

Detached Bungalow - 1961 - Cavity wall construction - 108m² (1157ft²)



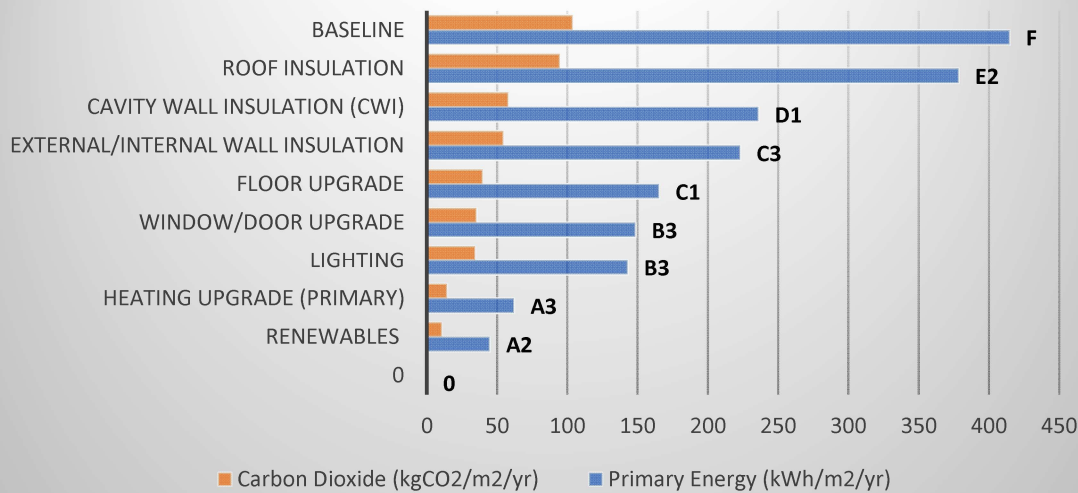
Oughterard, County Galway

Existing Building Details			
Building Elements		Insulation Thickness (mm)	U-Value (W/m ² .K)
Walls	300mm Cavity Wall, Partially Filled	50mm	0.55
Roof	Pitched Roof insulated at ceiling	50mm-100mm	0.68
Floor	Solid Floor	Unknown	0.84
Windows	Double Glazed Air filled	N/A	2.7-3.1
Doors	Glazed Door	N/A	3

Existing Heating Characteristics			
Heating System		Energy	Efficiency (%)
Primary Heating System	Oil boiler, primary pipework uninsulated	Oil	75%-80%
Secondary Heating System	Stove	Multi fuel	70%
Domestic Hot Water	Heated with Oil Boiler & Electric immersion		
Cylinder	Factory cylinder Insulated (30mm)		
Controls	Timer, No TRV		

Domestic Retrofit Guidelines (Step by Step)				Energy Consumption (kWh/m ² /yr)	Carbon Emissions (CO ₂) (kgCO ₂ /m ² /yr)	Building Energy Rating (BER)
Energy Efficient Measures			Target U-Value (W/m ² .K)	Current Usage (414.81)	Current Emissions (103.89)	Current BER (F)
1	Roof insulation	Loftwool Insulation top-up to achieve 300mm-400mm across all roof area.	0.13 - 0.16	378.68	94.6	E2
2	Cavity Wall Insulation (CWI)	Pump Existing cavity with a bondeed bead insulation	0.30 - 0.35	236.02	57.92	D1
3	External/Internal Wall Insulation	Install Wall Insulation (internal or External), thickness 50mm-100mm	0.18 - 0.21	223.06	54.59	C3
4	Floor Upgrade	Insulate solid floor with rigid insulation	0.15 - 0.18	165.5	39.79	C1
5	Window/Door Upgrade	Replace existing glazing with Double/Triple glazed,(low E) units	1.1 - 1.4	148.5	35.4	B3
6	Lighting	Install energy efficient light bulbs (LEDs)	N/A	143.04	34.58	B3
7	Heating Upgrade (Primary)	Air to water heat pump, 4-6kW, two separate heating zones and controller.	N/A	62.05	14.55	A3
8	Renewables	Install 1.2 kWp Solar PV system	N/A	44.71	10.9	A2
9						
10						

Refurbishment Guide



Estimated Costs Summary

Measures		Estimated Costs (€/m ²)	Estimated Total Costs (€)
1	Roof Upgrade	10 - 15	€ 1,290
2	Cavity Wall upgrade	7 - 10	€ 1,382
3	Wall Insulation	70-100	€ 11,751
4	Floor Upgrade	80 - 100	€ 9,671
5	Window/Door upgrade	250 - 350	€ 7,041
6	Lighting	20/fitting	€ 180
7	Heating Upgrade (Primary)	12,500 (System)	€ 12,500
8	Solar PV	2,200 (1.2 kWp System)	€ 2,200
9	Demand Controlled Ventilation	3,000 (System)	€ 3,000
10	0	0	€ 0
Total			€ 49,015
Total Cost to Homeowner including 35% Grant funding			€ 31,860

Savings Summary

BER Rating	Energy Savings (kWh/m ² /yr)	Energy Savings (kWh/yr)	Cost Savings (€/yr)	Simple Payback, including 35% Grant Funding (years)
A2	370.1	39,771	€ 1,989	16

Audit site visit completed on 14/11/2019, Audit report edited on 10/12/2019