

## **United Arab Emirates Renewable Energy - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2026 - 2031)**

Market Report | 2026-02-09 | 95 pages | Mordor Intelligence

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### **Report description:**

United Arab Emirates Renewable Energy Market Analysis

The United Arab Emirates Renewable Energy Market is expected to grow from 7.29 gigawatt in 2025 to 8.09 gigawatt in 2026 and is forecast to reach 13.65 gigawatt by 2031 at 11.05% CAGR over 2026-2031.

Strong policy mandates, record-low solar tariffs, and an expanding climate-finance pipeline underpin growth, while gigawatt-scale projects align with the Net Zero 2050 target. Solar photovoltaic technology already dominates national capacity; however, offshore wind, green hydrogen infrastructure, and grid-scale battery storage are rapidly transitioning from pilot to commercial scale. Mandatory clean-power procurement for federal entities beginning in 2025 removes demand risk for developers, and successive sovereign green-bond issues channel international capital at attractive rates. Persistent grid bottlenecks in the Northern Emirates and shortages of operations and maintenance talent could slow the pace of deployment, but the overall trajectory remains decisively upward for the UAE's renewable energy market.

United Arab Emirates Renewable Energy Market Trends and Insights

Declining Solar PV Levelised Cost of Energy Creates Competitive Advantage

Tariffs at the 2 GW Al Dhafra project fell to USD 1.32 cents / kWh, bringing the LCOE below that of gas-fired generation. Abundant irradiance above 2,000 kWh/m<sup>2</sup> each year and bulk equipment purchasing for gigawatt projects reinforce cost leadership. R&D at

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Masdar Institute shows that desert-sand thermal storage can trim concentrated-solar-power storage costs by up to 70%. Bidirectional LSTM forecasting now informs dispatch schedules, raising capacity factors and improving project bankability. Cost deflation widens the addressable market for both utility-scale and rooftop systems, supporting the long-term growth of the UAE renewable energy market.

#### Utility-Scale Green-Hydrogen Export Infrastructure Positions the UAE as a Global Supplier

The National Hydrogen Strategy targets 1.4 million tonnes of low-carbon hydrogen by 2031 and 15 million tonnes by 2050, elevating the UAE to the global top ten of prospective producers. Mitsui's 1 million t/y clean-ammonia facility at Al Ruwais will come online in 2027, integrating carbon-capture to meet export specifications for Asia. Masdar and TotalEnergies advance a hydrogen-to-methanol-to-sustainable-aviation-fuel chain that targets hard-to-abate sectors. ADNOC Gas pilots LOOP technology that converts methane streams into graphene and hydrogen, generating new revenue while decarbonizing legacy assets. Hydrogen ambitions therefore reinforce long-run demand for renewables, adding depth to the UAE renewable energy market.

#### Grid Infrastructure Constraints Limit Distributed Generation Expansion

Transmission corridors linking Abu Dhabi's generation clusters with demand centres in the Northern Emirates are already running near capacity. The GCC interconnection gives regional flexibility but cannot solve internal pinch points. DEWA's USD 1.9 billion smart grid programme will modernize switching and demand management. EWEC's 400 MW / 800 MWh battery-storage procurement hedges against curtailment risk and supports frequency regulation. Even so, if reinforcement slips behind schedule, effective capacity additions in the UAE renewable energy market could lag permit awards.

Other drivers and restraints analyzed in the detailed report include:

Government Procurement Mandates Establish a Structural Demand Foundation  
COP28 Legacy Mobilises International Climate Finance  
Operations and Maintenance Workforce Gaps Threaten Project Performance

For complete list of drivers and restraints, kindly check the Table Of Contents.

#### Segment Analysis

Solar energy contributed 97.60% of the UAE's renewable energy market share in 2025. The UAE renewable energy market size for solar segments reached 7.11 GW in 2025 and is still expanding through pipeline projects in Abu Dhabi and Dubai. Wind energy, supplied by the 103.5 MW Sir Bani Yas farm, is forecast to post a 47.9% CAGR, supported by ongoing offshore assessments. Solar keeps the lead because of low LCOE and mature EPC services. Wind's rising capacity factors above 40% make it the preferred diversification tool for EWEC. Concentrated solar power, exemplified by the 950 MW Noor Energy 1 project, delivers dispatchable energy through molten-salt storage, yet future procurement skews toward PV-plus-battery due to lower cost.

Chinese suppliers sign multi-year module frameworks, enabling economies of scale. Trackers, bifacial panels, and robotic cleaners reduce operational costs by 10-12% year-over-year. JinkoSolar and Canadian Solar own 20% of Al Dhafra's equity, securing a steady module offtake. Wind developers plan 1-GW offshore clusters off Ras Al Khaimah by 2030. Siemens Gamesa extends maintenance deals to guarantee 40% capacity factors at Sir Bani Yas. Hydropower remains a niche market. Hatta's 250 MW pumped-storage facility helps stabilize Dubai's energy. Dubai's waste-to-energy plant offers 200 MW while diverting 1.9 million tons of waste annually. Geothermal and ocean energy remain at the feasibility stage due to geological constraints.

The United Arab Emirates Renewable Energy Market Report is Segmented by Technology (Solar Energy, Wind Energy, Hydropower, Bioenergy, Geothermal, and Ocean Energy) and End-User (Utilities, Commercial and Industrial, and Residential). The

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Market Sizes and Forecasts are Provided in Terms of Installed Capacity (GW).

List of Companies Covered in this Report:

Masdar Dubai Electricity & Water Authority (DEWA) Emirates Water & Electricity Company (EWEC) Yellow Door Energy Engie SA ACWA Power EDF Renewables TotalEnergies Renewables Enviromena Power Systems Akuo Energy SAS Canadian Solar Inc. Jinko Power Trina Solar First Solar Siemens Gamesa Enerwhere MASE Beta Green Solar Energy Systems Installation ACCIONA Energia Hanwha Q-Cells

Additional Benefits:

The market estimate (ME) sheet in Excel format  
3 months of analyst support

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