

Version 1.0

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.

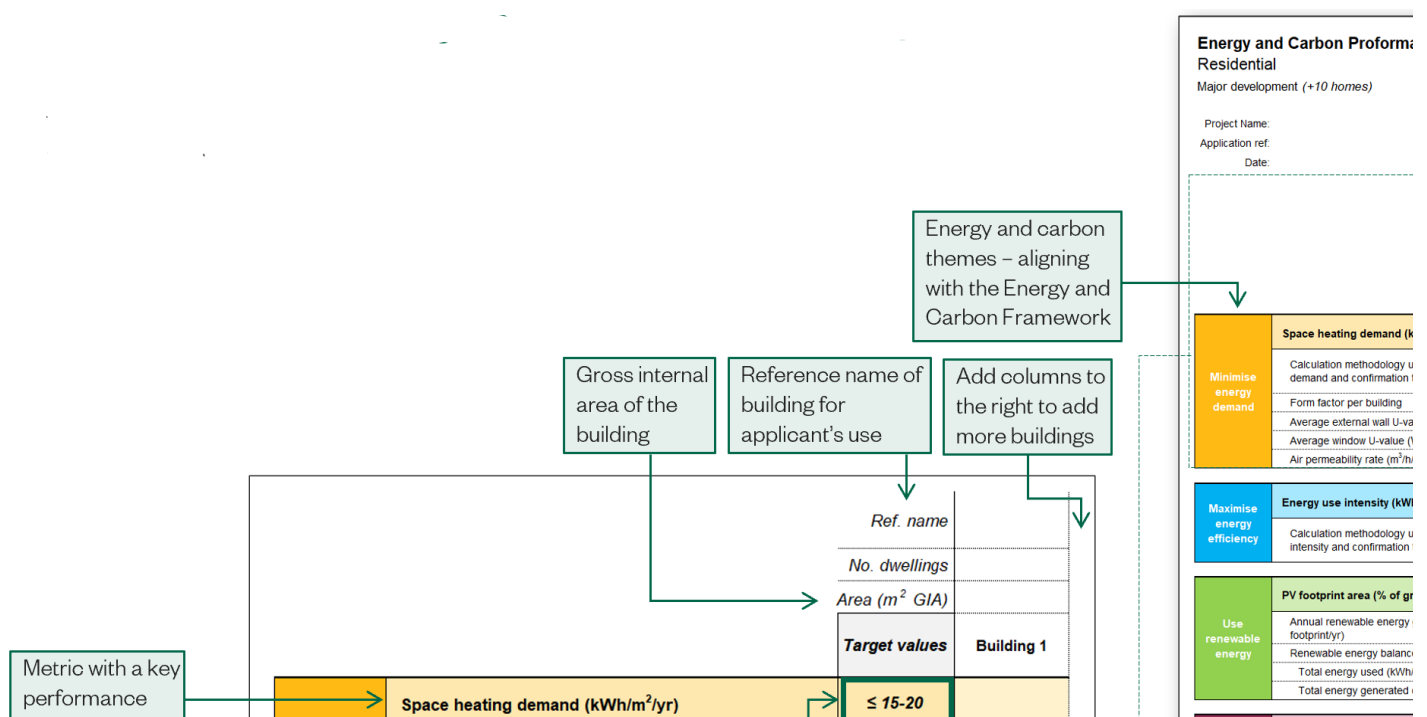
The energy and carbon proforma eases communication between applicants and planning officers, helping to determine if the full potential of a project from an energy and carbon perspective has been reached. If it has not, the proforma helps to easily identify where the development could be improved. Focusing on design solutions alleviates the financial pressure of costly solutions, encouraging the viability of

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)

Refer to the accompanying Submissions Guidance for further information.

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



indicator (in colour)

Supporting information that backs up the key performance indicator (in grey)

Minimise energy demand	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)	≤ 1.0
	Airtightness (m ³ /h/m ² @ 50 Pa)	≤ 1

Target values to be achieved to meet policy or intent of policy

Suggested supporting information/values

Results from each building in the development. Every building with a distinct/complete thermal envelope/insulation line should have its own column. Add one column for every separate building.

Use low carbon energy	Fossil fuel free (yes/no)
	Heat source
	Low Carbon Heat Appraisal
	Heat network suitability
	Exemption requested
Reduce overheating risk	Efficiency of heating system
	Carbon content of heat (g)
	Have Part O overheating the use of mechanical cooling
	If no, how many homes are
	Has a CIBSE TM59 assess and DSY3 weather files? If measures been included a
Minimise embodied carbon	Upfront embodied carbon
	List top three materials with carbon emissions (kgCO ₂ e
	Material 2
	Material 3
	Lifecycle embodied carbon major developments on
Offsets	
Offset contribution (£)	

	Ref. name	
	No. dwellings	
	Area (m ² GIA)	
	Target values	Building 1
kWh/m ² /yr	≤ 15 (flats) ≤ 20 (houses)	
used to calculate space heating that this covers all homes/blocks	Predictive energy model	
	≤ 2	
alue (W/m ² K)	≤ 0.15	
(W/m ² K)	≤ 1.0	
lm ² @ 50 Pa)	≤ 1	
h/m ² /yr	≤ 35	
used to calculate energy use that this covers all homes/blocks	Predictive energy model	
round floor space)	≥ 40	
' generation (kWh/m ² building	-	
te (%)	-	
ly/yr	-	
on-site (kWh/yr)	-	

	Yes	
	Electric	
ial completed	Yes	
	-	
	-	
im (SCOP)	≥ 3.5	
gCO ₂ /kWh)	≤ 100	
g requirements been met without olling?	Yes	
re cooled?	Yes	
isment been carried out using DSY2 Have any additional passive as a result?	Yes	
n (kgCO ₂ e/m ² GIA)	≤ 500-600	
th the highest upfront embodied e/m ² GIA) - Material 1	-	
	-	
bon (kgCO ₂ e/m ² GIA) - for large tly	-	
	-	

Energy and Carbon Proforma

Non-residential

Small minor development (<100m²)

Version 1.0

Project Name:

Application ref:

Date:

		Ref. name	
		Area (m ² GIA)	
		Target values	Building 1
Minimise energy demand	Form factor per building	≤ 2	
	Average glazing ratio per façade: North	(% of façade) See 'Net Zero Design Guidance' for	
	South		
	East		
	West		
	Average external walls U-value (W/m ² K)	≤ 0.15	
	Wall thickness (mm)	> 400	
	Average ground floor U-value (W/m ² K)	≤ 0.10	
	Average external roofs U-value (W/m ² K)	≤ 0.10	
	Average external doors U-value (W/m ² K)	≤ 1.20	
	Average windows U-value (W/m ² K) (or double/ triple glazed)	≤ 1 (triple)	
	Air permeability rate (m ³ /h/m ² @ 50 Pa)	≤ 3	
	Ventilation strategy (background only)	-	
Use renewable energy	PV footprint area (% of ground floor space)	-	
Use low carbon energy	Fossil fuel free (yes/no)	Yes	
	Heat source - Where the system for generating space heating and hot water is a heat pump and it achieves a SCOP of 3.5 or higher (then a Low Carbon Heat Appraisal not required)	Electric	
Reduce overheating risk	Has the Net Zero Design Guidance been followed for orientation, window areas and shading?	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	

[illegible]

Energy and Carbon Proforma

Non-residential

Minor development (100-999m²)
Version 1.0

Project Name: Red Door Day Centre

Application ref:

Date:

		Ref. name			
		Area (m ² GIA)	181		
		Target values	Building 1	Building 2	Building 3
Minimise energy demand	Space heating demand (kWh/m ² GIA/yr)	≤ 15	14.61		
	Space cooling demand (kWh/m ² GIA/yr)	≤ 15	0.4		
	Calculation methodology used to calculate space heating demand and confirmation that this covers all homes/blocks	Predictive energy model	DSM		
	Form factor per building	≤ 2	2.5		
	Average external wall U-value (W/m ² K)	≤ 0.15	0.18		
	Average window U-value (W/m ² K)	≤ 1 (triple)	1.4		
	Air permeability rate (m ³ /h/m ² @ 50 Pa)	≤ 1	3		
Maximise energy efficiency	BREEAM Ene 01 rating	Excellent	Outstanding		
	Energy use intensity (kWh/m ² GIA/yr)	-	211.35		
	Calculation methodology used to calculate energy use intensity and confirmation that this covers all homes/blocks	Predictive energy model	DSM		
Use renewable energy	PV footprint area (% of ground floor space)	-	15.5		
	Annual renewable energy generation (kWh/m ² building footprint/yr)	-	25.72		
	Renewable energy balance (%)	-	14		
	Total energy used (kWh/yr)	-	38338.89		
	Total energy generated on-site (kWh/yr)	-	5324		
Use low carbon energy	Fossil fuel free (yes/no)	Yes	Yes		
	Heat source - Where the system for generating space heating and hot water is a heat pump and it achieves a SCOP of 3.5 or higher (then a Low Carbon Heat Appraisal not required)	Electric	Electric		
Reduce overheating risk	Has CIBSE TM52 been used to calculate overheating and does the building pass?	Yes	No		
	What percentage of spaces are cooled? (% of GIA)	-	66		
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	Yes		

Building 4	Building 5	+

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Energy and Carbon Proforma

Non-residential

Major development (+1,000m²)

Version 1.0

Project Name:

Application ref:

Date:

			Ref. name					
			Area (m ² GIA)					
			Target values	Building 1	Building 2	Building 3	Building 4	Building 5
Minimise energy demand	Space heating demand (kWh/m ² GIA/yr)	≤ 15						
	Space cooling demand (kWh/m ² GIA/yr)	≤ 15						
	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	BREEAM Ene 01 rating	Excellent						
	Energy use intensity (kWh/m ² GIA/yr)	-						
	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)	-						
	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						
	Heat source	Electric						
	Low Carbon Heat Appraisal completed	Yes						
	Heat network suitability	-						
	Exemption requested	-						
	Efficiency of heating system (SCOP)	≥ 3.5						
	Carbon content of heat (gCO ₂ /kWh)	≤ 100						
Reduce overheating risk	Has CIBSE TM52 been used to calculate overheating and does the building pass?	Yes						
	What percentage of spaces are cooled? (% of GIA)	-						
	Has a CIBSE TM52 assessment been carried out using DSY2 and DSY3 weather files? Have any additional passive measures been included as a result?	Yes						
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 large major developments only	-						
Offsets	Offset contribution (£)	-						

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