

# **SBEM Calculations Checklist**

## Conversions

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### 1. Building regulations

What regulation is being adhered to: 2013 or 2022. This is important for us to know as the calculation will need to be redone and recharged if this information isn't correct.

### 2. Address

We need to know the location of the building to apply the correct regional climate data to the assessment.

### 3. Date of existing building construction

We use this information to make assumptions on the U-values of existing building elements where construction/insulation is unknown.

### 4. Floor plans showing usage/activity for each room/zone

We use these to determine the size and internal layout of the building, and where walls are new, existing or upgraded.

### 5. Elevations

We use these to measure glazing and doors.

### 6. Sections

We use these to measure internal floor to ceiling heights, and ensure we model the shape of the building correctly where there are vaulted ceilings or other complex aspects.

### 7. Site plan

We use this to determine the orientation of the building and if there is any shelter factor provided by surrounding buildings.



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### **8. Build specification for all heat loss areas**

This includes build-ups for any new and upgraded wall, floor and roof types which have heated internal space on one side, and unheated space on the other side. We use these to calculate the fabric heat loss of the building.

### **9. Doors and glazing**

Details, including U-values and G-values (if known) of doors and glazing, including any glazed doors and roof lights. We use these to calculate the solar gains and fabric heat loss of the building.

### **10. Ventilation**

Type of ventilation system including make and model for system 3 or system 4 as soon as known. The type and efficiency of ventilation system plays a role in carbon emissions. By providing us with the make and model, we can ensure that the most accurate data is used.

### **11. Heating**

Type of heating system including control system, emitter type/s, and make and model of heater and hot water cylinder (if applicable) as soon as known. The type and efficiency of heating system plays a significant role in carbon emissions. By providing us with the make and model, we can ensure that the most accurate data is used.

### **12. Light fittings**

Number of light fittings, including wattage and capacity (lm) of bulbs used. Using low-energy lighting throughout plays a significant role in reducing CO2 emissions.



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### **13. Any secondary heating systems**

Having a secondary system can take some of the burden off the main heating system. If the fuel used for the secondary heating system has a lower carbon intensity, then this can be beneficial to an SBEM assessment.

### **14. Renewables**

Details of any renewable technologies including orientation and output (kWp) of any solar PV panels. We can add solar PV and other renewable technologies into an SBEM assessment which will benefit the assessment by offsetting CO<sub>2</sub> emissions, and boosting the EPC score.