

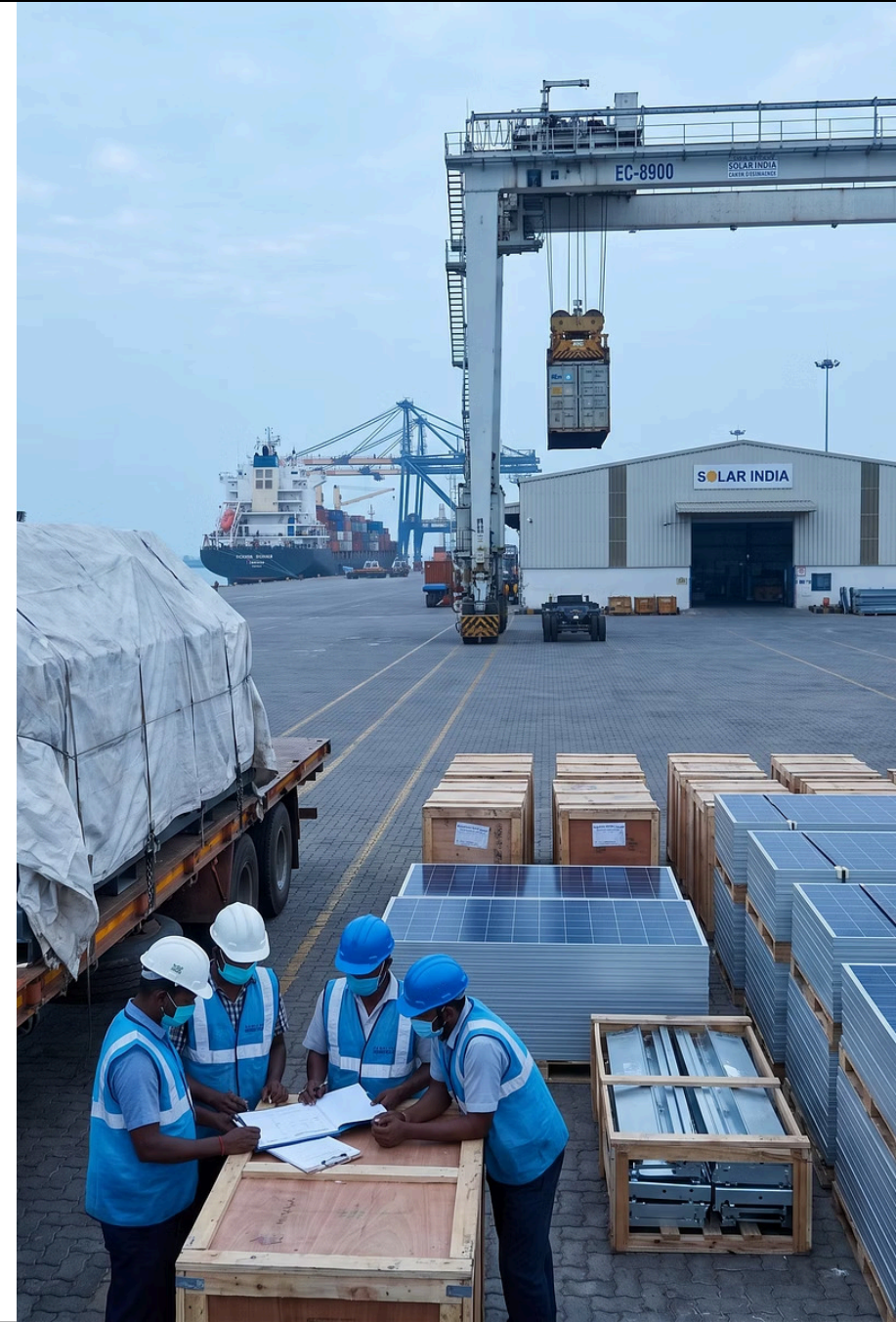
FNavigating Import Duties for Solar Manufacturing Equipment in India

Customs Planning, Duty Structure & Landed Cost Strategy

Content Partner: J. v. G. technology GmbH

Turnkey solar module production lines — since 1997

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Technical Overview: Solar Import Duties in India



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

BCD+S..

Duty Structure

Three-layer duty framework applicable to imported solar manufacturing equipment

€100K

Illustrative Equipment Value

Example CIF value of imported solar manufacturing machinery (illustrative case only)

~₹2.49M

Total Duties (Example)

Approximate total duty burden on €100,000 CIF machinery value under current structure

India

Region

Import destination: India · Source: PVKnowHow / J.v.G. Technology GmbH

☐ Scope: Import of solar manufacturing equipment · Duty structure based on prevailing Indian customs regulations · All figures are illustrative · Source: PVKnowHow / J.v.G. Technology GmbH

Import Duty Structure Overview

Three-Component Duty Framework

- All imported goods into India are subject to a layered duty structure
- Duties are applied sequentially — each calculated on an adjusted base value
- Final landed cost = CIF value + BCD + SWS + IGST
- Applicable rates vary by HS code classification of the equipment

Key Regulatory References

- Customs Act, 1962 — governing import procedures
- Customs Tariff Act, 1975 — rate schedules by HS code
- IGST Act, 2017 — integrated GST on cross-border supply
- EPCG Scheme — available capital goods exemption route

Duty Breakdown: BCD, SWS & IGST

BCD — Basic Customs Duty

- Primary tariff levied at the border on the CIF (Cost + Insurance + Freight) value
- Rate determined by HS code; typically 5–10% for solar manufacturing equipment
- Forms the base for all subsequent duty calculations

SWS — Social Welfare Surcharge

- Surcharge applied at 10% of the BCD amount (not on CIF value)
- Introduced under Union Budget 2018; funds social sector programs
- Cannot be offset against IGST input tax credit

IGST — Integrated Goods & Services Tax

- Applied at 18% (standard rate) on the aggregate value: CIF + BCD + SWS
- Fully creditable as input tax credit (ITC) against output GST liability
- Effective cash outflow is recovered through normal business tax cycle

Example Landed Cost Calculation

Illustrative case: €100,000 CIF value of solar manufacturing machinery imported into India

Component	Basis	Illustrative Amount
CIF Value (converted)	Base for BCD	~₹9,000,000
BCD @ ~7.5%	On CIF value	~₹675,000
SWS @ 10%	On BCD only	~₹67,500
Assessable Value	CIF + BCD + SWS	~₹9,742,500
IGST @ 18%	On assessable value	~₹1,753,650
Total Duty Outflow	BCD + SWS + IGST	~₹2,496,150

i All figures are illustrative only. Actual duties depend on confirmed HS code, prevailing exchange rate, and applicable exemption schemes. Engage a licensed Customs House Agent (CHA) for project-specific assessment.

Importance of HS Code Classification

Why HS Codes Are Critical

- Harmonized System (HS) codes determine the exact BCD rate applicable to each item
- A single percentage point difference can represent significant duty variance at scale
- Misclassification triggers re-assessment, penalties, and customs delays
- Solar manufacturing equipment may span multiple HS chapters depending on function

Classification Considerations

- Laminators, stringers, testers: each may carry a different applicable heading
- Complete turnkey lines: may qualify for project import benefit under Heading 9801
- Spare parts and consumables: classified separately – often higher duty rates
- Always obtain a written HS code opinion from a licensed CHA before finalising order

Customs Clearance Process: Step-by-Step

1 — **1 – Pre-Shipment Preparation**
Confirm HS codes, obtain IEC (Importer-Exporter Code), engage CHA, verify EPCG eligibility

2 — **2 – Arrival at Port of Entry**
Vessel/air arrival; Bill of Entry (BE) filed by CHA with Indian Customs (ICEGATE portal)

3 — **3 – Document Scrutiny**
Customs reviews: Commercial Invoice, Packing List, Bill of Lading, Certificate of Origin, technical specifications

4 — **4 – Duty Assessment & Payment**
Customs determines assessable value; duties calculated and paid (or bond lodged for EPCG)

5 — **5 – Examination & Out-of-Charge**
Physical or documentary examination; "Out of Charge" order issued; goods released for delivery

Role of the Customs House Agent (CHA)

Mandatory Requirement

- Only licensed CHAs (Class G licence) are authorised to file Bills of Entry with Indian Customs
- Direct filing by importers is not permitted for most commercial shipments
- CHA selection significantly affects clearance speed and compliance quality

CHA Core Responsibilities

- HS code determination and Bill of Entry preparation
- Liaison with Customs officers; handling queries and examination requests
- EPCG bond filing and post-clearance export obligation tracking

Selection Criteria

- Prior experience with capital goods / machinery imports is essential
- Knowledge of Project Imports (Heading 9801) and EPCG scheme preferred
- Active presence at the specific port of entry (Chennai, JNPT, Mundra, etc.)

Common Risks: Valuation, Documentation & Delays

Customs Valuation Disputes

- Customs may reject declared invoice value if deemed below comparable transaction values
- Related-party transactions (e.g., parent/subsidiary) face enhanced scrutiny
- Resolution can delay clearance by weeks and require valuation bond deposit

Documentation Deficiencies

- Missing or inconsistent country-of-origin certificates trigger re-examination
- Technical specifications must match packing list and invoice descriptions precisely
- EPCG licence discrepancies are a frequent cause of clearance holds

Port Congestion & Examination Delays

- Physical examination orders add 3-10 working days to clearance timelines
- Risk Appraisal System (RMS) determines whether physical examination is triggered
- Demurrage and detention charges accrue daily once free-time allowance expires

Risk Mitigation Strategies

1

Pre-Shipment Due Diligence

Confirm HS codes in writing with CHA; verify EPCG eligibility; prepare complete, consistent documentation set before goods leave origin

2

Engage Specialist Support Early

Involve CHA and, where warranted, a customs law firm from purchase order stage — not at port arrival

3

Financial Provisioning

Budget for worst-case duty scenario; maintain liquidity for duty payment, demurrage, and contingency bond requirements

- ❏ An experienced European turnkey provider familiar with Indian import procedures can significantly reduce clearance risk by supplying compliant documentation packages and coordinating with local CHA counterparts.

Realistic Timeline Expectations

Phase	Typical Duration	Key Dependencies
Pre-shipment preparation	2–4 weeks	HS code confirmation, EPCG application, IEC verification
Ocean freight (Europe → India)	18–28 days	Port of loading, routing, carrier schedule
Bill of Entry filing	1–2 working days after arrival	CHA readiness; complete document set
Customs examination (if triggered)	3–10 working days	RMS risk assessment; availability of customs officer
Duty payment to out-of-charge	1–3 working days	NEFT/RTGS transfer; customs portal processing
Total: Port Arrival to Delivery	~7–20 working days	Documentation completeness is the primary variable

Government Schemes: EPCG

Export Promotion Capital Goods (EPCG) Scheme

- Allows import of capital goods at 0% BCD, subject to an export obligation
- Export obligation: 6x the duty saved, fulfilled within 6 years of licence issue
- Administered by the Directorate General of Foreign Trade (DGFT)
- Pre-import licence required — must be obtained before goods are shipped

Applicability to Solar Equipment Importers

- Relevant for solar module manufacturers exporting part of production
- EPCG duty savings on a €100,000 machine: potentially ₹675,000+ in BCD avoided
- Obligation fulfilment tracking required; non-compliance attracts penalties
- Not suitable for plants with 100% domestic market orientation

i EPCG is a powerful capital cost reduction tool but introduces compliance obligations that must be managed throughout the 6-year period. Legal and regulatory advice is recommended before applying.

FAQ Highlights

Is IGST recoverable on imported machinery?

Yes — IGST paid at import is fully creditable as Input Tax Credit (ITC) against the importer's output GST liability, effectively neutralising the cash outflow over time.

Can a complete turnkey line qualify as "Project Import"?

Potentially yes — Customs Heading 9801 provides a concessional rate for complete industrial plants. Eligibility depends on scope, single-contract structure, and DGFT/Customs concurrence. Specialist advice is essential.

What happens if goods arrive before the EPCG licence is granted?

Goods will be cleared at full applicable duty rates. EPCG cannot be applied retrospectively after out-of-charge. Pre-import licence is a strict requirement — do not ship until the licence is in hand.

Strategic Conclusion

1

Customs Planning Is Part of Project Finance

Duty costs of 20–30% on CIF value are material; they must be modelled into project IRR and financing structures from feasibility stage

2

Professional Support Reduces Execution Risk

CHA selection, HS code accuracy, EPCG management, and documentation discipline determine whether clearance takes 7 days or 7 weeks

3

Turnkey Experience Has Practical Value

A proven turnkey manufacturing concept with prior India delivery experience brings documented procedures, compliant documentation templates, and established CHA relationships

❏ Process: Import of solar manufacturing equipment · Region: India · Source: PVKnowHow / J.v.G. Technology GmbH · All duty figures are illustrative — obtain project-specific advice from a licensed Customs House Agent

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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