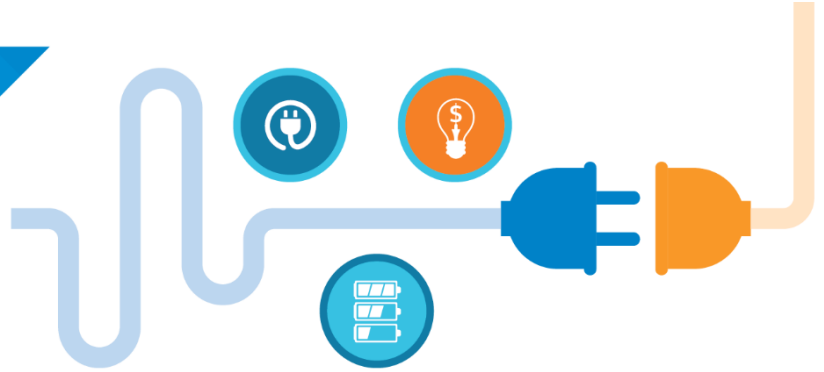


# ENERGY SAVINGS SPECIALISTS

## SOLAR HOT WATER



### EVACUATED TUBE SOLAR HOT WATER SYSTEMS

- We use Solar Ark evacuated tube solar hot water systems.
- Solar Ark is designed in Australia & is an Australian owned company.
- Can also be used for pool heating, obviously needs to be on a bigger scale though.
- The evacuated tube systems work on a similar concept to solar pool heating. Except instead of the really long black plastic tubing that snakes across the roof for solar pool heating, there are 15-30 glass tubes on the roof and the storage tank sits on the ground.
- Tubes are around 10 cm diameter.
- The water is NOT stored on the roof so there is not much weight on the roof which is a good thing. The water flows through the manifold at the top of the tubes so there is very little water on the roof at any one time.
- The evacuated tubes are instead of the 'flat plate collector' (the rectangle panels that look just like standard solar panels).
- A 20 tube, 250L system will suffice for most 4 people households.
- Tubes are 2m long and the width depends on how many tubes you have. A 20 tube system is just over 1.5m wide. The tubes sit 16cm above the surface of the roof. A 20 tube system weights 78kg empty – spread over a large surface area that is very little additional weight on a roof.
- The evacuated tube system is MUCH more efficient than the flat plate solar hot water systems.
- There are 2 glass tubes, an inner and an outer with a vacuum in between. In a nutshell, sunlight passes through the outer glass layer through the vacuum, and onto the coating of the inner glass layer. The heat gets trapped within the evacuated tube. Heat is transferred to the copper heat exchanger within the manifold at the top of the tubes, via heat pipe. A pump circulates the water to the heat exchanger where it is solar heated as it passes across the heat pipes. The heated water is then returned to the storage cylinder.
- Resilient in all weather conditions including frosts and hail.



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