This Publishable Report is provided as part of Galway Energy Co-operative SEC's Energy Master Plan and is for illustrative public information purposes. The Homeowner's reports are confidential and thus not published here.

ENERGY AUDIT REPORT

Detached Home – 2002 –Cavity Block – 238.23 m²
Current BER – C2 – Energy Use 183.71 kWh/m²/yr – Total Energy Use: 43,766 kWh/yr

Existing Building Details

Building Elements		U-Value ($W/m^2.K$)	Heat Loss (AU) [W/K]
Walls	Original 300mm Filled Cavity	0.55	115.74
Walls	Timber Frame	0.48	15.37
Walls	Semi Exposed 100mm Block Wall adj unheated Circulation space	1.46	12.86
Roof	Pitched Roof – Insulated on Ceiling Ground Floor	0.36	5.13
Roof	Pitched Roof – Insulated on Ceiling First Floor	0.36	8.00
Roof	Pitched Roof – Insulated on Ceiling Second Floor	0.26	8.74
Roof	Pitched Roof – Insulated on Rafter	0.36	10.21
Ground Floor	Solid	0.44	42.38
Floor	Non-Heat Loss Floor	0	0
Floor	Non-Heat Loss Floor	0	0
Door	Solid Exposed Door – Front	3.00	9.75
Door	Solid Exposed Door – Side, Glazed	3.03	6.36
Windows	Double-glazed Air-Filled X 6	3.10	534.30

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 manufactured jacket (30mm)		
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/m²K	16.09	167.62	C1	3,833.12	939
2	Upgrade Existing Doors to Achieve Minimum U-Value of ≤1.40 W/m²K	3.14	164.48	C1	748.04	183
3	Upgrade Cavity Wall to Achieve Minimum U-Value of ≤0.30 W/m² K	19.32	145.16	B3	4,602.60	1128
4	Install 300mm Insulation on Flat Ceiling	5.60	139.56	B3	1,334.09	327
5	Install Air To Water Heat Pump (HP) - Upgrade Heating Controls & Hot Water to Full Time & Temperature Control	60.82	78.74	B1	14,489.15	3550
6	Install 2kW Photovoltaic system	18.26	60.48	A3	4,350.08	1066
	Overall kWh/m2/yr Savings Potential	123.23				
	Heat Loss Indicator post works (HLI)	1.69	W/K			
	BER Uplift	123.23	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

Estimated Costs Summary			
Measures		Estimated Costs (€/m^2)/Unit	Estimated Total Costs (€)
1	Windows Upgrade		€14,850.00
2	Doors Upgrade		€6,600.00
3	Cavity Wall Upgrade		€2,637.50
4	Flat Roof Upgrade		€2,227.50
5*	Heating Upgrade (Primary)	(System)	€17,600.00
6	Install 2kW PV system	2KW (System)	€5,500.00
Total to achieve A2			**€49,415.00**
VAT @ 13.5%			**€6,423.95**
Subtotal			**€55,838.95**
PM Fee			**€3,908.73**
Total Build Costs			**€59,747.68**
ESTIMATED SEAI Grant @ 30% for participation in BEC Scheme			**€17,924.30**
Value of Energy Credits			**€1,981.00**
Total Cost to Homeowner including 30% Grant funding and Energy Credits			**€39,842.37**

*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 C2	183.71	()	0.00	-	
A3	60.48	29,357	€2,692.04	14.8	7,193

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