Introducing the QUANTUM ENERGY SYSTEM

Creda HEATING

NOBO HEATING

Running Costs

It is not possible for us to provide detailed information on expected Quantum heating running costs for every property type because there are so many variables to consider – the heat loss of the property, which electricity tariff will be used, how long the heater will be on for, what temperature the thermostat has been set to and what the weather will do! All of these factors need to be taken into account when calculating the likely running cost of a heating system.

However, Quantum is recognised in the recently released SAP2012 (The government recommended system for measuring the energy performance of residential dwellings) as being up to 27% cheaper to run, and using up to 22% less energy than a standard storage heater. This is mainly due to its improved insulation and extremely advanced controls. Quantum is categorised as a 'High heat retention storage heater', within SAP2012, and will be included in the RdSAP revision in Spring 2014.

There is often confusion about the running costs of electric heating compared to other fuels, yet this is something that is easy to model. However, the real annual cost of the system must take into account not only the fuel used but the cost of maintaining the system. The table below has been constructed using SAP software updated with SAP2012 parameters and shows comparative annual running costs for four fuels in four different property types.

Home Type	Heating System	SAP Responsiveness	Space Heating Energy Demand	Main Off Peak Energy Use	Secondary Peak Rate Energy Use	Boiler/ Heater Annual Efficiency	Space Heating Cost	Annual Service Cost	Ancillaries Cost	Total Running Cost
1 Bed Flat	Quantum	0.80	3566 kWh	90%	10%	100%	£227.57	-	£2.45	£230.02
	Gas	1.00	3678 kWh			84%	£247.77	£75	£15.83	£338.59
	Oil	1.00	3678 kWh			84%	£199.73	£90	£29.02	£318.76
	LPG	1.00	3678 kWh			84%	£349.03	£75	£15.83	£439.86
2 Bed Flat	Quantum	0.80	3990 kWh	90%	10%	100%	£276.68	-	£2.45	£279.13
	Gas	1.00	4113 kWh			84%	£277.55	£75	£15.83	£368.38
	Oil	1.00	4113 kWh			84%	£246.29	£90	£29.02	£365.31
	LPG	1.00	4113 kWh			84%	£414.08	£75	£15.83	£504.91
2 Bed Mid -Terrace	Quantum	0.80	4308 kWh	90%	10%	100%	£303.12	-	£2.45	£305.56
	Gas	1.00	3973 kWh			84%	£284.61	£75	£15.83	£375.44
	Oil	1.00	3973 kWh			84%	£257.33	£90	£29.02	£376.35
	LPG	1.00	3973 kWh			84%	£429.50	£75	£15.83	£520.33
3 Bed Semi-Detached	Quantum	0.80	6681 kWh	90%	10%	100%	£456.86	-	£2.45	£459.31
	Gas	1.00	6231 kWh			84%	£378.13	£75	£15.83	£468.96
	Oil	1.00	6231 kWh			84%	£403.52	£90	£29.02	£522.53
	LPG	1.00	6231 kWh			84%	£633.74	£75	£15.83	£724.56

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Fuel Cost Assumptions

Electricity	Off Peak 7-Hour Tariff	Standard
High Rate	15.29 p/kWh	13.19 p/kWh
Low Rate	5.50 p/kWh	
Standing Charge	£24.00	£54.00

	Gas	Oil	LPG
Tariff	3.48 p/kWh	5.44 p/kWh	7.6 p/kWh
Boiler Efficiency	84%	84%	84%
Standing Charge	£120.00		£70.00

Ancillary Energy Usage	kWh/year
Central Heating Pump	120
Oil Burner Pump	100
Flue Fan	485
Quantum Fan	16

Other Assumptions

- Refurbished properties with U values; U walls = 0.35, U floor = 0.25, U roof = 0.25, U glazing = 2.2
- Space heating energy demand calculated using SAP 2009 / NHER
- Quantum heater parameters for responsiveness, mean internal temperature adjustment and off peak / peak split taken from SAP 2012
- Space heating running cost using SAP 2012 fuel costs
- Total running costs include ancillary energy costs
- Central heating boilers are condensing type boilers - efficiency based on winter efficiency rating from SAP 2012
- Annual Service Cost - ”Which” Magazine 2012