

SECTOR INSIGHT • 02 • CLEAN ENERGY

The Gulf has bought the gigawatts. Not the people.

Over US\$42bn is committed to roughly 62GW of GCC renewables. Less than a third of it is generating. The gap between announced and energised is a workforce gap.

US\$42.5bn

GCC renewable energy
investment committed to date

62.1GW

Renewable capacity under
development across the GCC

19.3GW

Actually grid-connected as at
July 2025

US\$60.7bn

Further investment needed to
reach the 2030 target

EXECUTIVE SUMMARY

The Gulf's energy transition has a delivery problem, not a funding problem.

The GCC has invested over US\$42.5bn in approximately 62.1GW of renewable energy projects. As at July 2025, only around 19.3GW of that had actually been connected to the grid. Reaching the region's 2030 target of close to 165GW requires an estimated US\$60.7bn of further investment — and a workforce that does not yet exist in the region at the scale required.

The gap between 62GW developed and 19GW connected is the entire argument of this briefing. It is not a financing gap. Money has not been the constraint in Gulf renewables for several years. It is the accumulated delay of projects moving through construction, grid connection, commissioning and energisation — every stage of which is people-limited.

And the pipeline is accelerating, not stabilising. In a single agreement, ACWA Power, Badeel and SAPCO committed approximately US\$8.3bn to 15,000MW across five solar and two wind plants. Masdar and EWEK reached financial close on a US\$6.1bn project pairing 5.2GW of solar with 19GWh of battery storage. Oman has onboarded nine large-scale hydrogen projects representing around US\$50bn of investment. These are not sequential programmes. They are concurrent ones.

Capital has stopped being the bottleneck in Gulf renewables. Commissioning capacity has become one.

15GW

ACWA/Badeel/SAPCO solar and wind, US\$8.3bn

5.2GW

Masdar-EWEK solar paired with 19GWh of storage

US\$50bn

Oman's onboarded green hydrogen pipeline

5.6GW

Barakah nuclear, four APR-1400 units in service

THE ARGUMENT OF THIS REPORT

Solar construction at gigawatt scale is a volume problem the region can largely solve. Battery storage commissioning, grid integration and green hydrogen process engineering are scarcity problems it cannot. The GCC is deploying battery capacity at a scale that very few engineers anywhere have commissioned, and building hydrogen and ammonia facilities for which the experienced operator population is measured in hundreds globally. Programmes that plan for these disciplines eighteen months out will energise on schedule. Programmes that treat them as a late-stage subcontractor issue will not.

THE CAPITAL

What has been committed and awarded

The following covers projects that have reached power purchase agreement, financial close or construction as at July 2026, plus the hydrogen concessions that have been formally onboarded. Announcement-stage memoranda are excluded.

Project / programme	Country	Scale & value	Status	Workforce signal
ACWA Power / Badeel / SAPCO renewables package	Saudi Arabia	15,000MW ~US\$8.3bn	PPAs signed with the Saudi Power Procurement Company for five solar PV and two wind plants: Afif 1 (2GW), Afif 2 (2GW), Khulis (2GW), Humaij (3GW) and Bisha (3GW).	Very high — concurrent gigawatt sites across central, western and southern regions.
Masdar & EWECC round-the-clock solar and storage	UAE	5.2GW solar + 19GWh BESS US\$6.1bn	Financial close July 2026 on a US\$5.1bn financing package from 13 banks. Construction began October 2025; commercial operations targeted 2027. Delivers 1GW of continuous clean power.	Reported to create over 10,000 jobs. BESS integration and commissioning is the critical discipline.
Masdar-EWEC battery storage commitment	UAE	8GW storage	Framework commitment to deploy battery energy storage at national scale beyond the round-the-clock project.	Creates sustained multi-year demand for a discipline with almost no regional labour pool.
ACWA Power Rabigh 2 expansion	Saudi Arabia	2.3GW SAR 11.5bn	Agreement signed with the Saudi Power Procurement Company, April 2026, Makkah region.	Conventional plant expansion — construction and commissioning teams.
Oman green hydrogen programme (Hydrom)	Oman	~US\$50bn 1.5 Mtpa by 2030	Nine large-scale projects onboarded. Third Duqm auction round: bids closed January 2026, awards expected Q2 2026.	Process, electrolyser and ammonia disciplines — near-zero regional pool.
ACME Duqm expansion	Oman	~US\$4.2bn	Committed to phases two and three of its green hydrogen and green ammonia project at Duqm.	EPC mobilisation plus long-term operations recruitment.
SalalaH2	Oman	US\$5–7bn	Export-focused renewable and hydrogen mega-project targeting final investment decision in 2026, operations 2030.	Pre-FID engineering demand now; construction demand from 2027.
Duqm Special Economic Zone	Oman	US\$7.5bn	Investment commitments secured from Asian, European and Middle Eastern companies across hydrogen, power and industrial projects (June 2026).	Broad industrial construction and commissioning demand.

Project / programme	Country	Scale & value	Status	Workforce signal
Barakah Nuclear Energy Plant	UAE	5.6GW	All four APR-1400 units in commercial operation since September 2024. Generates roughly 40TWh a year, about 25% of UAE electricity. Fleet expansion and SMR options under consideration.	Operations, maintenance, outage and refuelling workforce — permanent, highly regulated.

Values as publicly reported by the developer, procurer or awarding authority. See the source note on the final page.

THE DELIVERY GAP

Why 62 gigawatts developed became 19 gigawatts connected

A renewable energy project passes through six workforce-intensive stages between signature and generation. Each has a different labour profile, and the region's constraint sits firmly in the last three.

Stage	Labour profile	Where the GCC is constrained
Development & financing	Small, senior teams: development managers, technical advisers, financial modellers, land and permitting leads.	Not materially constrained. The region has built genuine depth here.
Design & engineering	Owner's engineer and EPC design teams: electrical, civil, SCADA, grid studies.	Moderately constrained. Grid connection and system studies engineers are tightening as connection queues grow.
Construction — solar	Very high volume, comparatively low specialisation: module installation, piling, cabling, civil works, site HSE at scale.	A volume and mobilisation challenge rather than a scarcity one. Solvable with planning and compliant labour supply.
Construction — wind, hydrogen, storage	Specialised: turbine erection and technicians, electrolyser and process mechanical, high-voltage installation.	Significantly constrained. Very limited regional experience base.
Grid connection & energisation	HV commissioning engineers, protection and control, utility interface managers, energisation coordinators.	Severely constrained — and shared directly with the transmission programmes covered in INYA Sector Insight 03.
Commissioning & handover	Commissioning managers, BESS integration specialists, performance test engineers, plant operations readiness.	The binding constraint. Battery storage commissioning at 19GWh scale has very few genuinely experienced practitioners anywhere.

THREE THINGS THE GAP IS TELLING YOU

- Projects are not stalling in development. They are stalling between mechanical completion and energisation — the stages that depend on the smallest and scarcest populations of people.
- Grid connection is a shared constraint. Every renewable project competes for the same HV commissioning engineers as every substation and transmission project in the region. Solar developers who think they are competing with other solar developers are mis-reading the market.
- Battery storage is a new discipline at this scale. A 19GWh installation is not a larger version of something the region has done before. The people who can integrate and commission it are being sourced globally, by everyone, at once.

CRITICAL ROLES

Where the market is tightest

Difficulty ratings and lead times below are INYA's own assessment of the GCC clean energy market as at July 2026, based on time-to-fill and the size of the qualified pool realistically available to the region.

Discipline	Sub-sector	Difficulty	Lead time	Comment
BESS integration & commissioning engineers	Storage	Critical	5–7 months	The scarcest discipline in GCC clean energy. Global pool, global competition.
Electrolyser & hydrogen process engineers	Hydrogen	Critical	6–8 months	Very few people worldwide have operated at commercial scale. Oman is competing with every hydrogen market.
Green ammonia process & operations	Hydrogen	Critical	5–7 months	Transferable from conventional ammonia, but green-specific experience is rare.
HV commissioning & energisation engineers	All	Critical	4–6 months	Shared constraint with the transmission sector. Demand from both sides is rising.
Grid connection & system studies engineers	All	High	4–5 months	Connection queues are lengthening across the region; this discipline is tightening fast.
Wind turbine erection supervisors & technicians	Wind	High	4–6 months	Limited regional base. Saudi wind capacity growth will expose this sharply.
Nuclear operations, maintenance & outage	Nuclear	High	6–9 months	Long security and regulatory clearance cycles materially extend lead time.
Solar EPC construction managers	Solar	Moderate–High	3–4 months	Available, but gigawatt-scale experience commands a real premium.
Site HSE managers at scale	All	Moderate–High	2–4 months	Internationally certified safety professionals attract salary premiums of 40–60% across the region.
Solar installation workforce	Solar	Moderate	2–3 months	A mobilisation and compliance challenge rather than a scarcity one.

Lead times are measured from approved brief to productive on site, including visa processing and relocation — not to offer acceptance.

LOCALISATION

Compliance has become a delivery constraint

Clean energy programmes face the same nationalisation obligations as every other employer in the region, but with a particular difficulty: many of the disciplines they need most are ones where no national labour market exists yet, because the technology itself is new to the region.

Saudi Arabia

- Engineering firms with five or more engineers must maintain at least 30 per cent Saudisation, effective 27 July 2025 with a compliance deadline of 30 June 2026.
- A minimum monthly salary of SAR 8,000 applies for engineering roles counted toward the target, and Saudi engineers must hold Saudi Council of Engineers accreditation.
- A new three-year Nitaqat cycle ran from November 2025 to April 2026, raising quotas across multiple professions and removing the Yellow tier.
- From 15 April 2026, Saudi employees count toward the quota only where the employment contract is electronically documented on the Qiwa platform.

United Arab Emirates

- Companies with 50 or more employees must reach 10 per cent Emiratisation in skilled roles by end-2026, increasing 2 per cent annually in two half-year steps.
- A minimum monthly wage of AED 6,000 for Emiratis in the private sector applied from 1 January 2026.
- From 1 July 2026, non-compliance carries a financial contribution of AED 10,000 per month — AED 120,000 a year — for each unfilled position.

THE PRAGMATIC ROUTE THROUGH

No programme will meet a nationalisation target by recruiting nationals into electrolyser commissioning roles. That population does not exist anywhere. The programmes that succeed split their workforce deliberately: scarce international expertise into the genuinely specialist roles, and structured national development into the disciplines where a capable graduate or technician can reach competence inside the programme timeline — plant operations, maintenance technician pathways, HSE, planning, QS and asset management. Renewables actually lend themselves to this better than most sectors, because operations and maintenance headcount is permanent, local and long-term. The mistake is spreading the target evenly across every role instead of concentrating it where development is realistic — and backing it with structured workforce development.

WHAT TO DO

Five moves worth making this quarter

01

Plan backwards from energisation, not forwards from financial close

Your commissioning and grid connection resource requirement has a longer lead time than most of your equipment. Establish the date you need HV commissioning capability on site, subtract six months, and start there.

02

Treat BESS as a distinct workforce category

Battery storage is not an electrical sub-package of a solar project. It has its own integration, safety and commissioning disciplines, its own scarce population, and its own lead time. Budget and plan for it separately.

03

Recognise you are competing with the grid, not just with other developers

HV commissioning and energisation engineers are being drawn simultaneously by transmission programmes across the region. Watch the substation and interconnector award pipeline as a leading indicator of your own hiring difficulty.

04

Build the O&M pipeline before construction finishes

Renewable operations headcount is permanent and local, which makes it the single best vehicle for genuine nationalisation. Recruit and train it during construction, not after handover.

05

Map competitor programme phasing

The best-value specialists in the region are people completing a nearby project. Knowing which EPC is demobilising which discipline in which quarter is worth more than any amount of additional advertising spend.

A gigawatt on a balance sheet is an ambition. A gigawatt on the grid is a workforce achievement.

METHOD & SOURCES

How this briefing was built

INYA maintains a continuously updated register of GCC infrastructure programmes across four sectors, tracking stage, value, client, consultants, contractors and workforce signals. This briefing draws on that register, on public announcements by developers and procurers, and on our leadership's direct delivery experience across the region's energy programmes.

Primary sources monitored

- **Procurers and developers:** Saudi Power Procurement Company, PIF and Badeel, ACWA Power, EWEC, Masdar, TAQA, DEWA, Nama Power and Water Procurement, Hydrom, OQ Alternative Energy, QatarEnergy and Kahramaa, Bahrain EWA and Bapco Energies, and the Kuwait Ministry of Electricity, Water and Renewable Energy.
- **Specialist press:** PV Magazine, Energy Storage News, Hydrogen Insight, Energy & Utilities, SolarQuarter Middle East and the Middle East Solar Industry Association.
- **Regional project intelligence:** MEED and MEED Projects, Zawya Projects, Saudi Gulf Projects and Construction Week Middle East.
- **Nuclear:** Emirates Nuclear Energy Corporation and the World Nuclear Association.
- **Aggregate market data:** the Center on Global Energy Policy at Columbia University SIPA, which is the origin of the GCC-wide investment and capacity figures cited on the cover and in the executive summary.
- **Regulatory:** Saudi Ministry of Human Resources and Social Development and the Qiwa platform; UAE Ministry of Human Resources and Emiratisation.

Notes on the figures

Aggregate GCC renewable investment and capacity figures are drawn from published market assessments and are stated as at the date given; different sources define "under development" differently, so these should be treated as directional rather than precise. Project values are as publicly reported by the developer or procurer. Hydrogen pipeline values represent announced investment commitments, a substantial share of which remain pre-final investment decision and should not be read as committed capital. Difficulty ratings and lead times are INYA's own assessment.

Programme experience referenced in this document was gained by INYA's leadership in senior delivery and workforce leadership roles with major international organisations prior to founding INYA Solutions. It is referenced to demonstrate individual track record, not contracts held by INYA Solutions.

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WORK WITH INYA

Announced capacity does not generate power.

INYA Solutions mobilises the specialist workforce behind the Gulf's energy transition: solar and wind construction at gigawatt scale, battery storage commissioning, green hydrogen and ammonia process disciplines, and nuclear operations.

We are engaged by programme and project directors to remove workforce risk from the critical path — sourcing scarce international specialists, mobilising them compliantly, and developing national capability with specialist training partners.

— Workforce Strategy & Planning

— Mobilisation & Compliance

— Specialist Search & Recruitment

— Workforce Development & Train-to-Deploy

INYA SOLUTIONS

ENABLING HUMAN PROGRESS THROUGH TALENT

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