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ENERGY AUDIT REPORT

Detached Dwelling– 1850 – Stone – Area 201.41 m²
Current BER – E2 – Energy Use 359.74 kWh/m²/yr – Total Energy Use: 72,455 kWh/yr



Existing Building Details

Building Elements		U-Value (W/m ² .K)	Heat Loss (AU) [W/K]
Walls	Stone Original	2.10	487.52
Walls	Stone Original	1.38	13.14
Roof	Pitched Roof – Insulated on Ceiling	0.13	8.22
Roof	Pitched Roof Insulated on Rafter	2.30	116.77
Ground Floor	Original Solid	0.84	82.94
1st Floor	Non-Heat Loss Floor	0	0
Windows	Single-glazed Wood/PVC X 4	4.80	655.36
Windows	Double-glazed Air-Filled X 4	3.10	337.92

Existing Heating Characteristics			
Heating System		Energy	Efficiency (%)
Primary Heating System	Non-condensing Oil Boiler, primary pipework uninsulated	Oil	95%
Secondary Heating System	Manufactured Smokeless Fuel		
Domestic Hot Water	Heated with Primary heating system and immersion	Oil	95%
Cylinder	Cylinder Factory Insulated 35mm		
Controls	Radiator Controls		

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	20.55	339.19	E1	4,138.98	1,014.05
2	Upgrade Stone Wall to Achieve Minimum U-Value of ≤ 0.22 W/m ² K	170.91	168.28	C1	34,422.98	8,433.63
3	Upgrade Existing Sloped Ceiling to Achieve Minimum U-Value of ≤ 0.25 W/m ² K	31.77	136.51	B3	6,398.80	1,567.71
4	Block Existing Chimneys	5.48	131.03	B3	1,103.73	270.41
5	Install Air To Water Heat Pump (HP) - Upgrade Heating Controls & Hot Water to Full Time & Temperature Control	65.92	65.11	A3	13,276.95	3,252.85
6	Install 2kW Photovoltaic system	21.59	43.52	A2	4,348.44	1,065.37
Overall kWh/m2/yr Savings Potential		316.22		Total kg CO2 Saved/yr		15,604.02

	Heat Loss Indicator post works (HLI)	1.83	W/K			
	BER Uplift (with PV)	316.22	kWh/m2/yr,			

The Heat Loss Indicator must be ≤ 2 to qualify for grant assistance for HP installation

Estimated Costs Summary			
Measures		Estimated Costs (€/m ²)/Unit	Estimated Total Costs (€)
1	Upgrade Existing Windows	€495.00	€17,670.00
2	Upgrade Stone Wall	€160.00	€17,670.00
3	Upgrade Existing Sloped Ceiling	€155.00	€17,670.00
4	Block Existing Chimneys	-	-
5	Heating and Ventilation Upgrade	(System)	€17,600.00
6	Install 2kW PV system	2KW (System)	€5,500.00
Total to achieve A3			€96,102.10
VAT @ 13.5%			€12,973.78
Subtotal			€109,075.88
PM Fee			€7,635.31
Total Build Costs			€116,711.20
ESTIMATED SEAI Grant @ 30% for participation in BEC Scheme			€35,013.36
Value of Energy Credits			€1,926.00
Total Cost to Homeowner including 30% Grant funding and Energy Credits			€79,771.84

*Minimum uplift required from Better Energy Community Grant Scheme

Savings Summary					
BER Rating	Energy Use (kWh/m ² /yr)	Energy Savings (kWh/yr)	Cost Savings (€/yr)*	Simple Payback, including Grant Funding (years)	CO2 Savings (kg)**
Current C3	359.74	()	0.00	-	
A3	43.52	32,707	€2,999.26	13.6	15,604

*Based on Home Heating Oil cost replacement @€0.0917/kWh

As a guide: a ten-year-old evergreen tree absorbs approximately 14 kg of carbon dioxide per year, so the carbon reduction for these works is the equivalent of **1,114 evergreen trees.