

A Guide to SAP Calculations (Extensions)

Standard Assessment Procedure (SAP) calculations are required for all newly built dwellings and conversions, and some extensions projects to satisfy Part L of the Building Regulations. The regulations are regularly updated, with the current version being SAP2009. SAP is a measurement of the energy efficiency of the property, and must be carried out by an accredited assessor such as NuPlanet Sustainable Solutions.

What does the SAP measure?

SAP calculates the annual CO₂ emissions from the property. It also assesses the annual energy costs for space and water heating, ventilation and lighting. The information is then used to produce an EPC which is a requirement introduced in April 2008 for all new dwellings and conversions. SAP calculations can only be prepared by On Construction accredited assessors such as NuPlanet.

What is considered in SAP?

- **The building fabric and how it performs** – This considers the thermal efficiency of the walls, floors, and roof.
- **The performance of the windows and external doors** – South facing windows benefit from passive solar gain which helps in the assessment.
- **The orientation of the building.**
- **Primary and secondary heating** - How the property is heated, and how efficient the systems are.
- **Water heating** - How the hot water is heated and stored.
- **Energy efficient lighting** - The percentage of low energy lighting in the dwelling.
- **Renewable systems** – This assesses what renewable systems are used in the development. It will consider Solar heating, photovoltaic (PV), wind turbines, bio-mass boilers, heat pumps (which score very well in SAP) and may other systems through Appendix Q.
- **Ventilation** – It looks at how the property is ventilated.

When do extensions need SAP calculations to be prepared?

If the proposed extension has a large amount of glazing (equaling more than 25% of the total extension floor area), then SAP calculations will need to be prepared to comply with Building Regulations. If a new sun room or conservatory is being built, and there is not a thermal break (doors) then there is a strong chance that SAP calculations will be required.

Will the whole house need to be assessed?

Not in all cases. We would look to see if the heat loss from the glazing could be off-set by making improvements to the other external element of the extension building fabric (floor, roof, external walls). If the existing dwelling is benefiting from energy saving measures such as replacing an inefficient boiler with a new “A” rated gas condensing boiler, or having new loft and cavity wall insulation installed, then this can also be considered in the assessment which will have a positive effect on the CO₂ emissions of the new extension.

What information does NuPlanet require from us?

To produce SAP calculations, we will require a full set of scaled plans, elevation, sections details, site location plan (with a North point). You will also need to complete our SAP information form which can be downloaded from the website, or emailed to you.

Why should you use NuPlanet Sustainable Solutions?

NuPlanet are experienced, fully accredited On Construction SAP assessors. We can help you decide on the best and most cost effective solution to achieving your target DER.

