

SAP WorkSheet: New dwelling design stage

mechanical ventilation - balanced, extract or positive input from outside		2996.78	(230a)
Total electricity for the above, kWh/year	sum of (230a)...(230g) =	2996.78	(231)
Electricity for lighting		864.84	(232)
Electricity generated by PVs		-11227.06	(233)

10a. Fuel costs - individual heating systems:

	Fuel kWh/year	Fuel Price (Table 12)	Fuel Cost £/year
Space heating - main system 1	(211) x	13.19	670.55 (240)
Space heating - main system 2	(213) x	0	0 (241)
Space heating - secondary	(215) x	13.19	0 (242)
Water heating cost (other fuel)	(219)	13.19	64.62 (247)
Pumps, fans and electric keep-hot	(231)	13.19	395.28 (249)
(if off-peak tariff, list each of (230a) to (230g) separately as applicable and apply fuel price according to Table 12a)			
Energy for lighting	(232)	13.19	114.07 (250)
Additional standing charges (Table 12)			0 (251)
	one of (233) to (235) x	13.19	-1480.85 (252)
Appendix Q items: repeat lines (253) and (254) as needed			
Total energy cost	(245)...(247) + (250)...(254) =		-236.33 (255)

11a. SAP rating - individual heating systems

Energy cost deflator (Table 12)		0.42	(256)
Energy cost factor (ECF)	$[(255) \times (256)] \div [(4) + 45.0] =$	-0.21	(257)
SAP rating (Section 12)		102.98	(258)

12a. CO2 emissions – Individual heating systems including micro-CHP

	Energy kWh/year	Emission factor kg CO2/kWh	Emissions kg CO2/year
Space heating (main system 1)	(211) x	0.519	2638.49 (261)
Space heating (secondary)	(215) x	0.519	0 (263)
Water heating	(219) x	0.519	254.26 (264)
Space and water heating	(261) + (262) + (263) + (264) =		2892.75 (265)
Electricity for pumps, fans and electric keep-hot	(231) x	0.519	1555.33 (267)
Electricity for lighting	(232) x	0.519	448.85 (268)
Energy saving/generation technologies Item 1		0.519	-5826.84 (269)
Total CO2, kg/year		sum of (265)...(271) =	-929.91 (272)
CO2 emissions per m²		(272) ÷ (4) =	-2.22 (273)
El rating (section 14)			103 (274)