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**ENERGY AUDIT REPORT**

**Detached Dwelling – 1976 – Unknown – 152.57 m<sup>2</sup>**  
**Current BER – E2 – Energy Use 347.9 kWh/m<sup>2</sup>/yr – Total Energy Use: 53,080 kWh/yr**



Existing Building Details			
Building Elements		U-Value (W/m <sup>2</sup> .K)	Heat Loss (AU) [W/K]
Walls	Original Unknown	2.10	279.26
Wall	Extension Unknown	0.55	14.49
Roof	Pitched Roof – Insulated on Ceiling	0.20	12.35
Roof	Pitched Roof – Insulated on Ceiling	2.30	25.69
Roof	Pitched Roof – Insulated on Ceiling	0.36	6.46
Ground Floor	Solid	0.84	61.23
Ground Floor	Solid Extension	0.51	9.15
First Floor	Non-Heat Loss Floor	0	0
Door	Solid Exposed Door	3.00	12.48
Windows	Double-glazed Air-Filled X 4	3.10	662.73

Existing Heating Characteristics			
Heating System		Energy	Efficiency (%)
Primary Heating System	Non - Condensing Oil Boiler, primary pipework insulated	Oil	85%
Secondary Heating System	Open Fire	Manufactured Smokeless Fuel	
Domestic Hot Water	Heated with Primary heating system and immersion	Oil	85%
Cylinder	Cylinder with loose jacket (30mm)		
Controls	Radiator Controls		

Domestic Retrofit Guidelines (Step by Step)						
Proposed Interventions		Energy saving (kWh/m <sup>2</sup> /yr)	Revised energy rating (kWh/m <sup>2</sup> /yr)	Revised BER Rating	Annual energy saving (kWh/yr)	CO <sub>2</sub> savings/yr (kg)
1	Upgrade Existing Windows to Achieve Minimum U-Value of $\leq 0.73$ W/ m <sup>2</sup> K	29.23	318.67	E1	4,459.62	1093
2	Upgrade Existing Door to Achieve Minimum U-Value of $\leq 1.40$ W/m <sup>2</sup> K	3.18	315.49	E1	485.17	119
3	Instal 300mm Insulation on Flat Ceiling	15.80	299.69	D2	2,410.61	591
4	Upgrade Original Wall to Achieve Minimum U-Value of $\leq 0.27$ W/m <sup>2</sup> K	125.65	174.04	C1	19,170.42	4697
5	Upgrade Extension Wall to Achieve Minimum U-Value of $\leq 0.20$ W/m <sup>2</sup> K	5.00	169.04	C1	762.85	187
6	Install Air To Water Heat Pump (HP) - Upgrade Heating Controls & Hot Water to Full Time & Temperature Control	101.57	72.47	A3	15,496.53	3797
7	Install 2kW Photovoltaic system	23.31	49.16	A2	3,556.41	871
	Overall kWh/m <sup>2</sup> /yr Savings Potential	303.74				
	Heat Loss Indicator post works (HLI)	1.92	W/K			
	BER Uplift	298.74	kWh/m <sup>2</sup> /yr,			

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

Estimated Costs Summary			
Measures		Estimated Costs (€/m <sup>2</sup> )/Unit	Estimated Total Costs (€)
1	Windows Upgrade		€18,315.00
2	Doors Upgrade		€5,500.00
3	Roof Upgrade		€2,137.50
4&5	Wall Upgrade		€37,000.00
6*	Heating Upgrade (Primary)	(System)	€18,400.00
7	Install 2kW PV system	2KW (System)	€5,500.00
<b>Total to achieve A2</b>			<b>€87,152.50</b>
<b>VAT @ 13.5%</b>			<b>€11,765.59</b>
<b>Subtotal</b>			<b>€98,918.09</b>
<b>PM Fee</b>			<b>€6,100.68</b>
<b>Total Build Costs</b>			<b>€105,018.76</b>
<b>ESTIMATED SEAI Grant @ 30% for participation in BEC Scheme</b>			<b>€31,505.63</b>
<b>Value of Energy Credits</b>			<b>€1,941.00</b>
<b>Total Cost to Homeowner including 30% Grant funding and Energy Credits</b>			<b>€71,572.13</b>

\*Minimum uplift required from Better Energy Community Grant Scheme

Savings Summary					
BER Rating	Energy Use (kWh/m <sup>2</sup> /yr)	Energy Savings (kWh/yr)	Cost Savings (€/yr)*	Simple Payback, including Grant Funding (years)	CO2 Savings (kg)
Current E2	347.9	()	0.00	-	
A3	49.16	45,579	€4,179.59	17	11,355

\*Based on Home Heating oil replacement @€0.0917/kWh