

APPENDIX 4 CALCULATING THE 10% REQUIREMENT

See Section 7 for detailed guidance on how to undertake the calculations.

Stage 1. Work out the annual CO₂ emissions of the buildings
Complete either calculations 1, 2, 3 or 4

1. Calculations where there is no Standard Assessment Procedure or Simplified Building Energy Model data

Where there is more than one type of building you will need to undertake this calculation separately for each building type.

Building type 1:

	Annual benchmark CO ₂ emissions per m ² (a)		kgCO ₂ /yr
	x floor area (b)		m ²
	= annual CO ₂ emissions (c)		kgCO ₂ /yr

Building type 2:

	Annual benchmark CO ₂ emissions per m ² (a)		kgCO ₂ /yr
	x floor area (b)		m ²
	= annual CO ₂ emissions (c)		kgCO ₂ /yr

Building type 3:

	Annual benchmark CO ₂ emissions per m ² (a)		kgCO ₂ /yr
	x floor area (b)		m ²
	= annual CO ₂ emissions (c)		kgCO ₂ /yr

	Total CO ₂ emissions (c) + (c) + (c) = (d)		kgCO ₂ /yr
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This form is not APPLICABLE.
The building will not contain any heating.
The building will have 3 LED Lights. 500W 4500lm.

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OR

2. Annual CO₂ emissions from SAP assessment

CO₂ emissions (d) kgCO₂/yr

OR

3. Annual CO₂ emissions from SBEM assessment

CO₂ emissions (d) kgCO₂/yr

OR

4. Annual CO₂ emissions from Act on CO₂ website

CO₂ emissions (d) kgCO₂/yr

Stage 2. Work out 10% of the annual CO₂ emissions

10% of CO₂ emissions ((d)/100) x 10 = (e) kgCO₂/yr

Stage 3. Select the renewable technology (or technologies) you wish to incorporate and work out the annual CO₂ savings

Electricity generating technologies

Electricity generating renewable energy (f) kWh/yr
x 0.422²¹ (g) kgCO₂/yr

Heat generating technologies

Heat generating renewable energy (h) kWh/yr
x 0.194 or x 0.265²² (i) kgCO₂/yr

²¹ Standard conversion factor for kWh electricity to kgCO₂

²² Standard conversion factors - use x 0.194 if displacing gas or x 0.265 if displacing oil

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Total CO₂ savings (g) + (i) = (j) kgCO₂/yr

Stage 4. Check that your chosen technology will provide enough CO₂ savings

(j) should be equal to or greater than (e) to ensure that at least 10% of predicted CO₂ emissions are offset through renewable energy.

% of CO₂ emissions which will be offset
by renewable energy (j) / (d) %

If this figure is less than 10%, look at increasing the size / capacity of the installation, try other technologies or look at using a mix of technologies.