

## ENERGY AUDIT REPORT

House No. 2 - End of terrace House - 2005 - Timber Frame Construction - 106.62m<sup>2</sup> (1150ft<sup>2</sup>)



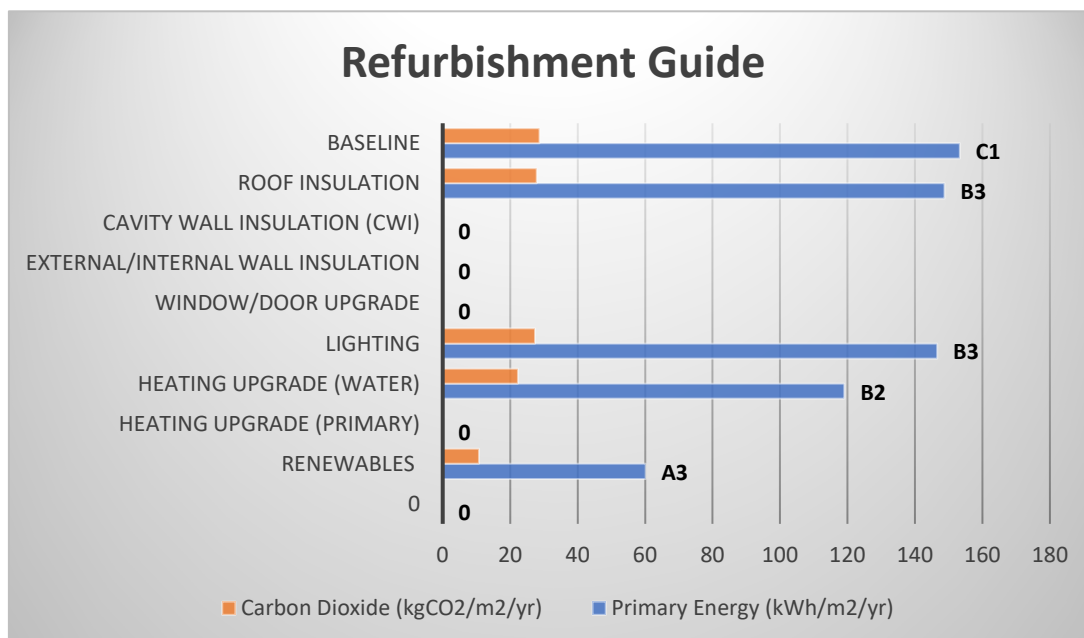
Greystones/Delgany, County Wicklow

Existing Building Details			
Building Elements		Insulation Thickness (mm)	U-Value (W/m <sup>2</sup> .K)
Walls	Timber Frame	100mm-150mm	0.37
Roof	Pitched Roof insulated at ceiling	100mm-150mm	0.26
Floor	Solid Floor	Unknown	0.34
Windows	Double Glazed Air filled	N/A	2.8
Doors	Glazed Door	N/A	3

Existing Heating Characteristics			
Heating System		Energy	Efficiency (%)
Primary Heating System	Gas boiler, primary pipework uninsulated	Mains Gas	90%
Secondary Heating System	Closed fronted gas fire	Mains Gas	40%
Domestic Hot Water	Heated with Primary heating system & Electric immersion		
Cylinder	Cylinder with factory fitted insulation (30mm)		
Controls	Programmer & stat		

Domestic Retrofit Guidelines (Step by Step)			Energy Consumption (kWh/m <sup>2</sup> /yr)	Carbon Emissions (CO <sub>2</sub> ) (kgCO <sub>2</sub> /m <sup>2</sup> /yr)	Building Energy Rating (BER)	
Energy Efficient Measures			Target U-Value (W/m <sup>2</sup> .K)	Current Usage (153.29)	Current Emissions (28.68)	Current BER (C1)
1	Roof insulation	Loftwool Insulation top-up to achieve minimum 300mm across all roof area.	0.13	148.79	27.85	B3
2	Cavity Wall Insulation (CWI)	Pump Existing cavity with a bonded bead insulation	N/A			
3	External/Internal Wall Insulation	Install Wall Insulation (internal or External), thickness -100mm	N/A			
4	Window/Door Upgrade	Replace existing glazing with Double/Triple glazed,(low E) units	N/A			
5	Lighting	Install energy efficient light bulbs (LEDs)	N/A	146.59	27.4	B3
6	Heating Upgrade (Water)	Install Kronotherm HP	N/A	119.08	22.31	B2
7	Heating Upgrade (Primary)	Air to water heat pump, 4-6kW, two separate heating zones and controller.	N/A			
8	Renewables	Install 3.7 kWp Solar PV system	N/A	60.12	10.72	A3
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Estimated Costs Summary				
Measures		Estimated Costs (€/m <sup>2</sup> )	Estimated Total Costs (€)	
1	Roof Upgrade	15 - 20	€ 1,215	
2	Cavity Wall upgrade	7 - 10	€ 0	
3	Wall Insulation	90-140	€ 0	
4	Window/Door upgrade	250 - 350	€ 0	
5	Lighting	20/fitting	€ 700	
6	Heating Upgrade (Water)	270L (System)	€ 4,250	
7	Heating Upgrade (Primary)	12,500 (System)	€ 0	
8	Solar PV	(3.7 kWp System)	€ 7,000	
9	Demand Controlled Ventilation	3,200 (System)	€ 0	
10	0	0	€ 0	
<b>Total</b>			<b>€ 13,165</b>	
<b>Estimated Total Cost to Homeowner including Individual SEAI Grants</b>			<b>€ 9,765</b>	
Savings Summary				
BER Rating	Energy Savings (kWh/m <sup>2</sup> /yr)	Energy Savings (kWh/yr)	Cost Savings (€/yr)	Simple Payback, including Grant Funding (years)
A3	93.17	9,934	€ 894	11

Audit site visit completed on 28.05.21, Audit report edited on 02.06.21