

## 'SAP 10' – KEY CHANGES IMPACTING ARCHITECTS, DEVELOPERS AND MAIN CONTRACTORS

SAP – the method used to model dwellings to ensure Building Regulations Part L Compliance – is changing! 'SAP 10' has been released by the Department for Business, Energy and Industrial Strategy (BEIS) & the BRE, which is due to replace 'SAP 2012' when the changes to Building Regulations are released in 2019/2020. We have summarised the key points below:



### ALL ELECTRIC HEATING IS BACK?

Fuels types and their costs are to be revised. Most noticeably, the CO<sub>2</sub> emissions for grid electricity have been reduced to 0.223 kgCO<sub>2</sub>/kWh. This is half of the current value, and reflects the ongoing decarbonisation of the National Grid. With mains gas proposed to be 0.210kgCO<sub>2</sub>/kWh, this puts electricity on a par with gas in regards to carbon emissions, allowing greater flexibility in design solutions for all electric sites.



### WEEKENDS ARE CANCELLED!

No, this is not every boss's dream, but in fact reference the heat profiles applied to dwellings within the thermal modelling. Weekends will now be modelled the same as weekdays, with heating patterns based on heating the dwelling from 0700-0900hrs, and 1600-2300hrs. In line with ongoing research, the distribution losses associated with district/communal heating are to also increase.



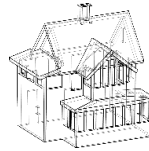
### SHEDDING MORE LIGHT ON THE SITUATION

SAP lighting profiles will change. The predicted solar gains and window opening sizes/building floor area will now influence the lighting loads. A reference 'lighting capacity calculation' will be undertaken within software and, should this not be met, the lighting load will increase. To increase SAP performance, lighting designs and lighting details (power and efficacy) will be needed.



### INSTANTANEOUS HOT WATER HEATING

Flow rates for all showers & taps will now be entered within SAP to accurately reflect domestic hot water use. Electricity used by instantaneous water heaters is now accounted for and increases overall energy demand.



### BYE BYE ACCREDITED CONSTRUCTION DETAILS

Accredited Construction Details (ACDs) will no longer be able to be applied to SAP models. In addition, the default 'Y' value on all bridges is to increase from 0.15W/m<sup>2</sup>K to 0.20W/m<sup>2</sup>K. There is therefore a strong focus on calculated bridging details within this iteration of SAP.



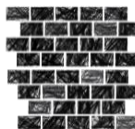
### SOLAR PV – BATTERIES, DIRECT HEATING & LANDLORDS SUPPLY

SAP will now have the ability of applying new methods of using PV to the overall building model. Battery connection and PV connection direct to an immersion within a hot water cylinder will now be applied. MCS Shading data is now used to generate PV performance. Communal PV allocated to landlord supply will no longer be able to be allocated, pro-rata, to each dwelling to provide CO<sub>2</sub> offset. To gain the benefit, the PV must be directly wired.



### IF YOU CAN'T STAND THE HEAT...

Overheating risk is now considered in conjunction with external noise and security issues. Where these are an issue within a proposed design, natural ventilation (openable windows) may not be possible. Therefore, alternative solutions will be needed.



### MASSING

Thermal mass parameters will now need to be calculated for each building based on areas & K-Values.



### QUESTIONS? LETS TALK!

Do you need help designing your future scheme? Contact SRE on 01730 710044 or [iain@sre.co.uk](mailto:iain@sre.co.uk).



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