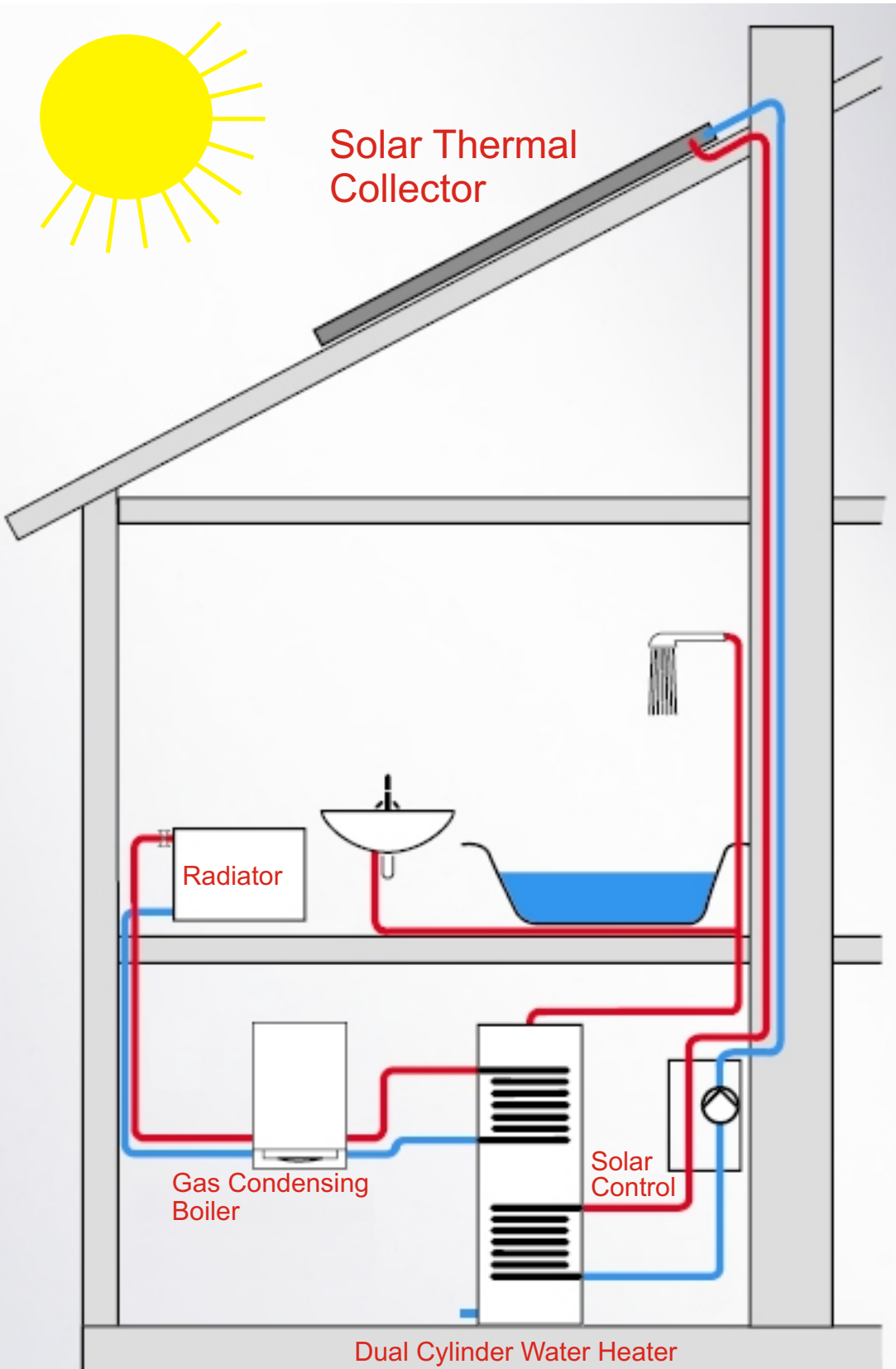


4Elements

Typical Solar Thermal Layout

Typical solar thermal system layout providing hot water for bathing and heating. How much energy can you expect from such a system? Well, page 2 describes the typical performance you can expect.



Solar Thermal Collector
Solar thermal collectors can be 'flat panel' where the solar thermal energy heats a black panel which exchanges the heat into the water, or, 'evacuated tube' which focusses thermal energy through an evacuated glass tube into a working fluid which is then heated.

Dual Cylinder Water Heater
A dual cylinder water heater may be required to act as a heat exchanger.

Solar Control
Solar controller decides on the best use of energy received from solar radiation based on demand.

What Power can you expect from a solar thermal system?

How much hot water would a solar thermal system provide? This depends on many factors, but the key ones include angle to the sun, panel size and overall system efficiency. The graphs below show the performance of a solar thermal system through the year. The assumptions are listed on the right.

Monthly collector efficiency refers to the efficiency of the solar panels (This is the actual collector efficiency without pipe and solar tank losses). From March to September the panels extract the maximum solar thermal energy they can.

Monthly Solar Fraction shows the percentage of solar energy contribution to the heating load. In July it is expected to support of the hot water demand and even in mid-winter supplies 15% of total demand.

System Specification and Assumptions

System Location - London

Roof Slope - 45 deg South facing

Solar Thermal Collector - 3 sq m

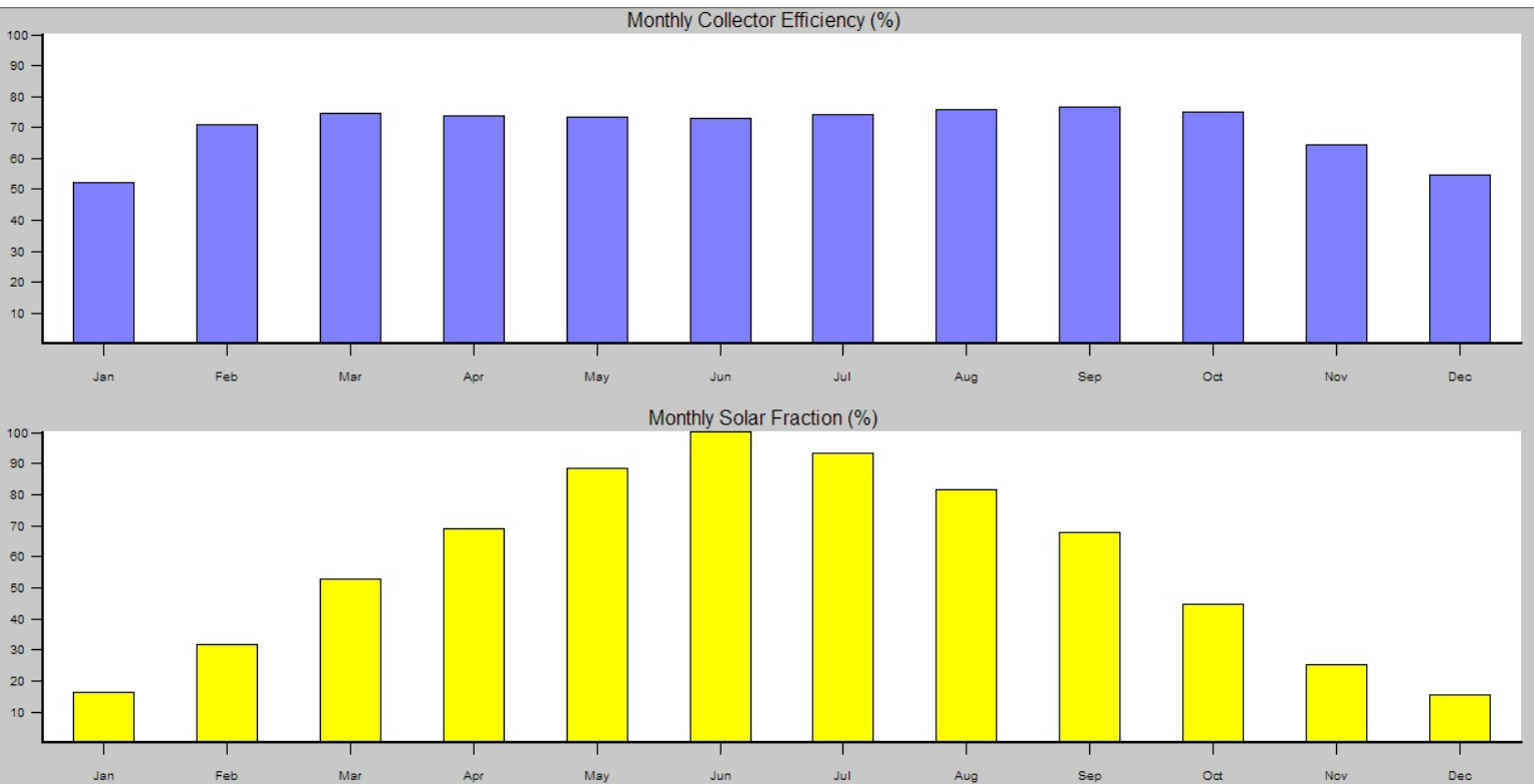
Solar Tank - 200 ltr

Auxiliary Tank - 100ltrs with 2Kw heating

Water consumption - 200 ltrs

Water demand - 7:30am, 12:00am, 19:30pm, 22:00pm

Monthly heating demand - 1000Kw in Jan falling to 0 in June and 0 Kw in Sep rising to 1100 in Dec.



Solar Thermal System Performance

System Location - London

How much will it contribute to your heating demand? Monthly average solar fraction - 57%

How much energy will it actually save - Monthly average 143 KW/Hrs or 1,712 KW/Hrs annually.



Renewable Energy Products

4 Elements can provide all the products and assistance to help you get the most out of your solar thermal system. The performance detailed above is for typical domestic system. If you supply us with your location, building aspect and an estimate of your water heating demand we can calculate the systems likely performance.

For more details:

Visit www.4elements-uk.com

Call 01844 210960

Email sales@4elements-uk.com