Code for Sustainable Homes (November 2010)
Design - Draft

This report details the calculations and results for Ene 1, 2 and 7 of the Code For Sustainable Homes.

This Design Assessment has been carried out using Approved SAP software. It has been prepared from plans and specifications and may not reflect the property as constructed. Code calculations are from the Technical Guide (November 2010).

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Building regulation assessment - criterion 1

	kg/m²/yr
DER	7.30
TER	16.95

Assessment of zero carbon home and low or zero carbon technologies

		Credits	Level
Dwelling emission rate (Ene 1)	CO_2 reduction = 56.9 %	5.8	4
Fabric Energy Efficiency	FEE = 42.9	5	
Low or zero carbon technologies (Ene 7)	CO_2 reduction = 22 %	2	

Ene 1 - dwelling emission rate

	%	kWh/m²	kgCO_2/m²/yr	
Assessment of Ene 1 (level 1-5)				
DER from SAP 2009 DER worksheet			7.30	
Additional allowable generation		0.00		
CO_2 emissions offset from generation			0.00	
CO_2 emissions offset from community biofuel CHP systems			0.00	
Total CO_2 emissions offset from SAP section 16 allowances			**0.00**	
DER accounting for SAP section 16 allowances			**7.30**	
CO_2 reduction compared to TER			9.65	
CO_2 reduction as % of TER	56.9			
Assessment of Ene 1 (level 6)				
DER from SAP 2009 DER worksheet			7.30	(ZC1)
CO_2 emissions from appliances (equation L14)			15.53	(ZC2)
CO_2 emissions from cooking (equation L16)			1.97	(ZC3)
Total CO_2 emissions			24.80	(ZC4)
Additional allowable generation and its CO_2 emissions offset		0.00		(ZC6)
CO_2 emissions offset from additional allowable generation			0.00	(ZC7)
CO_2 emissions offset from community biofuel CHP systems			0.00	(ZC5)
Net CO_2 emissions			**24.80**	(ZC8)

Ene 1 - dwelling emission rate - level 6

There is no Zero Carbon Home definition in the current technical guide

	Criterion	Value	Pass/Fail
FEE	<= 39	42.9	Fail
Net CO_2 emissions	<= 0.00	24.80	Fail

Result: Not level 6

Number of credits for Ene 1	**5.8**

Ene 2 - Fabric Energy Efficiency

FEE	42.9
Number of credits for Ene 2	**5**

Ene 7 - low or zero carbon technologies

	Emissions $kgCO_2/yr$	Reduction $kgCO_2/yr$
Standard case		
Space and water heating (265)	1035.25	
Mechanical cooling (266)	0.00	
Pumps and fans (267)	178.17	
Lighting (268)	203.27	
Appliances and cooking	1627.46	
Total CO_2	**3044.16**	
Actual case		
Space and water heating (265) or (376)	1035.25	
Space and water heating from LZCT considered in SAP 2009		0.00
Pumps and fans (267) or (378)	178.17	
Pumps and fans		0.00
Electricity generated by LZCT (269) + (380))		-681.14
Additional allowable electricity generation considered in SAP 2009 section 16		0.00
Offset from biofuel CHP [-1 x [(363)..(366) + (368)...(372)]]		0.00
LZCT electricity generation		-681.14
LZCT thermal generation		0
Total from specified LZCT		**-681.14**

Reduction in CO_2 Emissions	Emissions $kgCO_2/m^2/yr$	
Standard Case CO_2	32.73	
Actual Case CO_2	25.41	
% Reduction in CO_2	22	
Number of credits for Ene 7	**2**	