

Small Commercial Biomass Tariff [created with data from the 2012 CEPA model – CEP-51348 - based on a 2012 ‘Biomass pellet boilers - Commercial/Public - Oil - Urban - Small – pellets’ installation]

2012 Installation	Capex (£/kW)	Opex (£/kW/yr)	Efficiency (%)	Load factor (%)	Size (kW)	Lifetime (yr)	Fuel cost (p/kWh)	Upfront barriers (£)	Ongoing barriers (£/yr)
Biomass	608	4.60 ¹	85	17.1	50	20	4.56	5,364	828
Oil	96.75	3.45	93	17.1	50	15	5.08	0	0

Operating hours for biomass = 8,760 [hours in year] x 0.171 [load factor] = 1,498 hours

Operating hours for oil = 8,760 [hours in year] x 0.171 [load factor] = 1,498 hours

Heat output for biomass = 50 [kW] x 1,498 [hours] = 74,900 kWh

Heat output for oil = 50 [kW] x 1,498 [hours] = 74,900 kWh

Annualised costs	Capital (at 12% discount)	Operating	Fuel	Upfront barrier (at 12% discount)	Ongoing barrier	Levelised costs (p/kWh)
Biomass (using annuity factor of 8.37)	3,632 (£608 x 50kW/8.37)	230 (£4,60 x 50kW)	4,018 (£0.0456 x 74,900 kWh/0.85)	641 (£5,364/8.37)	828	12.48 ((3632+230+4018+641+828)/74,900)
Oil (using annuity factor of 7.63)	634 (£96.75 x 50kW/7.63)	172.50 (£3.45 x 50kW)	4,091 (£0.0508 x 74,900 kWh/0.93)	0	0	6.53 ((634+172.50+4091)/74,900)
Difference						5.95

¹ The figure of 4.60 is calculated by taking the £/kWh/year figure of £21.16 and deducting from it that portion which represents ongoing annual barrier costs – i.e. £16.56 being £828/50kW.