SAUDI ARABIA / SOLAR OPERATIONS

October 2026 review · Published 24 November 2026

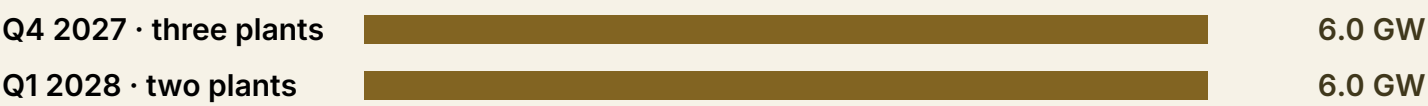
Saudi Arabia’s solar O&M market: 12 GW moving from construction to operation

ACWA’s five-plant solar portfolio puts two waves of handovers on the calendar. The October Times Digital story concerns a different site and a much smaller commissioning package.

12 GW

Five ACWA solar projects under construction at 30 September. Their full commercial-operation dates fall in 2027 and 2028.

Two handover windows for the five plants



ACWA · project portfolio workbook, 30 September 2026 · 5 Nov 2026 / Tadawul · ACWA, financial close for five solar plants · 27 Nov 2025 / Shanghai Metals Market · MAS commissioning and operating services · 19 Oct 2026

EXECUTIVE SUMMARY

The faster route to revenue may be through the existing operator

11.913 GW
PV in the September SPPC connected-site screen

12.0 GW
Five ACWA PV projects scheduled for handover in Q4 2027–Q1 2028

1.2 GW
MAS services scope reported in October

The installed base already needs field support

The SPPC screen includes plants across the country. Electrical fault response, spares replenishment and post-storm inspections offer opportunities while future sites are still under construction. Ask the operator which activities it buys locally.

The pipeline is a timetable for mobilisation

A commissioning contractor can retain support duties during the defect period. Permanent service work may be allocated under the operating agreement long before COD. Approach the project company and EPC early enough to identify which party controls each purchase.

The commercial question is the recoverable output

A cleaning programme earns its place when the energy recovered covers labour, water or robot maintenance while preserving the glass warranty. Average cleaning frequency alone does not answer that question.

SPPC · national utility-scale project register, linked project records in accompanying source list · 11 Sept 2026 snapshot / ACWA · project portfolio workbook, 30 September 2026 · 5 Nov 2026 / Times Digital · company-attributed MAS account republished by IN-EN · 20 Oct 2026 (republication) / Shanghai Metals Market · MAS commissioning and operating services · 19 Oct 2026 / IEA PVPS · O&M guidelines for different climates, Task 13 · 2022

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OCTOBER CONTRACT / AL MASA'A

One plant carries three different capacity figures

Published scope	Capacity	Meaning for an O&M bidder
EDF's purchase agreement	1.0 GW	Capacity named for Al Masa'a in the owner's award.
POWERCHINA's EPC contract	1.25 GW	Installed project capacity quoted by the EPC.
Times Digital operating-technology subsidiary	1.2 GW	Reported commissioning and operating-technical-services package at MAS.

What the October announcement supports

SMM reported the 1.2 GW technical-services package on 19 October 2026. A company-attributed account was republished the following day. The price, duration and exclusivity are not disclosed.

POWERCHINA's contract includes operation and maintenance

POWERCHINA's 22 January 2025 release includes operating and maintaining Al Masa'a, Al Henakiyah 2 and their supporting facilities. Local firms should ask POWERCHINA which services it subcontracts and who can authorise orders.

EDF · Al Masa'a and Al Henakiyah 2 power purchase agreements · 5 Dec 2024 / POWERCHINA · MAS and AHK2 EPC contract · 22 Jan 2025 / Times Digital · company-attributed MAS account republished by IN-EN · 20 Oct 2026 (republication) / Shanghai Metals Market · MAS commissioning and operating services · 19 Oct 2026 / Tadawul · ACWA, financial close for five solar plants · 27 Nov 2025

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SAUDI OPERATING BASE / SPPC REGISTER

Fourteen grid-connected PV plants account for 11.913 GW

Gross project capacity, MW. SPPC project pages checked on 11 September 2026. Each project name links to its official record.

Project	MW	Project	MW
Wadi Al Dawasir	112	Saad 1	300
Shuaibah 2	2,060	Shuaibah 1	600
Al Henakiyah 1	1,100	Jeddah	300
Rabigh 1	300	Sudair	1,500
Kahfah	1,425	Ar Rass 1	700
Ar Rass 2	2,000	Layla	91
Saad 2	1,125	Sakaka	300

Grid connection and final handover can fall in different years

Ar Rass 2 illustrates the difference. ACWA lists 2,000 MW operational at the September reporting date and shows project COD in Q1 2027. The time between these milestones creates work for both the commissioning team and the operator.

Coverage of the stock measure

The total sums the utility-scale PV records marked connected in the archived SPPC cross-check. It excludes wind, captive and off-grid solar. A complete national total at full commercial operation on 31 October is not disclosed in the releases reviewed.

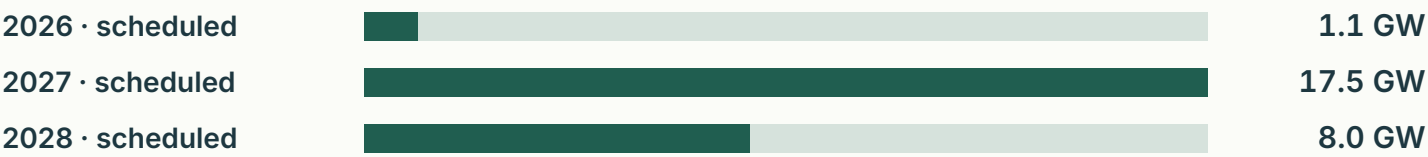
SPPC · national utility-scale project register, linked project records in accompanying source list · 11 Sept 2026 snapshot / ACWA · project portfolio workbook, 30 September 2026 · 5 Nov 2026

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HANDOVER CALENDAR / PV PROJECTS

Published project schedules put the largest handover wave in 2027

Gross GW reaching scheduled full commercial operation · selected named on-grid projects · not incremental connected capacity



Year	Project composition, GW
2026	Al Henakiyah 1 (1.1), already classed as connected by SPPC. Masdar's full commercial-operation target is a schedule.
2027	ACWA 13.5: Ar Rass 2 (2.0), earlier trio (5.5), Khulais and Afif 1/2 (6.0). EDF: MAS (1.0), AHK2 (0.4). Masdar: Al Sadawi (2.0), Ad Darb (0.6).
2028	Bisha (3.0), Al Humaj (3.0), Najran (1.4) and Samtah (0.6, Q1 2028).

Targets at their source dates. The chart includes connected projects with a later full-COD target and excludes projects without verified full-COD guidance in this screen. Realised national additions for each year: not disclosed.

ACWA · project portfolio workbook, 30 September 2026 · 5 Nov 2026 / EDF · financial close and target commercial-operation dates · 6 Nov 2025 / Masdar · Al Sadawi financial close · 19 Aug 2025 / Masdar · Najran and Ad Darb awards · 28 Oct 2025 / Masdar · Green Finance Report 2024, Al Henakiyah · FY2024 report published 2025 / Saudi Energy · Samtah capacity and planned COD · FY2025 results / SPPC · national utility-scale project register, linked project records in accompanying source list · 11 Sept 2026 snapshot

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CONTRACT DESIGN / SERVICE BOUNDARIES

Specify plant availability, fault ownership and meter data before comparing prices

Workstream	Service obligation to specify	Acceptance record
Modules and cleaning	Maintain the agreed cleaning method, access route and inspection of damaged modules.	Soiling measurements, wash records and damage exceptions.
Inverters and trackers	Monitor inverter trips and tracker position. Agree first response, spare controllers and OEM escalation.	Availability by block, fault ticket and return-to-service time.
Substation and collection	Assign switching authority, protection testing, outage coordination and HV maintenance.	Approved switching schedules, relay test results and outage log.
SCADA and performance	Reconcile the revenue meter, weather sensors, availability exclusions and lost production.	Time-synchronised data, calibration records and exception report.

Avoid a gap at the EPC handover

Obtain the as-built drawings, SCADA access rights, commissioning baselines and open defects before accepting a service obligation. Specify who pays for an OEM replacement and who bears the lost generation while it arrives.

IEA PVPS · O&M guidelines for different climates, Task 13 · 2022

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INTERNATIONAL O&M COSTS / BENCHMARK

IRENA’s country averages span USD 3,200–10,700 per MW-year

Across the countries IRENA surveyed in 2024, China and Japan bracket the published averages (p. 101, text beside Fig. 3.6). The Middle East average was USD 5,600/MW-year (Fig. 3.7, p. 102).



Country or region	USD/kW-year	USD/MW-year
China	3.2	3,200
Middle East	5.6	5,600
Japan	10.7	10,700

Put all bids on the same service boundary

Specify labour, insurance, security, cleaning, spares, vegetation control, corrective work and the cost of replacement equipment. Ask bidders which items sit with the owner. A low maintenance-only rate can omit several of the costs inside an all-in benchmark.

How to use the range

Saudi contract price, site-specific operating margin and the value of the MAS award are not disclosed. Obtain local scope-matched offers before budgeting.

IRENA · PV O&M costs, pp. 101–102, Figs 3.6–3.7 · Jul 2025

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DESERT CLEANING

Use a site trial to decide where dry robots and wet cleaning belong

Decision factor	Water-assisted cleaning	Robotic dry cleaning
Dust and deposits	Can remove adhered deposits. Water quality and drying affect residue.	Well suited to frequent loose-dust removal; test performance after dew or a dust event.
Site logistics	Requires water, access, storage and vehicle or crew scheduling.	Requires compatible row geometry, access for recovery and reliable charging.
Asset protection	Specify water quality, method, timing and approved brushes.	Verify brush wear, module coating compatibility, tracker interaction and wind stow.
Commercial unit	Price per clean row or area, water delivered, and any rework.	Price system availability, consumables, repairs, rescue labour and fallback cleaning.

Measure recovered energy alongside total cleaning cost

Assign comparable rows to each method. Track irradiance, soiling ratio, delivered energy, water, robot downtime and visible wear. Set a fallback trigger for sticky deposits or equipment faults.

IEA PVPS · O&M guidelines for different climates, Task 13 · 2022

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WORKFORCE / SAUDISATION

Build the staffing commitment around the actual contracting entity

Contract route	Action before bidding	Evidence to prepare
Government-entity O&M contract	Apply MHRSD's public O&M guide and the tender schedule for each occupational category.	Role-by-role staffing matrix, national headcount, wage assumptions where applicable, training and electronic records.
Private IPP or subcontract	Check the employer's applicable localisation rules and requirements flowed down by the owner or prime.	Written contract boundary, localisation obligations, shift rota and escalation cover.
Technical positions	Identify who may switch HV circuits, access OEM controls, sign test sheets and release equipment.	Authorisations, competence assessments, site induction and supervised work logs.

A concrete threshold for public tenders

MHRSD's November 2022 guide (2nd edition, decision 73483), section 5.2, table 4, note 2, directs agencies to identify Saudi roles equal to 30% of the technical, operating and craft jobs in the electrical, mechanical, equipment and civil categories. Check the tender and any higher occupational requirement. A universal rate for private solar O&M contracts is not disclosed.

MHRSD · public O&M localisation guide, 2nd edition, decision 73483 · Nov 2022 · 30/4/1444H / MHRSD · localisation in public-entity O&M contracts, decision 83956 · decision dated 7 Jun 2021 / Ministry of Finance · local-content preference regulation · accessed 24 Nov 2026

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SAUDI SERVICES AND SPARES

The local advantage is a shorter restoration time

Buyer	Offer a defined result	What to demonstrate
Site operator	Fault attendance and restoration within an agreed territory.	Technician authorisations, dispatch coverage, job records and local stock.
OEM or EPC	Warranty-compatible intervention and exchange stock for installed equipment.	Approved parts list, serial traceability, controls access and replacement procedure.
Regional operating manager	Shared critical-spares inventory across compatible sites.	Installed equipment register, failure history, shelf-life checks and replenishment triggers.
Training and operations manager	Practical qualification for cleaning systems, SCADA or electrical maintenance.	Role-based assessment, supervised site practice and sign-off by the responsible operator.

Start with the contractor that controls maintenance

POWERCHINA's signed scope includes operating and maintaining Al Masa'a and Al Henakiyah 2. Ask its O&M procurement team which faults it will handle itself, which parts it stocks and which field services it plans to buy locally.

POWERCHINA · MAS and AHK2 EPC contract · 22 Jan 2025 / IEA PVPS · O&M guidelines for different climates, Task 13 · 2022 / MHRSD · public O&M localisation guide, 2nd edition, decision 73483 · Nov 2022 · 30/4/1444H

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COMMERCIAL DECISION

Bid the service you can perform throughout the defect and operating periods

1 Establish the handover point

Ask who operates the plant during commissioning, who accepts the EPC defects list and when the long-term operator takes control. A project COD is a useful planning milestone but does not fix the subcontract start date.

2 Obtain the operating baseline

Review the block layout, equipment models, access rights, production history where available, cleaning method and performance exclusions. Price the service with the same capacity denominator and cost scope used by the customer.

3 Offer a measurable improvement

State the restoration time, first-time fix rate or recovered yield the customer can verify. Set out the required spares, staffing and customer data. Show who carries the cost if an excluded event prevents delivery.

DECISION

Pursue a site when the contract owner, service start, asset register and performance test are clear. Quote on the plant's operating conditions and use international costs only as a reasonableness check.

ACWA · project portfolio workbook, 30 September 2026 · 5 Nov 2026 / IEA PVPS · O&M guidelines for different climates, Task 13 · 2022 / IRENA · PV O&M costs, pp. 101–102, Figs 3.6–3.7 · Jul 2025

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SOURCES AND DEFINITIONS

Source documents and calculation notes

The connected-PV screen and full-COD schedules measure distinct events. Scheduled capacity excludes captive plants and sums only the named sites. IRENA's 2024 country averages are international survey endpoints. Times Digital's reported award is corroborated by trade press; its original company-hosted release was not located.

WB ACWA · project portfolio workbook, 30 September 2026
5 Nov 2026

PB SPPC · national utility-scale project register, linked project records in accompanying source list
11 Sept 2026 snapshot

SM Shanghai Metals Market · MAS commissioning and operating services
19 Oct 2026

ED2 EDF · financial close and target commercial-operation dates
6 Nov 2025

SAD Masdar · Al Sadawi financial close
19 Aug 2025

HEN Masdar · Green Finance Report 2024, Al Henakiyah
FY2024 report published 2025

CL IEA PVPS · O&M guidelines for different climates, Task 13
2022

HR MHRSD · localisation in public-entity O&M contracts, decision 83956
decision dated 7 Jun 2021

LC Ministry of Finance · local-content preference regulation
accessed 24 Nov 2026

PV Tadawul · ACWA, financial close for five solar plants
27 Nov 2025

TM Times Digital · company-attributed MAS account republished by IN-EN
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ED EDF · Al Masa'a and Al Henakiyah 2 power purchase agreements
5 Dec 2024

PC POWERCHINA · MAS and AHK2 EPC contract
22 Jan 2025

NAJ Masdar · Najran and Ad Darb awards
28 Oct 2025

OM IRENA · PV O&M costs, pp. 101–102, Figs 3.6–3.7
Jul 2025

STM Saudi Energy · Samtah capacity and planned COD
FY2025 results

HR3 MHRSD · public O&M localisation guide, 2nd edition, decision 73483
Nov 2022 · 30/4/1444H

Titles link to the source. The accompanying source register gives the full URLs. Access checked 24 November 2026 unless an earlier archive snapshot is identified.

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