

APPRAISAL OF EXTRA-OVER COSTS OF REDUCING CARBON EMISSIONS FROM NEW DWELLINGS

	Apartments @ 61/m ² gifa, density = 120dph Community heating					Terraced houses @ 73/m ² gifa, density = 80dph Community heating				
	small scheme site area = 1.7ha		large scheme site area = 8.3ha			small scheme site area = 2.5ha		large scheme site area = 12.5ha		
	biomass heating	gas CHP	biomass CHP	gas CHP	local heat source	biomass heating	gas CHP	biomass CHP	gas CHP	local heat source
Rate	£	£	£	£	£	£	£	£	£	£
Baseline cost	total	total	total	total	dwelling					
Part L 2006 dwelling with gas central heating										
Apartments	14,000,000	14,000,000	70,000,000	70,000,000	70,000					
Houses						17,000,000	17,000,000	85,000,000	85,000,000	85,000
Energy source										
Community heating										
Biomass @	£160-170/kWth	100,000				108,000				
Base load gas CHP with peak load from gas boiler										
CHP	£900-1070/kWth		161,000	576,000			161,000		638,000	
Boiler	£27 to 47/kWth		20,000	42,000			25,000		49,000	
Base load biomass CHP with peak load from biomass boiler										
CHP	£3,400/kWth			2,040,000				2,465,000		
Boiler	£200/kWth			310,000				365,000		
Local installations										
Heat exchanger @	£1,700-1,950/ea	340,000	340,000	1,700,000	1,700,000		390,000	390,000	1,950,000	1,950,000
MVHR unit @	£2,500-3,000/ea					2,500				3,000
Radiator panels @	£1,000-1,250/ea	-220,000	-220,000	-1,100,000	-1,100,000	-1,000	-280,000	-280,000	-1,400,000	-1,400,000
Solar collector	£3,700/ea					3,700				3,700
Infrastructure										
Site-wide infrastructure @	£ 100-150,000/ha	170,000	170,000	830,000	830,000		250,000	250,000	1,875,000	1,875,000
Gas connection @	£ 20-45,000/ha	-40,000	-40,000	-183,000	-183,000	-300	-60,000	-60,000	-563,000	-563,000
Renewables										
PVs @	£ 730/m ²	584,000	1,168,000	0	5,840,000	13,500	730,000	1,387,000	0	6,935,000
Building fabric enhancement										
Apartments										
extra to meet Part L 2010	£ 18/m ²	220,000	220,000	1,100,000	1,100,000					
extra to meet fabric standards for level six	£ 75/m ²					4,600				
Houses										
extra to meet Part L 2010	£ 10/m ²						150,000	150,000	730,000	730,000
extra to meet fabric standards for level six	£ 70/m ²									5,100
Total cost		15,154,000	15,819,000	74,697,000	78,805,000	93,000	18,288,000	19,023,000	90,422,000	95,214,000
Extra over cost		1,154,000	1,819,000	4,697,000	8,805,000	23,000	1,288,000	2,023,000	5,422,000	10,214,000
Extra over cost per m ²		94.59	149.10	77.00	144.34	377.05	88.22	138.56	74.27	139.92
% extra over		8.24	12.99	6.71	12.58	32.86	7.58	11.90	6.38	12.02
Cost of carbon dioxide saving £/tonne per annum		10	565	230	550	1,625	385	530	205	515