

Workshop Exercise – Selecting a Solar Hot Water System

For this task, it is desired that you break up into groups of 5 participants each and collate the selection and sizing of the Solar water heating system for the following household. You can make reference to the relevant guidelines and also best industry practices.

A residential building comprising of 6 people would like to have a solar water heater installed for their house. The roof tilt is 20 degrees and is facing North West. The area in concern has poor quality of water. You may assume other essential parameters where required. You are to size the overall system with emphasis on the following:

- Type of system proposed (Passive or active, direct or indirect heating, etc)
- Daily hot water requirements
- Type of Tank and Size (Anodes etc required or not)
- Type of Collector and Size (Flat type or evacuated tube)
- Collector tilt and orientation
- Types of pipes and insulation
- Other auxiliaries
- Important considerations
- Price comparison of equivalent systems in the market

Based on the above, select a complete package system that may be available from a manufacturer in your country. Ensure that your design requirements meet the one offered by the package system.