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**ENERGY AUDIT REPORT**

**End of Terrace Dwelling – 1950 – Mass Concrete – 77.68 m<sup>2</sup>**  
**Current BER – E2 – Energy Use 351 kWh/m<sup>2</sup>/yr – Total Energy Use: 27,266 kWh/yr**



**Existing Building Details**

Building Elements		U-Value (W/m <sup>2</sup> .K)	Heat Loss (AU) [W/K]
Walls	Solid Mass Concrete	2.20	173.62
Roof	Pitched Roof – Insulated on Ceiling	0.40	15.54
Ground Floor	Solid	0.84	32.63
First Floor	Non-Heat Loss Floor	0	0
Door	Solid Exposed Door Front	3.00	5.85
Door	Solid Exposed Door Rear, Glazed	3.03	5.30
Windows	Double-glazed Air-Filled	3.10	335.9

Existing Heating Characteristics			
Heating System		Energy	Efficiency (%)
Primary Heating System	Non - Condensing Oil Boiler, primary pipework insulated	Oil	87%
Secondary Heating System	Open Fire	Manufactured Smokeless Fuel	
Domestic Hot Water	Heated with Primary heating system and immersion	Oil	87%
Cylinder	Cylinder Factory Insulated 25mm		
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	13.44	337.56	E1	1,044.02	256
2	Upgrade Existing Door to Achieve Minimum U-Value of $\leq 1.40$ W/m <sup>2</sup> K	5.23	332.33	E1	406.27	100
4	Upgrade Original Wall to Achieve Minimum U-Value of $\leq 0.21$ W/m <sup>2</sup> K	148.20	184.13	C2	11,512.18	2,820
3	Instal 300mm Insulation on Flat Ceiling	10.13	174.00	C1	786.90	193
	Block Existing Chimney	7.01	166.99	C1	544.54	133
5	Install Air To Water Heat Pump (HP) - Upgrade Heating Controls & Hot Water to Full Time & Temperature Control	87.16	79.83	B1	6,770.59	1,659
6	Install 2kW Photovoltaic system	48.59	31.24	A2	3,774.47	925
	Overall kWh/m <sup>2</sup> /yr Savings Potential	319.76				
	Heat Loss Indicator post works (HLI)	1.82	W/K			
	BER Uplift	319.76	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 (€)
3	Windows Upgrade		€4,950.00
4	Doors Upgrade		€4,400.00
2	Wall Upgrade		€17,575.00
1	Roof Upgrade		€877.50
5*	Heating Upgrade (Primary)	(System)	€17,600
6	Install 2kW PV system	2KW (System)	€5,500.00
<b>Total to achieve A3</b>			<b>€50,902.50</b>
<b>VAT @ 13.5%</b>			<b>€6,871.84</b>
<b>Subtotal</b>			<b>€57,774.34</b>
<b>PM Fee</b>			<b>€3,563.18</b>
<b>Total Build Costs</b>			<b>€61,337.51</b>
<b>ESTIMATED SEAI Grant @ 30% for participation in BEC Scheme</b>			<b>€18,401.25</b>
<b>Value of Energy Credits</b>			<b>€2,071.00</b>
<b>Total Cost to Homeowner including 30% Grant funding and Energy Credits</b>			<b>€40,865.26</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	351	()	0.00	-	
A2	31.24	24,839	€2,277.74	18	6,085.55

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