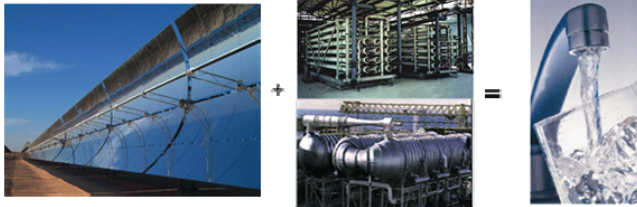


IMPROVE EDUCATION
 PROTECT THE ENVIRONMENT
 ADDRESS INFRASTRUCTURE CHALLENGES
 ADOPT SUSTAINABLE ECONOMIC STRATEGIES
 MEET HUMAN NEEDS & PRESERVE LOCAL CULTURE

FOCUS OUR
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Own it!

Solar Desalination



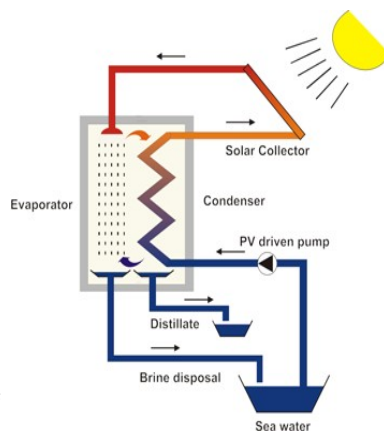
There are basically two different designs for solar stills systems:

Reverse osmosis is a pressure-driven process that forces the separation of fresh water from other constituents through a semi-permeable membrane. This is the preferred method in large-scale desalination projects where electricity is cheaply available. Here, solar energy is collected and converted into electrical or mechanical energy to initiate the process.

Solar Humidification-Dehumidification (HDH) is a technique that mimics the natural water cycle on a shorter time frame by evaporating and condensing water to separate it from other substances. The driving force in this process is thermal solar energy to produce water vapor which is later condensed in a separate chamber. This system is effective for small- to mid- scale desalination systems in remote locations because of the relative inexpensiveness of solar collectors.

Problems There are two inherent design problems facing solar desalination projects. First, the system's efficiency is governed by preferably high heat and mass transfer during evaporation and condensation.

Second, the heat of condensation is valuable because it takes large amounts of solar energy to evaporate water and generate saturated, vapor-laden hot air. This energy is transferred to the condenser's surface during condensation. This heat of condensation is ejected from the system as waste heat. The challenge is to achieve the optimum temperature difference between the solar-generated vapor and the seawater-cooled condenser.



"I'd put my money on the sun and solar energy. What a source of power! I hope we don't have to wait 'til oil and coal run out before we tackle that."

~Thomas Edison
 (1847-1931)



FOCUS MAUI NUI is a community-driven vision for the future of our islands, spearheaded by Maui Economic Development Board, Inc., a nonprofit organization dedicated to the economic well-being of Maui County. VISIT www.focusmauinui.com or CALL 808.270.6801