



# Community Sustainable Energy Programme

## BENCHMARKS

Information gathered from section 4.2-4.8 of the application form will be used to estimate the cost (based on total installation cost) of saving a unit quantity of carbon dioxide over the expected lifetime of the installation. These figures are compared to the following “benchmarks” and if they are significantly higher, it may cause BRE to reject the application or request further information and clarification. The benchmarks (figures in bold) are expressed as £/tonneCO<sub>2</sub>. Please note: benchmark figures may change from time to time. The applicant will need to check these before applying.

### Benchmark Table

	Solar PV	Solar thermal	Ground source heat pumps	Wood pellet stoves	Wood fuelled boilers	Hydro turbines
<b>Assumed life (years)</b>	25	20	20	20	20	25
<b>Displaced fuel/energy</b>						
Electricity	<b>£990</b>	<b>£388</b>	<b>£119</b>	tbc	<b>£106</b>	tbc
Natural Gas	N/A	<b>£563</b>	<b>£212</b>	tbc	<b>£315</b>	tbc
Oil		<b>£489</b>	<b>£225</b>	tbc	<b>£171</b>	tbc
Coal		<b>£296</b>	<b>£86</b>	tbc	<b>£83</b>	tbc
LPG		<b>£523</b>	<b>£263</b>	tbc	<b>£185</b>	tbc

	Wind turbines ( by size in kW)				
	less than 1.5	1.6 – 5.0	6.0	15.0	20 and larger
<b>Assumed life (years)</b>	20	20	20	20	20
<b>Displaced fuel/energy</b>					
Electricity	<b>£1,049</b>	<b>£531</b>	<b>£419</b>	<b>£345</b>	<b>£294</b>

### Carbon dioxide emission factors to be used in the £/tonneCO<sub>2</sub> calculations:

Electricity=	0.43 kgCO <sub>2</sub> /kWh
Natural Gas=	0.19 kgCO <sub>2</sub> /kWh
Coal=	0.3 kgCO <sub>2</sub> /kWh
Oil=	0.25 kgCO <sub>2</sub> /kWh
LPG=	0.21 kgCO <sub>2</sub> /kWh

#### Calculation formula:

£/tonneCO<sub>2</sub> = (Total cost (based on eligible costs) x 1000) / (Energy yield x emission factor x assumed life)

Example for PV system costing £12,000 with an estimated annual yield of 1500 kWh:

$(12,000 \times 1000) / (1500 \times 0.43 \times 25) = \mathbf{£744.19 /tonneCO_2}$

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