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ENERGY AUDIT REPORT

Semi Detached Home – 1991 – Cavity Block – 139.62m²
Current BER – C1 – Energy Use 166.9 kWh/m²/yr – Total Energy Use: 23,303 kWh/yr



Existing Building Details

Building Elements		U-Value (W/m ² .K)	Heat Loss (AU) [W/K]
Walls	300mm Filled Cavity	0.60	58.96
Walls	Unknown	0.60	0.19
Walls	Timber Frame	0.52	9.16
Roof	Pitched Roof – Insulated on Ceiling	0.49	0.45
Roof	Pitched Roof – Insulated on Ceiling	0.49	11.90
Roof	Pitched Roof – Insulated on Ceiling	0.49	4.30
Roof	Extension Pitched Roof – Insulated on Rafter	0.49	12.44
Ground Floor	Solid Floor	0.57	31.41
1st Floor	Non-Heat Loss Floor	0	0
2nd Floor	Non-Heat Loss Floor	0	0
Door	Solid Exposed Door - Front	3.00	5.55
Door	Solid Exposed Door – Side	3.00	5.58
Windows	Double-Glazed Air-filled X 7	3.10	46.23
Window	Triple-glazed, argon filled (low-E, en=0.15, hard coat)	1.50	

Existing Heating Characteristics			
Heating System		Energy	Efficiency (%)
Primary Heating System	Oil boiler, primary pipework insulated	Oil	90%
Secondary Heating System	Open Fire	Manufactured Smokeless Fuel	
Domestic Hot Water	Heated with Primary heating system and immersion	Oil	94%
Cylinder	Cylinder with manufactured jacket (30mm)		
Controls	Radiator Controls		

Domestic Retrofit Guidelines (Step by Step)						
Proposed Interventions		Energy saving (kWh/m ² /yr)	Revised energy rating (kWh/m ² /yr)	Revised BER Rating	Annual energy saving (kWh/yr)	CO ₂ savings/yr (kg)
1	Upgrade Existing Sloped Ceiling to Achieve Minimum U-Value of ≤ 0.19 W/m ² K	3.73	163.17	C1	520.78	128
2	Upgrade Dwarf Walls to Achieve Minimum U-Value of ≤ 0.22 W/m ² /K	2.79	160.38	C1	389.54	390
3	Upgrade Existing Cavity Wall to Achieve Minimum U-Value of ≤ 0.20 W/m ² /K	21.00	139.38	B3	2,932.02	718
4	Upgrade Existing Windows to Achieve Minimum U-Value of ≤ 0.73 W/m ² K	13.23	126.15	B3	1,847.17	453
5	Upgrade existing flat ceilings to Achieve Minimum U-Value of ≤ 0.13 W/m ² /K	6.59	119.56			
6	Install Air To Water Heat Pump (HP) - Upgrade Heating Controls & Hot Water to Full Time & Temperature Control	65.15	61.00	A3	9,096.24	2229
7	Install 2kW Photovoltaic system	28.67	32.33	A2	4,002.91	981
	Overall kWh/m ² /yr Savings Potential	141.16				
	Heat Loss Indicator post works (HLI)	1.46	W/K			
	BER Uplift	134.57	kWh/m ² /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

Estimated Costs Summary			
Measures		Estimated Costs (€/m ²)/Unit	Estimated Total Costs (€)
1&5	Roof Insulation Upgrade	-	€4,925.00
2&3	Wall Insulation Upgrade		€25,080.00
4	Windows Upgrade	€495.00	€9,405.00
6*	Heating Upgrade (Primary)	(System)	€18,700.00
7	Install 2kW PV system	2KW (System)	€5,500.00
Total to achieve A2			€63,610.00
VAT @ 13.5%			€8,587.35
Subtotal			€72,197.35
PM Fee			€4,452.70
Total Build Costs			€76,650.05
ESTIMATED SEAI Grant @ 30% for participation in BEC Scheme			€22,995.02
Value of Energy Credits			€1,886.00
Total Cost to Homeowner including 30% Grant funding and Energy Credits			€51,316.34

*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 C1	166.9	()	0.00	-	
A2	32.33	18,789	€1,722.95	29.7	4,603

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