



## Qatar water problem and solar desalination

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### ABSTRACT

The reasons of water problem in Qatar are outlined. The water resources include very limited ground water that is heavily exploited, desalted seawater consuming too much energy and negatively affecting the environment, and treated wastewater that is not fully utilized. Heavy water leakage in the distribution network is an added problem. Water consumption is high due to the government heavy subsidization. The population increase and the rising standard of living are increasing the water demand, and there is clear demand gap that eventually should be secured by desalination. Using solar energy can be a sustainable solution that is considered in the paper. Although it is expensive, the prospect of decreasing the cost exist.

*Keywords:* Qatar water problem; Water resources; Groundwater; Wastewater; Treated wastewater; Desalination; Multi stage Flash; Thermal vapor compression; Seawater reverse osmosis; Water demand; Water consumption; Water leakage; Solar desalination

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