Summary for Input Data

elmhurst energy

Property Reference	22-049	Issued on Date	01/03/2023
Assessment Reference	003-ASSUMED solar PV array	Prop Type Ref	
Property	Plot 2, Timms Drove, Swineshead, Lincolnshire, PE20 3PG		

SAP Rating	82 B	DER	3.42	TER	9.11
Environmental	96 A	% DER < TER			62.46
CO_2 Emissions (t/year)	0.69	DFEE	47.49	TFEE	48.62
Compliance Check	See BREL	% DFEE < TFEE			2.33
% DPER < TPER	22.13	DPER	37.77	TPER	48.51

Assessor Details	Mr. Kevin Hopton	Assessor ID	P190-0001
Client			

SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenture	1
Transaction Type	6
Terrain Type	Rural
1.0 Property Type	House, Detached
2.0 Number of Storeys	2
3.0 Date Built	2022
4.0 Sheltered Sides	0
5.0 Sunlight/Shade	Very little
6.0 Thermal Mass Parameter	Precise calculation
7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements

	Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:	55.90 m	131.53 m²	2.77 m
1st Storey:	53.71 m	103.80 m²	2.84 m

8.0 Living Area 17.62 m²

9.0 External Walls

Description	Type	Construction	U-Value (W/m²K)	Kappa (kJ/m²K)	Gross Area(m²)	Nett Area (m²)	Shelter Res	Shelter	Openings	Area Calculation Type
Brick cladding	Timber Frame	Timber framed wall (one layer of plasterboard)	0.14	9.00	260.57	196.18	0.00	None	64.39	Enter Gross Area
Abuts unheated space roof	Timber Frame	Timber framed wall (one layer of plasterboard)	0.15	9.00	3.66	3.66	0.50	Room In Roof	0.00	Enter Gross Area
Tile-hung areas	Timber Frame	Timber framed wall (one layer of plasterboard)	0.15	9.00	154.79	142.82	0.00	None	11.97	Enter Gross Area
Abuts bed.1 vaulted area	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	3.98	3.98	0.00	None	0.00	Enter Gross Area

9.2 Internal Walls

Description	Construction	Kappa (kJ/m²K)	Area (m²)
Internal Wall GF	Plasterboard on timber frame	9.00	208.91
Internal Wall FF	Plasterboard on timber frame	9.00	229.07

10.0 External Roofs

Description	Type	Construction	U-Value (W/m²K)	Kappa (kJ/m²K)	Gross Area(m²)	Nett Area (m²)	Shelter Code	Shelter Factor	Calculation Type	Openings
Upper roof void	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	105.85	0.00	None	0.00	Enter Gross Area	0.00
222 rafters @ 600c/c	External Slope Roof	Plasterboard, insulated slope	0.11	9.00	42.80	0.00	None	0.00	Enter Gross Area	0.00
Subroof area over utility	External Plane Roof	Plasterboard, insulated at ceiling level	0.10	9.00	8.26	0.00	Room In Roof	0.50	Enter Gross Area	0.00

10.2 Internal Ceilings

Description	Storey	Construction	Area (m²)
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	102.13

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m²K)	Shelter Code	Shelter Factor	Kappa (kJ/m²K)	Area (m²)
Heatloss Floor 1	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	147.99

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11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m²K)	Area (m²)
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	102.13

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m²K)
Windows TBC	Manufacturer	Window	Double Low-E Soft 0.1			0.63		0.70	1.40
Bi-fold door TBC	Manufacturer	Window	Double Low-E Soft 0.1			0.63		0.70	1.40
Front door TBC	Manufacturer	Solid Door							1.40
Sliding doors TBC	Manufacturer	Window	Double Low-E Soft 0.1			0.63		0.70	1.40
Utility door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.40
Glazed pairs TBC	Manufacturer	Window	Double Low-E Soft 0.1			0.63		0.70	1.40

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m²)	Pitch
Front elevation	Front door TBC	Brick cladding	North	2.14	
Front	Windows TBC	Brick cladding	North	28.73	
Rear elevation	Bi-fold door TBC	Brick cladding	South	10.91	
Rear	Utility door	Brick cladding	South	1.91	
Rear	Windows TBC	Brick cladding	South	12.50	
Rear	Windows TBC	Tile-hung areas	South	1.22	
Rear	Sliding doors TBC	Tile-hung areas	South	7.11	
Rear (angled)	Windows TBC	Tile-hung areas	South	3.64	
Side elevation	Windows TBC	Brick cladding	West	1.75	
Rear	Glazed pairs TBC	Brick cladding	South	2.86	
Side elevation	Windows TBC	Brick cladding	East	3.60	

14.0 Conservatory	None	
15.0 Draught Proofing	100	%
16.0 Draught Lobby	No	

17.0 Thermal Bridging	Calculate Bridges	

17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted	Reference:	Imported
E2 Other lintels (including other steel lintels)	Independently assessed	39.15	0.09	0.09	U13 Award Energy - batch 1	Yes
E3 Sill	Independently assessed	35.19	0.05	0.05	U13 Award Energy-Batch 1	No
E4 Jamb	Independently assessed	93.45	0.07	0.07	U13 Award Energy-Batch 1	Yes
E5 Ground floor (normal)	Independently assessed	42.34	0.05	0.05	U13 Award Energy-Issue 1	No
E6 Intermediate floor within a dwelling	Independently assessed	51.66	0.06	0.06	U13 Award Energy-Batch 1	No
E24 Eaves (insulation at ceiling level - inverted)	Table K1 - Default	3.01	0.15	0.15		No
E10 Eaves (insulation at ceiling level)	Independently assessed	33.34	0.05	0.05	U13 Award Energy-Batch 1	No
E11 Eaves (insulation at rafter level)	Independently assessed	9.81	0.02	0.02	U13 Award Energy-Batch 1	No
E12 Gable (insulation at ceiling level)	Independently assessed	14.06	0.04	0.04	U13 Award Energy-Batch 1	No
E13 Gable (insulation at rafter level)	Independently assessed	10.40	0.04	0.04	U13 Award Energy-Batch 1	No
E16 Corner (normal)	Independently assessed	40.55	0.03	0.03	U13 Award Energy-Batch 1	No
E17 Corner (inverted – internal area greater than external area)	Independently assessed	16.67	-0.03	-0.03	U13 Award Energy-Batch 1	No
R6 Flat ceiling	Independently assessed	14.47	0.01	0.01	Award Energy R6 calc	No

Y-value	0.03	W/m²K

18.0 Pressure Testing	Yes	
Designed AP_{50}	3.00	m³/(h.m²) @ 50 Pa
Test Method	Blower Door	

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	No
Mechanical Ventilation data Type	Database
Type	Balanced mechanical ventilation with heat recovery
MV Reference Number	500344
Configuration	3
Manufacturer SFP	1.04
Duct Type	Rigid
MVHR Efficiency	88.00
Wet Rooms	6
SFP from Installer Commissioning Certificate	No
MVHR System Location	Inside heated envelope (installed exclusively)

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Duct Installation Specification	Level 1	

20.0 Fans, Open Fireplaces, Flues

21.0 Fixed Cooling System	No	

22.0 Lighting

No Fixed Lighting	No	

Name	Efficacy	Power	Capacity	Count
Lighting 1	80.00	8	640	22

24.0 Main Heating 1	SAP table	
Description	Air source heat pump	
Percentage of Heat	100.00	%
Fuel Type	Electricity	
SAP Code	224	
In Winter	170.00	
In Summer	170.00	
Controls SAP Code	2207	
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Underfloor	
Underfloor Heating	Yes - Pipes in thin screed	
Flow Temperature	Unknown	
25.0 Main Heating 2	None	
26.0 Heat Networks	None	

28.0 Water Heating

Water Heating	Main Heating 1	
SAP Code	901	
Flue Gas Heat Recovery System	No	
Waste Water Heat Recovery Instantaneous System 1	No	
Waste Water Heat Recovery Instantaneous System 2	No	
Waste Water Heat Recovery Storage System	No	
Solar Panel	No	
Water use <= 125 litres/person/day	Yes	
Cold Water Source	From mains	
Bath Count	2	
Supplementary Immersion	No	
Immersion Only Heating Hot Water	No	

28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To

28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	Hot Water Cylinder	
Cylinder Stat	Yes	
Cylinder In Heated Space	Yes	
Independent Time Control	Yes	
Insulation Type	Foam	
Insulation Thickness Type	80 mm	
Cylinder Volume	360.00	L
Pipes insulation	Fully insulated primary pipework	
In Airing Cupboard	No	

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31.0 Thermal Store	None
32.0 Photovoltaic Unit	One Dwelling
Export Capable Meter?	Yes
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
2.10	South	30°	None Or Little		No	1.00		

34.0 Small-scale Hydro	None

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

	Typical Cost	Typical savings per year	Ratings after improvement SAP rating	Environmental Impact
	£4,000 - £6,000	£60	B 83	A 97
			0	0
	£15,000 - £25,000	£523	A 93	A 99