

CHAPTER 4: ONSITE SYSTEMS: GENERATION & RENEWABLE ENERGY

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504.02 ON-SITE RENEWABLE ENERGY – SUSTAINABLE WATER HEATING SYSTEM



INTENT

To reduce the energy consumption for hot water, reduce demand, save energy and costs.

REQUIREMENT

For all new villas, labor accommodations, hotels, mosques, and educational facilities, sustainable water heaters must be used to provide the total demand of hot water for the building. In case of using solar water heaters specifically, the system must be designed to provide the building with 75% of the total demand on hot water. The tanks and pipes must be insulated.

For Golden and Platinum Sa'fa, this regulation is applied for all types of buildings.

SIGNIFICANCE

Buildings with higher hot water demands like labor accommodations, hotels, mosques, and educational institutions shall employ the sustainable and efficient heating technologies on-site to reduce the utility cost and promote the alternate / renewable energy usage to reduce the greenhouse gas impacts.

Dubai with favorable weather conditions and yearlong sunshine is beneficial to have solar water heaters. They are economically and environmentally favourable than a conventional electric water heater. Solar water heaters provide a quick payback period coupled with environmental benefits.

APPLICABILITY

This regulation is applicable to all new villas, labor accommodations, hotels, mosques, and educational facilities. For Golden and Platinum Sa'fa, this regulation is applied for all types of buildings. Refer to Table 101.07(1) in Section One - Administration for detailed applicability levels.

IMPLEMENTATION

Energy Efficient Systems

Design team shall identify new technologies to reduce the water heating power demand compared to conventional electric water systems. 100% hot water demand required for the building shall be supplied with the proposed energy efficient systems. Calculation highlighting the energy demand difference is mandatory for design compliance approval. Designer may choose technologies like air source heat pump or any efficient methods to further reduce the energy impact of hot water systems.