# Navigating Malaysia’s Solar Sector: A Guide to Local Content and Domestic Market Rules

Market Entry, Domestic Demand & Local Content Strategy

**Content Partner: J. v. G. technology GmbH**

*Turnkey solar module production lines — since 1997*

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# Technical Overview: Malaysia's Solar Sector, Local Content, and Domestic Market Rules

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

| 100–5… | 12–18 … | LSS | MY / S… |
|---|---|---|---|
| **Scale** | **Ramp-Up Period** | **Demand Driver** | **Region** |
| Typical capacity range for market entry into Southeast Asia | From line installation to full commercial production | Large-Scale Solar program — primary domestic offtake mechanism | Malaysia / Southeast Asia — LSS-driven domestic market focus |

Line type: Automated solar module production · Investment: Context-dependent (not explicitly stated) · Source: PVKnowHow / J.v.G. Technology GmbH

COMMON MISCONCEPTION

# The Export-First Assumption Is Often Wrong

## Dominant Entry Logic (Flawed)

- Malaysia = manufacturing base for global export
- Focus: US, EU, and Asian spot markets
- Domestic market treated as secondary or irrelevant
- Revenue model built on export margins

## What Is Frequently Overlooked

- A protected domestic market exists — policy-driven
- Government programs create predictable, recurring demand
- Local manufacturers gain preferential access unavailable to importers
- Domestic demand is structurally more stable than export spot markets

⚠ An export-only strategy means forfeiting access to the most stable and government-supported segment of the market.

# What Are Local Content Requirements (LCR)?

## Definition

- A policy obligating projects to use a defined share of locally sourced goods, services, or labor
- Designed to foster domestic industry and create skilled employment
- Reduces national reliance on imported products
- Enhances a country's technological capabilities over time

## Application in Malaysia's Solar Sector

- LCR embedded within government-led energy programs
- "Made in Malaysia" status requires meeting specific local value-add criteria — not just final assembly
- Qualification definitions set in each LSS auction's RFP documents
- Requirements can be adjusted between auction rounds

# The Role of SEDA and the LSS Program

## SEDA

- Sustainable Energy Development Authority — Malaysia's RE governing body
- Established under the SEDA Act 2011
- Implements government policy on sustainable energy
- Manages FiT and NEM schemes

## LSS Programme

- Large-Scale Solar — competitive bidding for utility-scale PV plants
- Administered by the Energy Commission (Suruhanjaya Tenaga)
- Developers sign a Power Purchase Agreement (PPA) to sell to the grid
- Active since 2016; LSS5/PETRA launched 2024 (2,000 MW capacity)

## LCR Integration

- Since LSS3, local content is a formal evaluation criterion in bids
- Bids using locally manufactured modules score higher
- Specific percentage thresholds defined per RFP round
- Consult the latest official RFP documents for current criteria

MARKET MECHANISM

# LSS as a De Facto Domestic Market Engine

1

## Government Tender Advantage

LSS developers incentivized to source locally to strengthen competitive bids

2

## Created Demand

Consistent, substantial module demand generated by LSS project winners fulfilling LCR commitments

3

## Captive Market

Local manufacturers gain access to a policy-protected segment inaccessible to foreign importers

Malaysia has no formal Domestic Market Obligation (DMO) — yet the LSS program functions as a powerful de facto equivalent through market-driven incentive design.

# Strategic Risk: Export-Only Market Entry

## What Export-Only Means in Practice

- No obligation to meet LCR rules — but no access to LSS supply chain either
- Exposed to US anti-dumping and countervailing duties (21–271% range, Nov 2024 ruling)
- Subject to global pricing volatility and spot market competition
- Revenue stream lacks the stability of long-term domestic PPAs

## Foregone Opportunities

- Excluded from the most reliable initial revenue stream
- Cannot participate in government-backed large-scale procurement rounds
- Miss the foundation-level customer base available to local manufacturers
- Higher business fragility in early operational years

⊗ U.S. tariffs on Southeast Asian solar imports (2024) significantly reduce the margin buffer for export-oriented manufacturers operating from Malaysia.

# Sales Strategy: Target EPC Firms and LSS Developers

1

## Primary Channel: EPC Companies

- Engineering, Procurement & Construction firms are direct module buyers
- Build relationships with local EPCs serving the LSS auction pipeline
- Align delivery schedules with LSS project construction timelines

2

## Secondary Channel: LSS Project Developers

- Developers with awarded LSS bids need to fulfill LCR commitments
- Preferred supplier status built on certified, compliant product offering
- Long-term framework agreements possible once track record established

3

## Market Intelligence

- Monitor the LSS auction pipeline — bid rounds published by the Energy Commission
- Understand volume timing: LSS5/PETRA+ offering 2,000 MW (2025 bidding open)
- Projects targeted for operational start between 2027 and 2028

# Production Alignment: Technical Standards for LSS Supply

## Module Specifications

- Output must meet technical specifications required by LSS project RFPs
- Includes module efficiency, durability, and power tolerance thresholds
- Bifacial modules increasingly preferred for utility-scale LSS applications

## Line Configuration

- Automated production lines ensure consistent, repeatable quality at scale
- Process controls must support traceability and batch documentation
- An experienced turnkey provider aligns factory setup with local regulatory requirements from day one

## Quality Control Framework

- IEC-compliant process methodology required for certification eligibility
- Pre-inspection, lamination controls, and post-production testing all documented
- Aligning technical setup with local standards at inception is a critical success factor

# Certification Requirements for Domestic Market Access

## SIRIM Certification (Non-Negotiable)

- SIRIM is Malaysia's national standards and quality organization
- Modules must be tested and certified by SIRIM to qualify as local products
- Mandatory prerequisite for participation in local content schemes
- Certification confirms compliance with national technical standards

## Additional Compliance Considerations

- IEC standards compliance expected as baseline for market acceptance
- Local value-add definition reviewed per LSS round — not just assembly
- Engage with Energy Commission and SEDA early in factory planning phase
- Certification timeline must be factored into ramp-up schedule (~12–18 months)

⚠ Certification is not a formality — it is the gateway to domestic program access. Plan for it from project inception, not as a post-production afterthought.

# Market Extensions Beyond LSS

## NEM — Net Energy Metering

- Encourages rooftop solar for residential, commercial, and industrial customers
- Managed by SEDA; evolved through NEM 1.0 → 2.0 → 3.0 (Rakyat, GoMEn, NOVA)
- Represents a secondary but significant domestic demand channel

## Corporate PPAs

- Green Power Purchase Agreements for corporate off-takers
- Corporate Green Power Programme (CGPP) provides structured framework
- Growing C&I demand from companies with sustainability targets

## Broader Southeast Asia

- Regional RE policy frameworks expanding across Vietnam, Thailand, Indonesia
- Domestic-first positioning in Malaysia provides a credible regional reference
- Certified, proven production enables eventual export to neighboring markets

# FAQ: Key Decision Points for Prospective Manufacturers

### Q: Do LCR rules apply to export-only factories?

No. LCR rules are tied specifically to supplying domestic programs such as the LSS. An export-only factory has no obligation — but also no access to large government-backed projects, which represent the most reliable initial revenue stream.

### Q: What is the exact local content percentage required?

Specific percentages and definitions of "local content" are detailed in each LSS auction's Request for Proposal (RFP). Criteria are adjusted between rounds — consult the latest official Energy Commission documents.

### Q: Does assembling modules in Malaysia automatically qualify as "local"?

Not always. Qualification typically requires meeting a more detailed definition of local value-add beyond simple final assembly. Factory setup and production process design must be planned with this in mind from inception.

STRATEGIC CONCLUSION

# Policy Is Not a Constraint — It Is the Opportunity

### Domestic demand is structurally protected

LSS-driven LCR creates a captive, government-backed market inaccessible to foreign importers

### Certification and compliance are the entry ticket

SIRIM certification and IEC alignment unlock the domestic market — plan for these from day one

### Export-only is a higher-risk strategy in the current environment

US anti-dumping tariffs and global pricing volatility make domestic anchoring more resilient

### A proven turnkey manufacturing concept reduces the learning curve

Aligning factory setup, technical standards, and regulatory compliance from the outset is a critical success factor in emerging market entry

Malaysia's solar policies are designed to build a self-sustaining domestic industry. For a prospective manufacturer, understanding the interplay between LCR and the LSS program is strategically vital.

# 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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