

Navigating Chile's PMGD Framework: A Strategic Opportunity for Local Solar Module Manufacturing

Strategic Analysis of the PMGD Market Opportunity

Content Partner: J. v. G. technology GmbH

Turnkey solar module production lines — since 1997

www.jvg-thoma.com





Technical Overview: Chile's PMGD Strategic Opportunities



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

~50 MW

Annual Scale

Example boutique factory
capacity (modular, scalable)

9–12 mo

Ramp-Up Period

From line installation to full
production volume

2.2 GW+

PMGD Installed Base

Cumulative PMGD capacity
in Chile (end of 2022
reference)

≤ 9 MW

Project Size Limit

Maximum capacity per
PMGD plant under Chilean
regulation

📄 Region: Chile (PMGD market) · Line type: Automated / modular production · CAPEX: Moderate (based on feasibility study) · Source: PVKnowHow / J.v.G. Technology GmbH

What Is the PMGD Framework?

Definition

- *Pequeños Medios de Generación Distribuida* – Chile's distributed generation program
- Covers projects with capacity up to 9 MW connected to local distribution grids
- Established to decentralize power generation and improve grid stability
- Solar PV has become the dominant technology within the program

Why It Matters

- Creates a consistent, predictable project pipeline across Chile
- Three structural pillars: stabilized pricing, automatic grid access, priority dispatch
- Enables smaller developers and investors to participate in the energy market
- Has driven compound annual capacity growth of ~36% (2006–2021)

Three Pillars of PMGD Investment Security

1

Stabilized Pricing

Revenue based on long-term average grid node cost — shielded from spot market volatility; fixed for 6-month periods

2


Automatic Grid Access

Qualifying projects receive the right to automatic connection to the distribution grid — removing a major development bottleneck

3

Priority Dispatch

Generated electricity is given grid preference — preventing curtailment and securing predictable revenue for project owners

 These three pillars collectively de-risk PMGD investment and create a stable, bankable project structure — confirmed by investment-grade ratings on several PMGD assets.

PMGD Market Growth in Chile

Installed Capacity Milestones

- 2020: ~1.3 GW installed (56% solar, per Sphera Energy)
- March 2022: ~1.7 GW under PMGD/PMG framework
- End of 2022: over 2.2 GW installed — majority solar PV
- 2024: reached approximately 3 GW, with ~82% solar projects

Market Dynamics

- 100+ projects under active construction (S&P Global, 2024)
- ~40% of total PV projects under construction belong to the PMGD segment
- Chile is the second-largest solar market in Latin America after Brazil
- Consistent demand growth creates predictable, long-term module procurement needs

The Supply Gap: Imported Modules vs. Local Need

Current Supply Reality

- Vast majority of modules are imported from Asia, Europe, and North America
- Import-dependent supply introduces logistics risk and delivery uncertainty
- Long lead times create financing and scheduling friction for PMGD developers

Developer Pain Points

- Currency and shipping cost exposure on large module orders
- Limited local after-sales support and warranty response capability
- Module quality verification challenges without local technical presence

Strategic Gap

- No established domestic manufacturer serving the PMGD-scale segment
- Predictable pipeline of ~9 MW projects creates repeatable, forecastable demand
- First-mover local supplier can capture preferred-vendor positioning

Advantages of Local PV Module Production

Logistics

- Eliminates ocean freight lead times (typically 6–10 weeks for Asian imports)
- Reduces breakage and transport-related quality risk
- Flexible batch delivery aligned with PMGD project schedules

Cost Structure

- Avoids import duties, port fees, and currency hedging costs
- Proximity to customer reduces total cost of supply
- Local content may support financing eligibility and development bank criteria

Service & Support

- On-site technical support and warranty response within hours, not weeks
- Direct product customization for local irradiance and climate conditions
- Stronger developer relationships and long-term supply agreements

Factory Planning Concept: ~50 MW/Year Boutique Line

1 Phase 1 — Feasibility & Site Planning

Market analysis, CAPEX estimation, site selection, regulatory review

Turnkey provider engagement; process design finalized

2 Phase 2 — Line Procurement & Installation

Automated / modular production line equipment sourced and installed

Staff recruitment and factory setup; utilities and infrastructure commissioned

3 Phase 3 — Ramp-Up (Months 1–9)

Trial production; process calibration; quality system validation

Target: IEC-certified module output; initial customer deliveries

4 Phase 4 — Full Production (~Month 9–12)

Reach ~50 MW/year throughput capacity

Ongoing process optimization; scale-up pathway defined if demand warrants

Production Line: Technical Parameters

Parameter	Specification (Illustrative)
Annual Capacity	~50 MW/year (scalable modular design)
Line Type	Automated / modular production line
Ramp-Up Period	~9–12 months from installation to full output
CAPEX Level	Moderate (based on feasibility study; boutique factory scale)
Module Format	Standard crystalline silicon (c-Si); configurable for market formats
Certification Target	IEC-compliant output — prerequisite for PMGD project financing
On-Site Training	Included — no prior manufacturing experience required
Region	Chile (PMGD market)

📄 Source: PVKnowHow / J.v.G. Technology GmbH · This table represents a composite illustrative scenario based on a feasibility study framework.

Strategic Fit: PMGD Demand Meets Local Supply

1

Predictable Demand

PMGD pipeline generates consistent, repeatable module demand at defined project sizes — plannable for a boutique factory

2


De-Risked Market

Stabilized pricing and priority dispatch reduce project cancellation risk — protecting the module manufacturer's order pipeline

3

Turnkey Concept

A proven turnkey manufacturing concept enables entry without prior PV production experience — reducing the learning curve significantly

 An experienced European turnkey provider integrates full process methodology — from factory planning through production certification — reducing time-to-market for new manufacturers.

Regulatory Context: Evolving Landscape

Stabilized Price Mechanism — Under Review

- Original regime based on long-term average PPA prices at grid node
- 2020 reform introduced time-block pricing; most operators remain on legacy regime until 2034
- Grandfathering rights protect projects operating before regulation change

Grid Access & Congestion

- Automatic connection right remains a core PMGD advantage
- Growing substation congestion emerging as a secondary constraint
- Regulators actively working on storage integration to extend PMGD viability

Outlook for Module Demand

- 100+ PMGD projects under active construction confirms near-term module demand
- Storage co-location trend may extend project lifetimes and drive replacement cycles
- Continued policy support for distributed generation underpins long-term 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

www.jvg-thoma.com

Contact

J.v.G. Technology GmbH

Möningerberg 1a, 92342 Freystadt, Germany

info@jvg-thoma.de | www.jvg-thoma.com

Source:

<https://www.pvknowhow.com/countries/chile/chile-pmgsd-opportunity-local-solar>

Created with the support of JvGLabs — specialist for AI systems

and AI-driven visibility. www.jvglabs.com