Sunamp water heater cost

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Sunamp designs and manufactures space-saving thermal energy storage solutions that make homes, buildings and vehicles more energy-efficient & sustainable while reducing carbon emissions and optimising renewables. See how to decarbonise domestic hot water in high-rise housing using our thermal batteries with heat pumps.

The Thermino ePV can also keep costs down by pre-heating water for a combi boiler or it can be used as a highly efficient stand-alone water heater to ensure instant, mains pressure hot water for all household taps and showers.

UniQ eHW - Designed to produce domestic hot water and is heated directly by grid electricity only. This can be used as a space-saving and flexible alternative to a hot water tank with an immersion heater. When combined with a charge timer and a variable electricity tariff, the eHW range allows for low-cost electric water.

The operating principal is that materials release/absorb a lot of energy during a phase change. Unless you are really cramped for space, a second water heater can store water for DHW usage at a much cheaper cost. For example, it takes 212 BTUs to raise 1lb water from 0*F to 212*F. It takes another 970BTUs to convert the water from a liquid to a ...

What I can gather is that they use a phase-change material to make a storage tank that"s about the quarter the size of a water tank of similar capacity. We"ve discussed a lot here the way that domestic hot water is a high-intensity use, you either need to have a high-output heater or some way of storing heat. So a heat pump water heater isn"t really feasible without a tank.

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For example, it takes 212 BTUs to raise 1lb water from 0*F to 212*F. It takes another 970BTUs to convert the water from a liquid to a gas. If you ever need to calibrate a thermistor on the fly, stick it in boiling water and ice water. The respective vessels will be at exactly 212*F and 32*C because it takes significantly more energy to actually change phase.

This is essentially the same concept that a heat pump works on. Refrigerant changes phase through the heat pump cycles to move energy from one place to another. Also the same concept that power plants operate on via the Rankine cycle. Phase change is an excellent way to store/move energy... once it costs the same as a normal water heater.

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This is a great concept! By using a phase change material, you can A. Store more energy in the same volume (this probably doesn"t matter for most Americans) and B. You can store more energy at the temperatures heat pumps can achieve, which is a bigger deal. For central heating, this could help with peak demand and allow you to charge during the day time hours when COP is higher, on average.

The cost vs. electrical batteries must be MUCH cheaper though. For every 3kwh of heat stored, you"re only storing 1kwh of electricity. And that electricity can only be heat, not cold, so you"re not storing much during the summer. So if an electrical battery is $1000/kwh, this needs to be <$200/kwh.

I would say storing at a constant temperature is the big win. People who are seriously into heating with wood build elaborate systems with water storage tanks, because it"s hard to match the supply of heat from a wood fire to the demand in real time. I could see something like this being a game-changer for them, trying to store heat in a tank of varying temperature gets very involved.

I don"t see much point here unless you"re really, REALLY tight on space. It"s simpler to just use a larger water tank as a "thermal battery", since water it pretty good at storing heat too, and it"s cheap, safe, and readily available.