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ENERGY AUDIT REPORT

Detached Dormer Bungalow – 2003 - Unknown wall construction – 234.83m²
Current BER – C2 – Energy Use 175.47 kWh/m²/yr – Total Energy Use: 41,206 kWh/yr



Existing Building Details			
Building Elements		U-Value (W/m ² .K)	Heat Loss (AU) [W/K]
Walls	300mm Filled Cavity	0.55	82.03
Walls	300mm Cavity	0.27	10.14
Walls	Timber Frame	0.48	4.89
Walls	Timber Frame	0.25	1.24
Walls	Timber Frame	0.55	0.12
Roof	Pitched Roof – Insulated on Ceiling	0.36	1.90
Roof	Pitched Roof – Insulated on Ceiling	0.13	5.91
Roof	Pitched Roof – Insulated on Ceiling – Extension	0.22	1.17
Roof	Pitched Roof – Insulated on Ceiling	0.36	27.99
Roof	Pitched Roof – Insulated on Extension	0.22	5.19
Ground Floor	Solid Floor	0.41	49.66
Ground Floor	Extension	0.26	6.69
First Floor	Non-Heat Loss Floor	0	0
Windows	Double-Glazed Air-filled X 9	3.10	523.24
Door	Solid Exposed Door	3.00	6.18

Existing Heating Characteristics			
Heating System		Energy	Efficiency (%)
Primary Heating System	Oil boiler, primary pipework insulated	Oil	73%
Secondary Heating System	Open Fire	Manufactured Smokeless Fuel	
Domestic Hot Water	Heated with Primary heating system and immersion	Oil	73%
Cylinder	Cylinder with manufactured jacket (30mm)		
Controls	Time and temperature zone control		

Domestic Retrofit Guidelines (Step by Step)						
Proposed Interventions		Energy saving (kWh/m2/yr)	Revised energy rating (kWh/m2/yr)	Revised BER Rating	Annual energy saving (kWh/yr)	CO2 savings/yr (kg)
1	Upgrade Existing Windows to Achieve Minimum U-Value of ≤ 0.73 W/m ² K	17.38	158.09	C1	4,081.35	1,000
2	Upgrade Existing Door to Achieve Minimum U-Value of ≤ 1.40 W/m ² K	1.26	156.83	C1	295.89	72
3	Replace Open Fire With Stove	17.43	139.40	B3	4,093.09	92
4**	Install Air To Water Heat Pump - Upgrade Heating Controls & Hot Water to Full Time & Temperature Control Flow Temperature @50°C	71.78	67.62	A3	16,856.10	4,130
5	Install 2kW Photovoltaic system	18.87	48.75	A2	4,431.24	1,086
	Overall kWh/m2/yr Savings Potential	126.72				
	Heat Loss Indicator post works	1.96	W/K			
	BER Uplift	126.72	kWh/m2/yr			

*Upgrades 1-5 are required before a Heat Pump (HP) can be installed. The Heat Loss Indicator must be ≤ 2 to qualify for grant assistance for HP installation

**Minimum uplift required from BEC

Estimated Costs Summary			
Measures		Estimated Costs (€/m ²)/Unit	Estimated Total Costs (€)
1	Windows Upgrade	€495.00	€19,800.00
2	Doors Upgrade	€1,100	€2,750.00
3	Replace Open Fire With Stove	1	€3,200.00
4*	Heating Upgrade (Primary)	(System)	€17,600.00
5	Install 2kW PV system	2KW (System)	€5,500.00
Total to achieve A2			€48,850.00
VAT @ 13.5%			€6,594.75
Subtotal			€55,444.75
PM Fee			€3,419.50
Total Build Costs			€58,864.25
ESTIMATED SEAI Grant @ 30% for participation in BEC Scheme			€17,659.20
Value of Energy Credits			€1,351.00
Total Cost to Homeowner including 30% Grant funding and Energy Credits			€39,854.05

*Minimum uplift required from BEC

Savings Summary					
BER Rating	Energy Use (kWh/m ² /yr)	Energy Savings (kWh/yr)	Cost Savings (€/yr)	Simple Payback, including 35% Grant Funding (years)	CO2 Savings (kg)
Current C3	175.47	(41,206)	0.00	-	
A2	48.75	29,759	2,887	13.8	7,291