Terms of Reference for SAPIF Working Groups

The main objectives for the working groups set up by SAPIF are:

1. To establish the state of the art, sources of information and basic explanations of the technologies/systems expected to be mature in the mid-2020s.
2. To propose some modelling criteria for the performance of the technologies and secondly how compliance could be judged at both product and dwelling level.
3. If government decides to include recognition of the technology or system in SAP11, to work with government and the SAP contractor to develop the details. Note that the inclusion of any technology in a WG does not mean that it will necessarily be included in a future version of SAP.

The Working Groups are as follows

1. **Domestic Hot Water Working Group**
   This includes both the heating and storage of the water. All heating technologies are nominally within scope although the WG will need to liaise with the Energy Storage WG about where the boundaries are for longer term heat storage using water, the Ventilation and IAQ WG where DHW is produced e.g. air to water heat exchangers on waste air from MVHR systems and the Controls WG. The amount of hot water consumed is not in scope. Heat recovery is in scope.

2. **Smart Controls Working Group**
   This covers Smart controls, technologies and tariffs. An early piece of work is to bring together the existing work underway particularly on definitions and classification of the various technologies.

3. **Home energy storage (heat and electricity) Working Group**
   This looks at the technologies for storing both heat and electric energy, from (say) one day to inter-seasonal. It encompasses storage of heat in the ground (in both solid & liquid mediums), all types of batteries and any other technologies. It needs to coordinate particularly with the Domestic Hot Water and the Smart Controls WGs to avoid duplication.

4. **Overheating Working Group**
   This covers overheating but also prevention and cooling. The boundary between this WG and the Ventilation and IAQ WG will need careful thought and clear documentation. Building design to mitigate overheating risk including shading and glazing technologies is within scope, as is avoiding unwanted heat leaking into the dwelling from other services.

5. **Ventilation and Indoor Air Quality (IAQ) Working Group**
   Significant areas of work are already underway in various groups elsewhere so care needs to be taken not to duplicate. New control systems that directly address air quality e.g. VOCs, CO, CO_2, NOx, humidity are within scope. It is important that the WG does not stray into Part F territory by starting to define performance standards for dwellings.

Output from each Working Group

The following points set out the basic areas that each WG should cover.

- A list of any new/additional systems/technologies the group think should be included in SAP 11.
- Practical definitions and explanations of each system/technology, including for any sub-categories that are likely to perform differently.

- Information sources relevant to developing any new/additional methodology required. This could include any current or anticipated reports, data, standards, technical diagrams, etc. that the group is able to unearth. It would be useful if this included a short summary of the information contained for each item. (Sources would generally not include non-technical information, such as marketing material, or unsupported claims of performance.)

- Market intelligence that informs understanding of the likely growth in deployment of the technology/system during the 2020s.

- The group's comments on any broader issues likely to impact on the approach taken in SAP or the wide applicability of a system/technology (e.g. dependence on policy, any technical/practical reasons for limited applicability).

- Initial thoughts on modelling approaches for new/additional technologies/systems – e.g. the key factors likely to determine performance in dwellings. It would be useful if this could include commentary on likely real-world performance, e.g. sensitivity to imperfect installation, likelihood of imperfect installation.

It must be borne in mind that SAP is not a product approval system so definitions must be generic i.e. not by manufacturer.

Timescales

Final reports must be submitted by end of 2020 Q1.

Each WG will be required to give a short update on progress at SAPIF meetings, generally two to three times a year. This is important both to ensure progress but also to help avoid overlapping work with other WGs or missing areas.

Ad hoc requests may be made to WGs to provide an update if this is relevant for policy development decisions.