DEAP Procedure for Active Solar Thermal Systems contributing to both Domestic Hot Water and Space Heating Requirements (Individual Heating Systems)

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This document provides instructions for using the accompanying "AppQ_SolarSpaceHtg_April_09.xls" Excel workbook. The workbook deals with solar water & space heating systems, and provides a procedure for accounting for their contribution to space heating requirements, which are not covered in the DEAP procedure.

This procedure concerns active solar systems in which the space heating function is automatically controlled to use solar heat when sufficiently available, only using the back-up heat source (e.g. boiler) when available solar energy is insufficient.

Two types of system are covered by this procedure.

(1) Systems with a cylinder for storing the solar heat for both water and space heating.
(2) Systems with a solar store for water heating only, and with solar space heat supplied immediately to the heated space in the form of warm air. In this case the dwelling's internal heat capacity serves as an uncontrolled store for the space heating contribution.

In the workbook, cells requiring user input are shaded yellow (or a different colour depending on your computer's colour palette).

Any mechanical ventilation heat recovery components in a solar space heating system are to be accounted for under the ventilation tab in DEAP as normal.

Instructions for use of workbook:

1. Complete the DEAP software (or Excel workbook) as if the whole solar system were used for water heating alone.
2. Complete the 'SSH' worksheet in the Appendix-Q workbook, copying data from the software as requested.
3. If a Type (2) system (immediate space heating) is being assessed, complete the 'Immediate' worksheet also, as requested in the 'SSH' worksheet.
4. Copy the final results below to the software's 'Renewable and energy-saving technologies' section, 'Energy produced or saved' section under 'Energy Requirements', as follows:
   - Copy 'Delivered space heating energy saved [kWh/y]' below to 'Delivered energy [kWh]' in the software.
   - For a new dwelling, copy 'Space heat contribution [kWh/y]' below to 'Part L total contribution [kWh/y]' in the software.

   Then in the software:
   - Select 'Renewable Thermal' as the 'Type'.
   - For the primary energy and CO_2 factors, enter the values for the fuel used in the main space heating system.
   - For 'Energy consumed by the technology', enter zero.