

Onsite Systems: Generation & Renewable Energy

504.01 On-Site Renewable Energy - Small to Medium Scale Embedded Generators

For all new buildings, where a building incorporates on-site generation of electricity from a solar photovoltaic system, it can be a solar grid connected system or a solar off-grid system.

- A. The grid connected solar generator shall be connected to Dubai Electricity and Water Authority (DEWA) network, operated and maintained according to DEWA regulations.
- B. For off-grid solar system, the backup off-grid load is to be indicated in the Total Connected load (TCL) along with the grid based battery charger load, if applicable.

504.02 On-Site Renewable Energy - Sustainable Water Heating System

For all new villas, labour 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 building typologies.

504.03 On-site Renewable Energy - Electrical Power Generation

For Golden and Platinum Sa’fa and for all new buildings, the electrical power shall be generated on-site using solar panels. The power generation shall be 10% of the electrical load of the building (excluding electrical loads for fire extinguishing system, air conditioning units and air conditioning system pumps).

If sufficient space is not available to achieve the above percentages, then the electrical power shall be generated to cover 30% of the lighting load of the common areas, provided that the capacity of the solar panels shall not be less than 20 kWp.

Energy Demand

505.01 Reduction of Energy Demand

For Golden and Platinum Sa’fa and for all new buildings, innovative ideas and new mechanisms shall be provided that would contribute for at least 5% reduction in energy demand. These ideas or new mechanisms shall not be from the requirements listed in the regulations.

505.02 Smart Building

For Platinum Sa’fa and for all new buildings, various building equipment and systems shall be provided with intelligent techniques to control and reduce the energy and water consumption of the building. The intelligent techniques shall also ensure the safety and comfort of the building occupants.

505.03 Efficiency of Building Performance

For Golden and Platinum Sa’fa and for all new buildings, the following requirements can be replaced by using techniques that enhances the building performance.

501.01	Minimum Envelope Performance Requirements	502.18	Cooling of Corridors and Public Areas
501.02	Thermal Bridges	502.22	Heat Exchangers
502.04	Lighting Power Density - Interior	503.06	Cost of the Expected Performance Assessment
502.05	Lighting Power Density - Exterior	503.07	Performance and Commissioning Reports
502.10	Exhaust Air Energy Recovery Systems and Condensate water	504.03	On-Site Renewable Energy - Electrical Power Generation
502.16	Control of Chilled Water	505.01	Reduction of Energy Demand

The techniques used should increase the energy savings of the building. The energy savings percentage of the building when compared to a building designed with Silver Sa’fa regulations shall be at least 15% for Golden Sa’fa and 20% for Platinum Sa’fa.