Direct Solar Water Heater





Why to choose this solution?
Installing a solar Water Heater ensures hot water throughout the year, since the system works all year round.

Savings per day or production:
Sunlight is free, so once you have paid the initial installation cost, your hot water costs will be reduced leading to a reduced energy bill.

Cost in money and in own time to construct:
Some systems go for as low as KSh. 60,000 (USD 600). But something will always be faulty leading to eventually having to replace one part of the system or the other. A quality system costs an average of KSh.130,000 (USD 1300).

Lifetime:
The average life expectancy of certified solar water heating systems is 20 years.

Maintenance needed:
Periodic maintenance of solar water heaters is necessary every 3 to 5 years. Check for any kind of leakage in the pipes, tank, panels, etc., as leakage is very common in these areas. Also, you need to check for loose wire connections and wires. Ensure that the panels are kept dust-free.

Resources needed in use:
The solar thermal collectors convert the sunlight to heat energy. The heat transfer fluids (typically water) carry the heat from the solar collectors to water storage tanks. Heat exchangers transfer the heat from the transfer fluid to the home water supply. Storage tanks store hot water when it is not in use.

Problems and limits:
Solar thermal collector panels heat the water compared to solar PV panels, which produces electricity. The thermal collector panels require sufficient roof space to accommodate them. Solar water heaters require direct sunlight to function. The system does not function on cloudy, rainy, or foggy days.

Where and how can you get it or make it?
Solar Water Heating Suppliers in Nairobi Kenya, such as a solar hot water system supplier in View Park Towers. Tel; 0798 372318.

Skills needed to produce, install. maintenance, use:
Installation, maintenance and repair of these solar water heating technologies requires training in Technical and Vocational Education and Training Institutions for solar water heating. Solar heating modules usually can be found in shops.

How to use it:
See video https://www.youtube.com/watch?v=XSMPKAOpdrU

How to maintain it:
See video https://www.youtube.com/watch?v=eNnORkjM1h0

Climate effect (if any):
Solar water systems are sustainable heating systems because they use renewable energy, thus contributing to the reduction of carbon dioxide emissions.

Where it is used and how many users are there?
Thousands are using on top of houses, mostly in urban areas in Kenya.

Why is it successful?
They are super efficient, because of their round shape, which allows them to capture sun rays from all angles and makes them more effective in situations of cloudy skies. This characteristic allows them also to heat up water at higher temperatures compared to flat panels.

If you can make it, a short description, typical problems, materials needed:
It cannot be made by users, but must be made by the manufacturers.

How to make it (if possible):

How is it delivered and by whom?

Successful financial model

What policies and strategies helped the success?
The solar water heating systems industry in Kenya possesses the expertise and equipment to provide the merchandise without which the deployment might be less effective. The current Kenya National Energy Policy- Sessional Paper No. 4 strengthens the licensing procedures for practitioners. The success is determined by the number of new connections.

More info:
LES engages activities under the guidance of its CSR Policy through Lean Foundation. Its purview includes solar heaters. https://leansolutions.co.ke/solar-water-heating/. Solar heating training manual: https://www.ke.undp.org/content/kenya/en/home/library/environment_energy/solar-heating-training-manual.html , http://www.kerea.org/renewables/solar-water-heating/ .

Sources:
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