

## **Appendix Q procedure: Calculation of Solar Percentage in Group Heating Scheme**

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Relating to workbook 'AppQ\_GroupSolarSeptember09.xls'

When a group heating scheme includes a solar group heating system contributing to space and water heating, this solar system is accounted for in the DEAP calculation software by entering the solar contribution as a percentage of heat from the group scheme's heating plant. This percentage is entered to the software in the 'Energy requirements – Group heating – Space heating' tab. If operational records covering at least a year are available, the percentage should be obtained from these, otherwise, it should be determined using the 'AppQ\_GroupSolar.xls' Microsoft Excel workbook. This document provides instructions for using that workbook.

In a group heating scheme, heat may come from heat-only sources (boilers, heat pump and/or solar heating system), and/or CHP. DEAP deals with each of these two categories separately. In the DEAP software, heat-only sources are covered in the 'Space heating' tab mentioned above. The solar percentage to be entered, i.e. the result of this Appendix Q procedure, is a percentage of the total heat from the heat-only sources.

The type of solar system covered by this Appendix Q procedure includes solar thermal collectors and a centralised insulated solar thermal store. It is assumed that solar heat is given priority over all other heat sources.

### **Instructions for use of 'AppQ\_GroupSolar.xls' workbook**

1. Complete data entry to the DEAP calculation software as if the solar system were not present, i.e. entering '0' (zero) for the percentage of heat from the solar system in the 'Space heating' tab mentioned above.
2. Complete data entry to the 'AppQ\_GroupSolar.xls' workbook, taking inputs from the DEAP software (completed as in 1. above).
3. Copy the final result from the Appendix-Q workbook – the solar percentage – to the DEAP software, i.e. to the appropriate input box on the 'Space heating' tab mentioned above.

### **Notes**

After each of steps 1 and 3 above, the sum of percentage contributions from each heat source should equal 100% as required by the software. Refer to section 10.8.1 of the DEAP manual for details on the percentage of contributions.

The 'Solar water heating' tab accessed via the 'Water heating' tab of the DEAP software should **not** be used for solar systems forming part of group heating schemes providing both space and water heating.

If a group heating system exists, it is assumed to meet water heating requirements throughout the year as well as space heating. This applies to group heating schemes generally in DEAP, not just those with a solar system.

Details of the solar system should be entered to the Appendix-Q workbook in the manner described in Appendix H of the DEAP document, i.e. in the same manner as for an individual Solar Water Heating system.