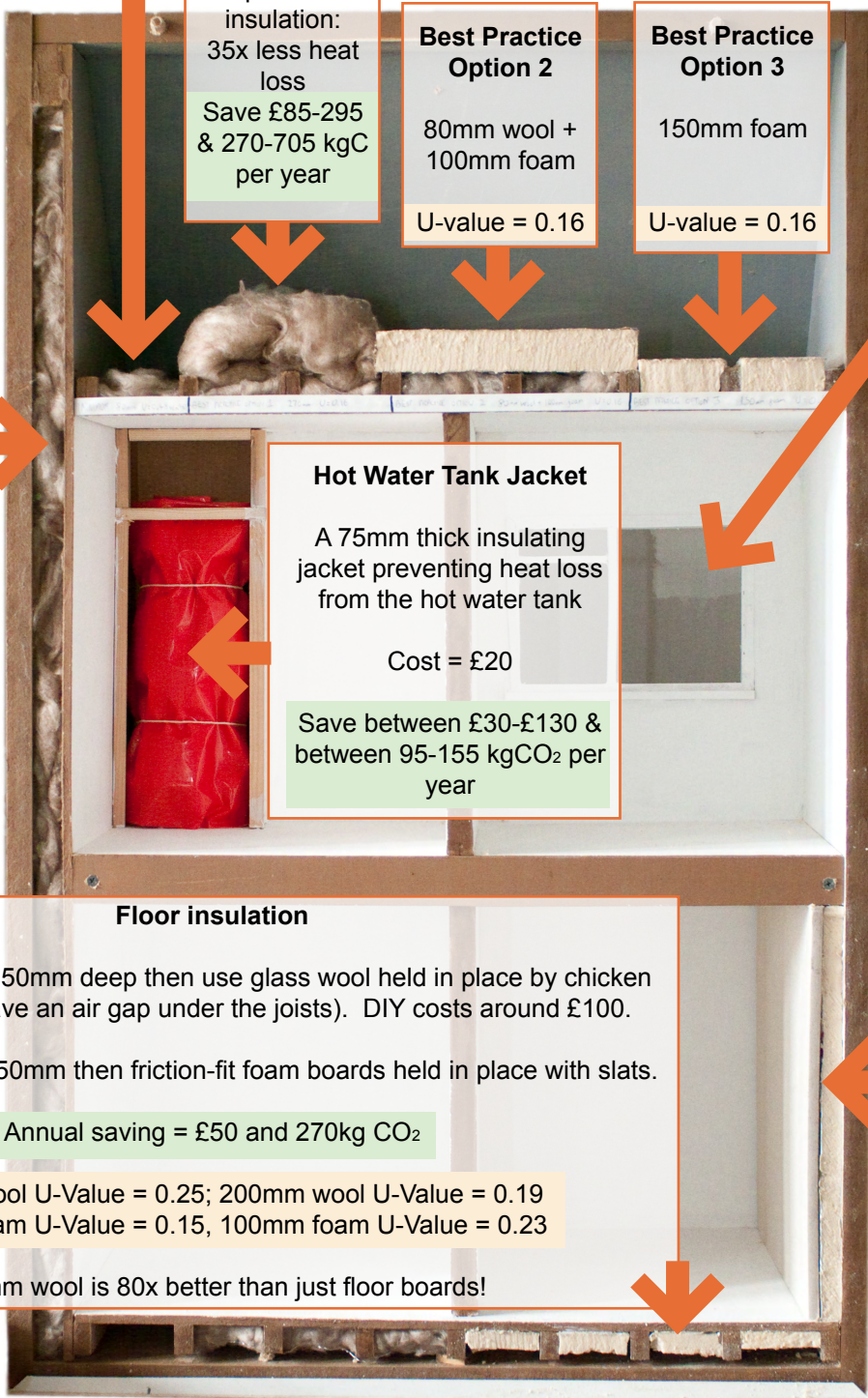
**Best Practice Option 1**  
Total of 270mm of glass wool  
U-value = 0.16  
Compared to no insulation:  
35x less heat loss  
Save £85-295 & 270-705 kgC per year

**Best Practice Option 2**  
80mm wool + 100mm foam  
U-value = 0.16

**Best Practice Option 3**  
150mm foam  
U-value = 0.16

**Draught-proof doors & windows**  
Peckham Power prices:  
£15 per window, £10 per door  
Do the whole house and save £25 per year

**Cavity Wall Insulation**  
If your house was built after 1920 its external walls are probably made of two layers of brick with a cavity between. This cavity can be filled with insulation.  
install cost = £250  
Saving = £115 & 610 kgCO<sub>2</sub> per year  
Payback = 2 years  
Uninsulated cavity wall U-value = 1.1  
Insulated = >0.55



**Hot Water Tank Jacket**  
A 75mm thick insulating jacket preventing heat loss from the hot water tank  
Cost = £20  
Save between £30-£130 & between 95-155 kgCO<sub>2</sub> per year

**Solid wall insulation**  
If your house was built before 1920 its external walls are probably solid 9" brick. Uninsulated solid walls waste 45% of a property's heat. Solid walls can be insulated externally or internally.  
Internal costs = £5500-8500 (can be done much cheaper DIY)  
External costs = £10500-14500  
Annual savings = £380-400 and 2,000kgCO<sub>2</sub>  
Uninsulated U-value = 2.1  
Brick + 60mm foam = 0.33

**Floor insulation**  
If you have joists >150mm deep then use glass wool held in place by chicken wire (you must leave an air gap under the joists). DIY costs around £100.  
If you have joists <150mm then friction-fit foam boards held in place with slats.  
Annual saving = £50 and 270kg CO<sub>2</sub>  
150mm wool U-Value = 0.25; 200mm wool U-Value = 0.19  
150mm foam U-Value = 0.15, 100mm foam U-Value = 0.23  
150mm wool is 80x better than just floor boards!

Information taken from the Energy Saving Trust's website. Find out more by googling "Energy Saving Trust" and the issue you're interested in e.g. "Energy Saving Trust, Floor Insulation"

**What's a "U-Value"?**  
The "U-value" is simply a measure of the rate at which a building element conducts heat. Better insulators have lower U-values. So, for example, if an uninsulated cavity wall has a U-value of 1.1 and you bring this down to 0.55 by insulating then you will halve the rate at which the wall wastes heat. The units are Watts per square meter per degree Kelvin (W/m<sup>2</sup>/K)