

Navigating Saudi Arabia's Local Content Requirements for Solar Manufacturing

Strategic Framework for Market Entry and Compliance

Content Partner: J. v. G. technology GmbH

Turnkey solar module production lines — since 1997

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Technical Overview: Saudi Arabia's Local Content Requirements for Solar Manufacturing



Created as part of the PVKnowHow Knowledge Network



Prepared by J.v.G. Technology GmbH



European specialists in turnkey solar module production lines

Key Project Data

58.7 GW	40 GW	12–24 ...	40–45%
NREP Target	Solar Share	Ramp-Up Period	LCR Target (2028+)
Saudi Arabia's national renewable energy capacity target by 2030	Planned solar PV contribution within the 58.7 GW NREP target	Typical timeline from project launch to full production capacity	Long-term local content threshold for REPDO-tendered projects

 Scale: Solar module manufacturing (project-dependent) · Investment: Project-specific · Line type: Localized / compliant manufacturing setup · Region: Saudi Arabia · Source: PVKnowHow / J.v.G. Technology GmbH

Strategic Importance of Local Content

Why Local Content Matters

- Saudi Arabia's energy transformation requires domestic industrial participation, not just capacity deployment
- Local content thresholds directly determine eligibility for government tenders
- Non-compliant suppliers risk exclusion from the Kingdom's largest energy projects
- LCR compliance converts a regulatory obligation into a structural market advantage

Industrial Policy Logic

- Vision 2030 links energy investment to job creation and economic diversification
- Solar manufacturing localization reduces import dependency across the value chain
- REPDO-mandated thresholds escalate over time — early movers gain a head start
- National goals align investor incentives with sovereign industrial strategy

LCR Concept: How It Works

1

Define Local Spend

Identify all in-Kingdom expenditures: materials, labor, services, training, and R&D

2

Calculate Score

Apply the IKTVA formula to total project cost; each category carries a weighted contribution

3

Certify & Submit

Third-party audit verifies documentation; score is submitted as part of the tender package

4

Gain Preference

Qualifying score unlocks up to 10% tender price preference and project eligibility

 Local content is assessed across all aspects of a PV system — module, inverter, structure, civil works, and soft costs. The PV module alone can represent 34–44% of total system cost, making manufacturing localization a high-impact lever.

Vision 2030 and Solar Demand

NREP Targets

- Total renewable capacity target: **58.7 GW by 2030**
- Solar PV share: 40 GW — the dominant technology
- Wind contribution: 16 GW; remaining 2.7 GW from CSP, geothermal, and other sources
- 50% of electricity from renewables by 2030; net zero by 2060

Deployment Context

- Between 2022 and 2024, Saudi Arabia added 2.1 GW of renewable capacity — a 300% increase from the prior decade
- Annual tendering rate targeted at 20 GW going forward
- 35+ renewable energy parks planned under Vision 2030
- Significant module volume gap between current local capacity and 2030 deployment needs

IKTVA Framework Overview

Origin & Adoption

- Originally developed by Saudi Aramco as an internal supply chain tool
- Now adopted broadly by government and semi-government procurement entities
- Provides a standardized, auditable method for measuring local economic contribution

Scoring Mechanics

- Formula-based: local spend divided by total spend, weighted by category
- Covers goods, services, workforce, training, and R&D investment
- Score is verified by approved third-party auditors — detailed documentation required

Competitive Implications

- A higher IKTVA score directly strengthens a company's competitive position
- Score influences both technical eligibility and financial evaluation in tenders
- Escalating thresholds reward companies that invest in localization early

Key IKTVA Scoring Factors

Scoring Category	What It Measures	Strategic Priority
Local Goods Procurement	In-Kingdom purchase of materials, components, and equipment	High — directly tied to BOM localization
Saudi Workforce	Share of payroll going to Saudi nationals at all levels	High — Saudization requirements apply
Training & Development	Investment in workforce upskilling and vocational programs	Medium — improves score and builds pipeline
R&D Investment	Spending on in-Kingdom research, development, and innovation	Medium — longer-term value contribution
Technology Transfer	Localization of know-how, process IP, and engineering capability	Medium — assessed qualitatively

Local Sourcing Opportunities

High-Potential Components

- **Aluminum frames:** Saudi Arabia has a strong domestic aluminum production industry
- **Solar glass:** Local suppliers are increasingly capable of producing high-quality solar glass
- **Cables & junction boxes:** Established cable manufacturing sector in the Kingdom

Emerging Local Supply

- **Backsheets & encapsulants:** Historically imported; local production capabilities are emerging
- **Mounting structures:** Steel and mechanical fabrication with growing local capacity
- **Module assembly services:** In-Kingdom lamination elevates local content score significantly

Typically Imported (Near-Term)

- **Solar cells:** Highly specialized; expected to be imported in early project phases
- **Advanced inverter components:** Limited local manufacturing currently available
- **Cell-level metrology equipment:** Specialized tooling largely sourced internationally

 Module fabrication from imported cells is a proven strategy: lamination costs represent approximately 50% of overall module cost, making in-Kingdom assembly a high-impact localization lever.

Workforce Development Strategy

1

1 — Recruitment Planning

Map required roles across shop floor, engineering, and management from project outset
Integrate Saudization targets into hiring plan before line commissioning

2

2 — Technical Training

On-site training by the turnkey provider — no prior manufacturing experience required
Covers equipment operation, process control, quality assurance, and safety

3

3 — Institutional Partnerships

Collaborate with local technical colleges and vocational institutes for talent pipeline
Structured programs build long-term workforce capacity and improve IKTVA score

4

4 — Continuous Development

Ongoing upskilling programs as technology evolves and production scales
Investment in training is documented and contributes directly to IKTVA certification

Competitive Advantage of LCR Compliance

Tender Eligibility

- Qualifying LCR score is a prerequisite for REPDO project participation
- Non-compliant bidders are excluded regardless of price competitiveness
- Threshold rises over time — compliance today preserves future eligibility

Price Preference Advantage

- Companies with a qualifying LCR score receive up to **10% price preference** in evaluations
- This preference effectively offsets cost gaps versus non-compliant competitors
- Preference applies across all major government and semi-government tenders

Market Positioning

- LCR compliance signals strategic alignment with national development goals
- Positions manufacturer as a long-term industrial partner, not just a supplier
- Attracts co-investment from Saudi entities interested in localized production

Financial and Ecosystem Incentives

Direct Financial Support

- Saudi Industrial Development Fund (SIDF) financing available for local manufacturers
- Government co-investment programs supporting PV module manufacturing expansion
- 10% tender price preference translates to meaningful revenue advantage at project scale
- Preferential access to industrial zones with infrastructure subsidies

Ecosystem Support

- REPDO online database connects local manufacturers with project developers and contractors
- Local partner networks provide regulatory navigation and supplier introductions
- Vision 2030 industrial parks offer reduced land costs and shared utility infrastructure
- Government-backed training grants reduce workforce development expenditure

Challenges: Suppliers and Workforce

Supply Chain Gaps

- Highly specialized components (solar cells, precision metrology) still require imports
- Local glass production would need to absorb a significant share of Saudi float glass output to meet 2030 targets
- Encapsulant and backsheet local capacity is emerging but not yet at scale
- Supply chain depth must grow in parallel with manufacturing capacity

Workforce Readiness

- Solar module manufacturing is a specialized discipline — a skilled local talent pool is limited initially
- Saudization requirements apply at all levels: technicians, engineers, and management
- Structured on-the-job training from a proven turnkey provider mitigates the experience gap
- Institutional partnerships with technical colleges are critical for long-term pipeline development



The gap between projected module manufacturing capacity and planned 2030 deployment demand represents a systemic risk. Early entry into localized production directly addresses this structural shortfall.

FAQ Highlights



Do I need to source all components locally?

No. Specialized components such as solar cells are expected to be imported in early phases. LCR compliance is achieved through a combination of locally sourced materials, in-Kingdom assembly, Saudi workforce, and training investment.



How is the IKTVA score verified?

The score is certified through a formal audit process conducted by approved third-party firms. Detailed documentation of procurement, payroll, and training investments is required.



Is a local partner mandatory?

Not mandatory in many sectors, but a local partner provides critical value: regulatory navigation, supplier introductions, and stakeholder access — all of which improve both compliance and competitiveness.



Does prior manufacturing experience matter?

A proven turnkey manufacturing concept includes structured on-site team training from day one. No prior solar module manufacturing experience is required to operate the production line successfully.

Strategic Conclusion

1

Regulatory Alignment

LCR compliance is not optional — it is the entry condition for participation in Saudi Arabia's 58.7 GW solar build-out

2

Industrial Opportunity

Local manufacturing addresses the documented gap between current module capacity and 2030 deployment demand

3

Competitive Conversion

By prioritizing local sourcing, Saudi workforce development, and in-Kingdom production, a new manufacturer transforms a regulatory requirement into its most durable competitive advantage

- ❏ A proven turnkey manufacturing concept integrates local content strategy into full-line project methodology — reducing complexity and accelerating ramp-up for new manufacturers entering the Saudi market.

About the Content Partner

J. v. G. technology GmbH — The DESERT Company

Founded in 1997 in Bavaria, Germany. Family-owned engineering company specializing in turnkey solar module production lines.

More than 90 factory projects delivered worldwide.

On-site team training included — no prior manufacturing experience required.

Key areas:

Turnkey PV manufacturing lines | DESERT Technology® |
TÜV-certified module designs | Factory planning to production

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