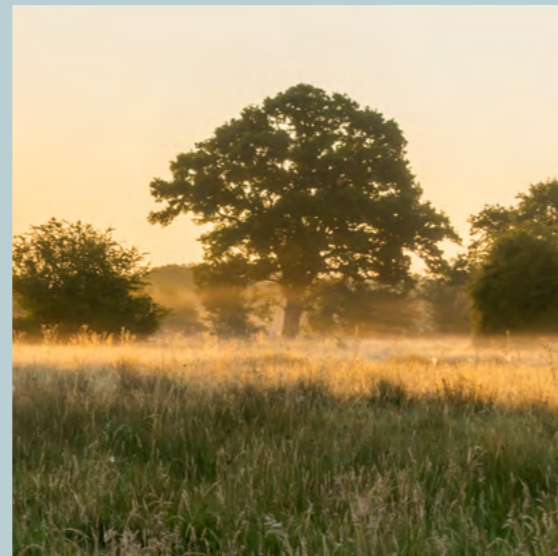


BESSBOROUGH, CORK

APPENDIX 13

Climate



VOLUME II | EIAR

BESSBOROUGH, CORK

APPENDIX 13

Climate

- Appendix 13.1 - DEAP DKP Energy Analysis Report prepared by DKPartnership

- **Appendix 13.1 – DEAP DKP Energy Analysis Report prepared by DKPartnership**

Appendix 13.1 - DEAP / DKP energy analysis report summary.

DKP PART L REPORT

Space heating : Heat Pump, Hotwater heating : Heat Pump, Ventilation: MVHR

MAIN SUMMARY

Hierarchy	
Not compliant	<input type="checkbox"/>
Within 5%	<input type="checkbox"/>
Alternative compliance	<input checked="" type="checkbox"/>
Compliance	<input checked="" type="checkbox"/>

Primary energy, CO2 and renewable energy result and compliance data.

Primary energy	Base line	TO BE ACHIEVED	ACHIEVED	Compliance
Energy performance (reduction %)	1.000	0.300 MEPC (70%)	0.299 EPC (70%)	<input checked="" type="checkbox"/>
Annual primary energy	24,658	7,397 kWh/y	7,367 kWh/y	<input checked="" type="checkbox"/>
Annual primary energy / m2	140.9	A2 42.3 kWh/y/m2	A2 42.1 kWh/y/m2	<input checked="" type="checkbox"/>
Carbon dioxide emission				
Carbon performance coefficient	1.000	0.350 MCPC (65%)	0.281 CPC (72%)	<input checked="" type="checkbox"/>
Annual carbon emission	5,150	1,802 kg/y	1,449 kg/y	<input checked="" type="checkbox"/>
Annual carbon emission / m2	29.4	10.30 kg/y/m2	8.3 kg/y/m2	<input checked="" type="checkbox"/>
Renewable energy				
Renewable energy ratio	0	0.20 FER	0.449 FER	<input checked="" type="checkbox"/>
Annual renewable energy	0	1,479 kWh/y	6,003 kWh/y	<input checked="" type="checkbox"/>
Annual renewable energy / m2	0	8.5 kWh/y/m2	34.3 kWh/y/m2	<input checked="" type="checkbox"/>

MEASURES APPLIED

Envelope parameters	Part L limits	Actual dwelling	Compliance
Floors	80.0 m2	0.150 Wm2K	0.145 Wm2K <input checked="" type="checkbox"/>
Walls	65.6 m2	0.180 Wm2K	0.179 Wm2K <input checked="" type="checkbox"/>
Roofs	80.0 m2	0.160 Wm2K	0.136 Wm2K <input checked="" type="checkbox"/>
Glazing	Floor fraction: 5.9% 10.3 m2	1.400 Wm2K	1.400 Wm2K <input checked="" type="checkbox"/>
Door	2.1 m2	1.400 Wm2K	1.400 Wm2K <input checked="" type="checkbox"/>
Weighted opaque	225.6 m2	0.159 Wm2K	0.147 Wm2K <input checked="" type="checkbox"/>
Cold bridging		0.150 Wm2K	0.080 Wm2K <input checked="" type="checkbox"/>
Airtightness	0.10 ach	3.000 m3/m2h	2.000 m3/m2h <input checked="" type="checkbox"/>

Building services parameters

Space heating 1:	Heat Pump	424%	6.0 kW	System flow temperature 50C°
Space heating 2:	None	na		
Water heating 1:	Heat Pump	258%	230 L	1.40 kWh/d Standing loss
Water heating 2:	None	na		
Ventilation:	Balanced whole-house mechanical ventilation with heat recovery			90% % 0.6 Wl/s
Lighting:	15 x LEDs/ CFL			
Glazing solar / light transmittance:	0.72 / 0.80	Glazing over shadowing 5no @2,		
Water saving measures:	None +/- 11l/s per shower			
Space / Water heating load:	SH 4,264W@ -3C° / WH 3,636W@90min recovery for a 45C° rise (10C° - 55C°)			
On site produced energy:	n/a			

Comments

The dwelling is compliant to Part L 2019 with a BER label of A2

Compliance to Part L has little or no margin at 0.4% not allowing for any construction adjustments.

Insulation materials used for U value calculations;

Wall(s); U=0.166Wm2K; 120mm HD PUF @0.022WmK

Roof(s); U=0.136Wm2K; 150mm Rockwool @0.044WmK(bridged 15.00%) + 150mm Rockwool @0.044WmK

Floor(s); U=0.124Wm2K; 150mm HD PIR @0.031WmK