

Detached House - 2007 - Timber frame construction - 281m<sup>2</sup> (3022ft<sup>2</sup>)

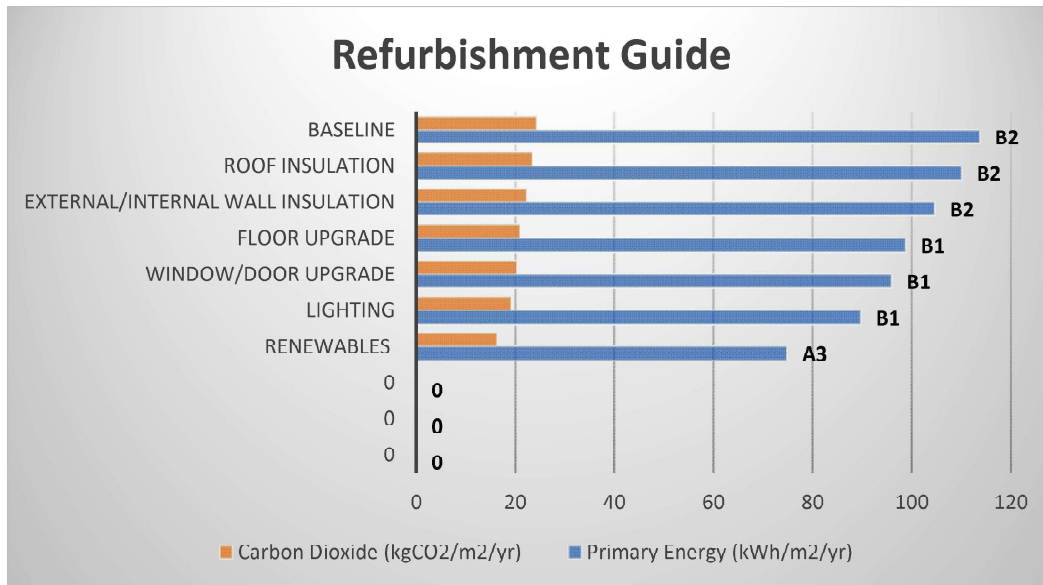


Ballinasloe, County Galway

Existing Building Details			
Building Elements		Insulation Thickness (mm)	U-Value (W/m <sup>2</sup> .K)
Walls	Timber Frame	50mm-100mm	0.42
Roof	Pitched Roof insulated at Rafter	50mm-100mm	0.25
Floor	Solid Floor	Unknown	0.34
Windows	Double Glazed Air filled	N/A	1.5-2.6
Doors	Glazed Door	N/A	3

Existing Heating Characteristics			
Heating System		Energy	Efficiency (%)
Primary Heating System	Geothermal heat pump	Electricity	350%
Secondary Heating System	Stove	Multi fuel	70%
Domestic Hot Water	Heated with primary heating system & electric immersion		
Cylinder	Fabric insulated cylinder		
Controls	7 days programmer for space heating and domestic hot water		

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 (113.74)	Current Emissions (24.29)	Current BER (B2)
1	Roof insulation	Plasterboard insulation across all roof area.	0.13 - 0.16	110.06	23.48	B2
2	External/Internal Wall Insulation	Install Wall Insulation (internal or External), thickness 50mm-100mm	0.18 - 0.21	104.63	22.27	B2
3	Floor Upgrade	Insulate solid floor with rigid insulation	0.15 - 0.18	98.76	20.97	B1
4	Window/Door Upgrade	Replace existing glazing with Double/Triple glazed,(low E) units	1.1 - 1.4	95.92	20.34	B1
5	Lighting	Install energy efficient light bulbs (LEDs)	N/A	89.71	19.17	B1
6	Renewables	Install 2.4 kWp Solar PV system	N/A	74.83	16.34	A3
7						
8						
9						
10						



Estimated Costs Summary		
Measures	Estimated Costs (€/m <sup>2</sup> )	Estimated Total Costs (€)
1 Roof Upgrade	80 - 100	€ 18,783
2 Wall Insulation	70-100	€ 10,598
3 Floor Upgrade	80 - 100	€ 25,263
4 Window/Door upgrade	250 - 350	€ 19,115
5 Lighting	20/fitting	€ 200
6 Solar PV	2,200 (1.2 kWp System)	€ 4,400
7 Demand Controlled Ventilation	3,000 (System)	€ 3,000
8 0	0	€ 0
9 0	0	€ 0
10 0	0	€ 0
<b>Total</b>		<b>€ 81,359</b>
<b>Total Cost to Homeowner including 35% Grant funding</b>		<b>€ 52,883</b>

Savings Summary				
BER Rating	Energy Savings (kWh/m <sup>2</sup> /yr)	Energy Savings (kWh/yr)	Cost Savings (€/yr)	Simple Payback, including 35% Grant Funding (years)
A3	38.91	10,922	€ 546	97

Audit site visit completed on 12/11/2019, Audit report edited on 10/12/2019