ENERGY STATEMENT /REPORT

in support of

Planning Application for:
Detached Residential Annexe

at

Lower Brazacott Farm, LAUNCESTON, PL15 8NE

for

Mrs Lewis

rev 21st Nov 2023

1.00 ENERGY STATEMENT SUMMARY

1.01 Table of Contents

- Energy Summary Tool spreadsheet (submitted as an excel file)
- SAP (submitted as a separate file)
- Overheating Results and Compliance Checklist – Building Regulations Part O;
- Water calculation;
- Alternative Offsetting Statement and Calculation (see below)

1.02 Water Calculation

In accordance with Building Regulation Approved Document G2, the **Fittings Approach** will be used to ensure the water consumption of the fittings provided does not exceed the values in Table 2.1 – less than 125 litres/person/day using fittings approach.

Table 2.1 **Maximum fittings consumption**

Water fitting	Maximum consumption
WC	6/4 litres dual flush or 4.5 litres single flush
Shower	10 l/min
Bath	185 litres
Basin taps	6 l/min
Sink taps	8 l/min
Dishwasher	1.25 l/place setting
Washing machine	8.17 l/kilogram

1.03 Alternative Offsetting Statement and Calculation

The initial offsetting calculation arrived at a figure of £ 43,899, which would render the project unviable.

After deliberation, the applicant has decided, at significant additional expense, to reconsider the annexe's energy performance and include an air source heat pump, a considerable amount of solar PV and a solar thermal panel.

The renewable energy deficit would now be 1,208 kWh/year and the revised offsetting payment would be: 1208 x 30 x £ 0.10 = £ 3,624.

1.03 Alternative Offsetting Statement and Calculation cont…

Please note:

- the whole purpose of this application is to provide affordable, comfortable and safe accommodation for a vulnerable person
- this application is for a detached building within the curtilage of a dwelling and, in essence, is a householder application
- the proposed building is reasonably small and cannot support an excessive amount of solar panels
- the current building regulations would treat this application as an **extension** to a dwelling and will **not** ask for or require a SAP calculation, Overheating Compliance Checklist or a Water calculation
- out of interest, the approx. additional cost to build this annexe (eg cost of renewable technologies, the offsetting figure, CIL (if exemption not granted) and VAT) are in excess of £ 75,000, which is rapidly approaching being unviable…..

1.04 Tab 3 Extract

SAP Conversion Tool V2.0

Climate Zone: 4 South West England

Results			
Space heat demand	**Total energy use**	**Renewable generation**	**Renewable deficit**
kWh/m^2$_{TFA}$.yr	kWh/m^2$_{GIA}$.yr	% total energy	kWh/year
Required values:			
<30	<40	100%	0
30.0	*33.4*	*107%*	*0*
56.2	43.6	71%	1208

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3 - INPUT SAP (10.2) DATA

CORNWALL COUNCIL Etude

SAP Conversion Tool V2.0

Climate Zone: 4 South West England

↓ INSERT INFORMATION HERE ↓

Results			
Space heat demand	Total energy use	Renewable generation	Renewable deficit
kWh/m²$_{TFA}$.yr	kWh/m²$_{GIA}$.yr	% total energy	kWh/year
Required values:			
<30	<40	100%	0
30.6	*33.4*	*107%*	*0*
56.2	43.6	71%	1208

Inputs - general						
Quantity	Plot Name	Bedrooms	Number of storeys	SAP Floor Area	Volume	Site Exposure
				m2	m3	
			Box numbers from SAP calculation printout --->	[4]	[5]	
1	*EXAMPLE - Semi Detached House*	*3*	*2*	*93.2*	*235*	*Normal*
1	Detached annexe	2	2	95.2	228	Normal

↓ INSERT INFORMATION HERE ↓

*excluding internal partition elements

Inputs - Space Heating Demand																		
Air permeability @50Pa	Total area external elements	Total area party elements*	Ventilation system	Heat recovery	Thermal mass	Fabric heat loss	Solar gains											
m3/m2.hr	m2	m2		%	kJ/m2.K	W/K	W											
[17]	[31]	[32]+[32a]+[32b]		[23c]	[35]	[37]	[83]											
							Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0.95	*193*	*39*	*MVHR*	*79%*	*124*	*56.5*	*91*	*137*	*203*	*282*	*322*	*353*	*311*	*287*	*235*	*158*	*107*	*74*
3.18	236		Intermittent Extract	0%	294	73.8	175	285	456	675	791	868	747	631	547	340	211	143
				0%														
				0%														
				0%														
				0%														
				0%														

↓ INSERT INFORMATION HERE ↓

Inputs - Total Energy Use										Inputs - Renewables
Space heat source	Heating efficiency	Space heat source	Heating efficiency	Fraction of heat	Domestic hot water source	Water heating efficiency	Hot water storage losses	Pumps and fans energy	Lighting Efficacy	Renewable Generation (negative number)
(Primary)		(Secondary)					kWh/day	kWh/year	Lumen/Watt	kWh/year
	[206]		[207]	[201]		[216]	[48]	[231]		[233]
Heat pump - air to water	*311%*				*Heat pump - air to water*	*189%*	*1.4*	*160*	*100*	*-3142*
Heat pump - air to water	219%				Heat pump - air to water	190%	1.75	71	100	-2770

↓ INSERT INFORMATION HERE - WHERE APPLICABLE ↓

ables	Water Heating Reductions – where applicable											
eration ber)	Inputs only required for: waste water heat recovery, solar hot water and flue gas heat recovery (negative numbers)											
	kWh											
	Sum of [63 a, c and d]											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	0.0	0.0	-14.0	-35.1	-65.1	-78.5	-67.6	-61.7	-36.6	-4.4	0.0	0.0