Power & Sun
sales@example.com
+000 000 0000
https://example.com

18.1 kWp grid-connected solar system for Al Mansoori residence

Prepared for Al Mansoori residence · Jumeirah 2, Dubai

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08 November 2026
Valid until 08 December 2026

SYSTEM SIZE	ANNUAL GENERATION	ANNUAL SAVING	PAYBACK
18.2 kWp	32,006	AED 12,771	3.11 yr
33 modules	kWh in the first year	65.3% off the bill	34.4% return

About Power & Sun

Power & Sun is the renewable-energy flagship of the Orange Overseas Group, founded in the UAE in 2013, and the Middle East's oldest and largest solar distribution company. Since 2017 it has supplied, engineered and delivered solar and battery systems for homes, businesses, industry and utilities across the Middle East, Africa, Asia and Europe.

One partner from the load study to long-term O&M: engineering and design, equipment from regional stock, turnkey installation, grid connection and commissioning, then service and maintenance. Its own Mastter and Ultimatte inverters and Bison and Tusk batteries are specified to work as one system, carry manufacturer warranties of up to 10 years, and are backed 24/7 by the UAE service centre in Deira, Dubai. Operations are ISO-certified and audited by BDO.

4.5 GW+
Energy shipped

1,500+
Global customers

50+

Countries served

14
Global offices

Introduction

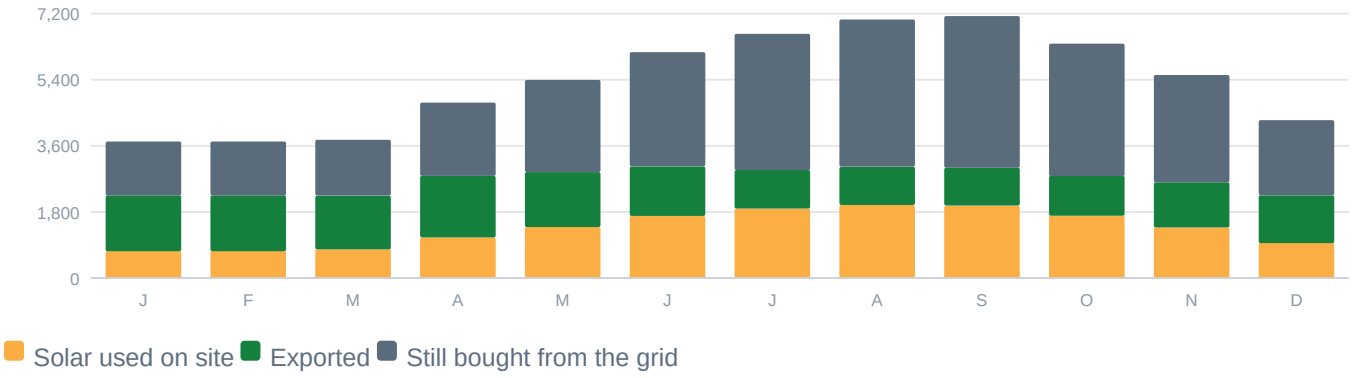
Thank you for the opportunity to propose a solar installation at Jumeirah 2, Dubai. We have sized a 18.1 kWp grid-connected solar system for the site, based on the consumption you provided and the solar resource for this location (modelled from position and climate zone).

The system proposed

- 33 x Helion HM-550-72 photovoltaic modules, 18.1 kWp in total
- 3 x Mastter MSH-6HV-3Ph inverters
- Mounting: Mibet MRac Roof Matrix I ballasted. The array is wired as 3 strings of 11 modules.

Expected performance

The system is expected to generate 32,006 kWh in its first year, an annual yield of 1,763 kWh for every kWp installed, at a performance ratio of 79%. Output falls slowly over the life of the plant as the modules age; the figures below allow for that. Of that generation, 51% is consumed on site; the system covers 33% of your total demand of 49,000 kWh a year.



Price and return

The installed price is AED 37,839, complete and commissioned. In the first year the system reduces your electricity cost by about AED 12,771, and over 25 years it returns AED 486,167 against the investment. The simple payback is 3.1 years, an internal rate of return of 34.4%.

ITEM	QUANTITY	UNIT
PV modules		
Helion HM-550-72 - 550 Wp	33	no
Inverters		

ITEM	QUANTITY	UNIT
Mastter MSH-6HV-3Ph - 6.0 kW three phase	3	no
Mounting		
Mibet MRac Roof Matrix I ballasted	18.15	kWp
Cabling		
Apar solar DC cable H1Z2Z2-K 1 x 4 mm², tinned copper, XLPO, 1.5 kV DC	180	m
AC cable, inverter to distribution board	60	m
Protection and isolation		
DC load-break isolator, at the inverter - 20 A / 600 V DC	3	no
DC surge arrester, Type 2 - Ucpv 600 V DC	3	no
AC circuit breaker, 4P, curve C - 40 A	1	no
AC surge arrester, Type 2 - 400 V AC	1	no
Residual current device, Type B - 40 A, 300 mA	1	no
Protective earthing conductor, copper - 10 mm2	1	no
Equipotential bonding conductor, module frames and rails - 6 mm2	1	no
Enclosures and metering		
DC and AC combiner boards, generation meter, monitoring gateway	3	set

Quantities are shown for clarity. The price above is for the system complete and commissioned.

Total, installed and commissioned **AED 37,838.73**

Scope of supply

- Supply of all equipment listed in the bill of quantities.
- Mechanical installation of the mounting system and modules.
- DC and AC electrical installation, protection, earthing and labelling.
- Inverter commissioning, monitoring setup and handover training.
- As-built documentation and manufacturer warranty registration.
- Utility application support for the grid connection, where applicable.

Exclusions

- Structural strengthening, roof repair or waterproofing works.
- Civil works, trenching and any required builders work.
- Utility connection fees, meter charges and any statutory levies.

- Scaffolding or access equipment beyond standard roof access.
- Any works arising from a condition not visible at the time of survey.

Assumptions this proposal rests on

- Solar resource: a solar resource modelled from the site position and its arid climate, 2,180 kWh/m2 a year on the horizontal.
- Consumption: 49,000 kWh a year, residential load profile.
- Tariff: Flat residential (generic) at an effective AED 0.3800 per kWh, escalating at 4.0% a year.
- Financial model: 25 year analysis, 8.0% discount rate, operating cost and equipment replacement included.
- Yield is a preliminary estimate from a monthly-average irradiance model, not a bankable simulation.
- Prices exclude any works outside the scope listed above, and any grid connection charges levied by the utility.

Next steps

- Confirm acceptance of this proposal in writing.
- A detailed site survey and structural check follow before construction drawings are issued.
- Final construction design is signed off by a qualified engineer before any equipment is ordered.

This is a preliminary design produced for the purpose of quotation. Generation figures are estimates from a monthly-average irradiance model and will vary with weather, shading and operating conditions. Savings depend on the tariff and consumption pattern stated in the assumptions above. The final construction design, including structural and electrical verification, is prepared and signed off by a qualified engineer before installation.

This proposal is valid until **08 December 2026**. All figures in it are estimates, given under the engineering disclaimer: http://localhost:8000/disclaimer. How we handle your information: http://localhost:8000/privacy.