

Energy and Carbon Proforma

Introduction

Version 2.0

What is the Energy and Carbon Proforma

The Energy and Carbon Proforma is a tool to summarise the energy and carbon performance of a project. It requires information to be completed on the themes listed in the Energy and Carbon Framework.

Why the Energy and Carbon Proforma is important

The energy and carbon proforma eases communication between applicants and planning officers, helping to determine if the full potential of a project from an energy and carbon perspective has been reached. If it has not, the proforma helps to easily identify where the development could be improved. Focusing on design solutions alleviates the financial pressure of costly solutions, encouraging the viability of developments without

Content of the Energy and Carbon Proforma

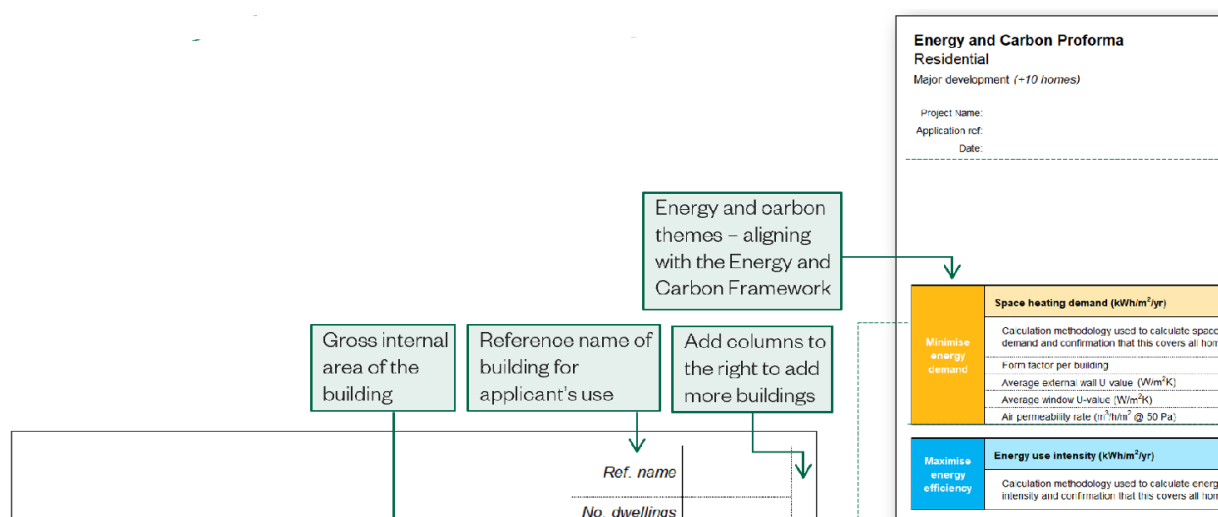
There are six Energy and Carbon Proformas: three for residential developments and three for non-residential developments. The level of information required varies depending on type and size of development, but the overall structure remains the same, requiring data across the following themes:

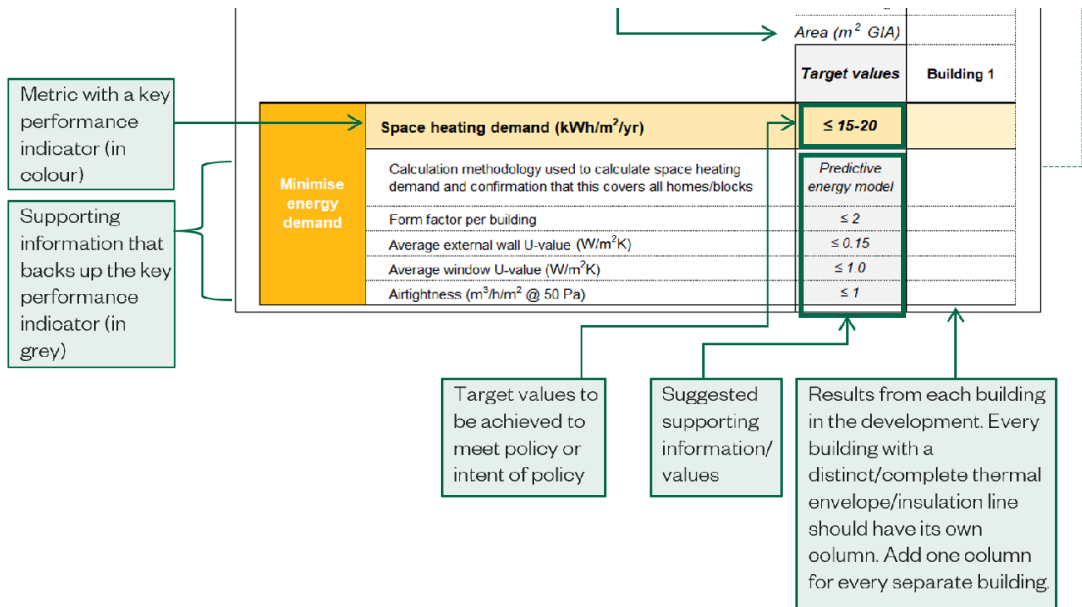
- Minimise energy demand
- Maximising energy efficiency (omitted for small minor development)
- Use renewable energy
- Use low carbon energy
- Reduce overheating risk
- Minimise embodied carbon
- Offsets (omitted for small minor development)

Energy and Carbon Proforma quick-start

Refer to the accompanying Submissions Guidance for further information.

The below explains how the Energy and Carbon Proforma is set out.





Use renewable energy	PV footprint area (% of ground floor space)	
	Annual renewable energy generation (kWh/m ² built footprint/yr)	
	Renewable energy balance (%)	
	Total energy used (kWh/yr)	
	Total energy generated on-site (kWh/yr)	
Use low carbon energy	Fossil fuel free (yes/no)	
	Heat source	
	Low Carbon Heat Appraisal completed	
	Heat network suitability	
	Exemption requested	
Reduce overheating risk	Have Part O overheating requirements been met the use of mechanical cooling?	
	If no, how many homes are cooled?	
	Has a CBSE TMSA assessment been carried out and DSY3 weather files? Have any additional past measures been included as a result?	
	Minimise embodied carbon	Upfront embodied carbon (kgCO ₂ e/m ² GIA)
		List top three materials with the highest upfront embodied carbon emissions (kgCO ₂ e/m ² GIA): Material 1
Material 2		
Material 3		
Lifecycle embodied carbon (kgCO ₂ e/m ² GIA) - for major developments only		
Offsets	Offset contribution (£)	

GMCA

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	Ref name	
	No. dwellings	
	Area (m ² GIA)	
	Target values	Building 1
	≤ 15 (flats)	
	≤ 20 (houses)	
heating res/blocks	Predictive energy model	
	≤ 2	
	≤ 0.15	
	≤ 1.0	
	≤ 1	
	≤ 35	
y use res/blocks	Predictive energy model	

	≥ 40	
ilding	-	
	-	
	-	
	-	
	Yes	
	Electric	
	Yes	
	-	
	-	
	≥ 3.5	
	≤ 100	
met without	Yes	
	Yes	
using USY2 isive	Yes	
	≤ 500-600	
mbodied	-	
	-	
	-	
or large	-	
	-	
	-	

Energy and Carbon Proforma

Residential

Minor development (2-9 homes)
Version 2.0



Project Name:
Application ref:
Date:

Affordable dwellings?
No

		Building ref. name
		Area (m ² GIA)
		No. dwellings (per building)
		No. affordable dwellings (per building)
		Target values
Minimise energy demand	Space heating demand (kWh/m ² GIA/yr)	≤ 15 (flats) - 20 (houses)
	Calculation methodology used to calculate space heating demand and confirmation that this covers all homes/blocks	Predictive energy model
	Form factor per building	≤ 2
	Average external wall U-value (W/m ² K)	≤ 0.15
	Average window U-value (W/m ² K)	≤ 1 (triple)
	Air permeability rate (m ³ /h/m ² @ 50 Pa)	≤ 1
Maximise energy efficiency	Energy use intensity (kWh/m ² GIA/yr) <i>renewables should not be accounted for in the EUI calculation</i>	≤ 35
	Calculation methodology used to calculate energy use intensity and confirmation that this covers all homes/blocks	Predictive energy model
Use renewable energy	PV footprint area (% of ground floor space)	≥ 40
	Annual renewable energy generation (kWh/m ² building footprint/yr)	-
	Renewable energy balance (%)	-
	Total energy used (kWh/yr)	-
	Total energy generated on-site (kWh/yr)	-

Use low carbon energy	Fossil fuel free (yes/no)	Yes
	Heating heat source - <i>Where the system for generating space heating is a heat pump and it achieves a SCOP of 3.5 or higher (then a Low Carbon Heat Appraisal not required)</i>	Electric
	Domestic Hot Water heat source - <i>Where the system for generating hot water is a heat pump and it achieves a SCOP of 3.5 or higher (then a Low Carbon Heat Appraisal not required)</i>	Electric
Reduce overheating risk	Have Part O overheating requirements been met without the use of mechanical cooling?	Yes
Minimise embodied carbon	Confirmation that a summary of the efforts made to design a lean, low carbon structure and building design has been submitted?	Yes

Summary sitewide reporting table			
No. of resi buildings on site	Total resi building footprint area (m²)	Total on-site PV area for resi (m²)	Sitewide PV footprint area (%fp)

Building 1	Building 2	Building 3	Building 4	Building 5	Building 6	Building 7
		160.4	130.8		94.3	
		SAP Conversion Tool V2.3	SAP Conversion Tool V2.3		SAP Conversion Tool V2.3	
		2.56	2.43		1.52	
		0.24	0.23		0.24	
		2.4	2.4		2.4	
		8	8		8	
		171.2	151.6		118.2	
		SAP Conversion Tool V2.3	SAP Conversion Tool V2.3		SAP Conversion Tool V2.3	
		0	0		0	
		0	0		0	
		8.12	14.6		12.04	
		10477.74	4455.97		3962.26	
		926.13	764.31		542.47	

		Yes	Yes		Yes	
		Electric	Electric		Electric	
		ASHP Cylinder	ASHP Cylinder		ASHP Cylinder	
		N/A	N/A		N/A	
		Yes	Yes		Yes	

Building 8	Building 9
	141.7
	SAP Conversion Tool V2.3
	2.59
	0.25
	2.4
	8

	153.4
	SAP Conversion Tool V2.3

	0
	0
	6.35
	9069.18
	615.01

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	Yes
	Electric
	ASHP Cylinder

	N/A
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	Yes
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