A Guide to Import Duties for Solar Manufacturing Raw Materials in Nepal

A Factual Guide for Manufacturing Investors & Project Planners

Content Partner: J. v. G. technology GmbH

Turnkey solar module production lines — since 1997

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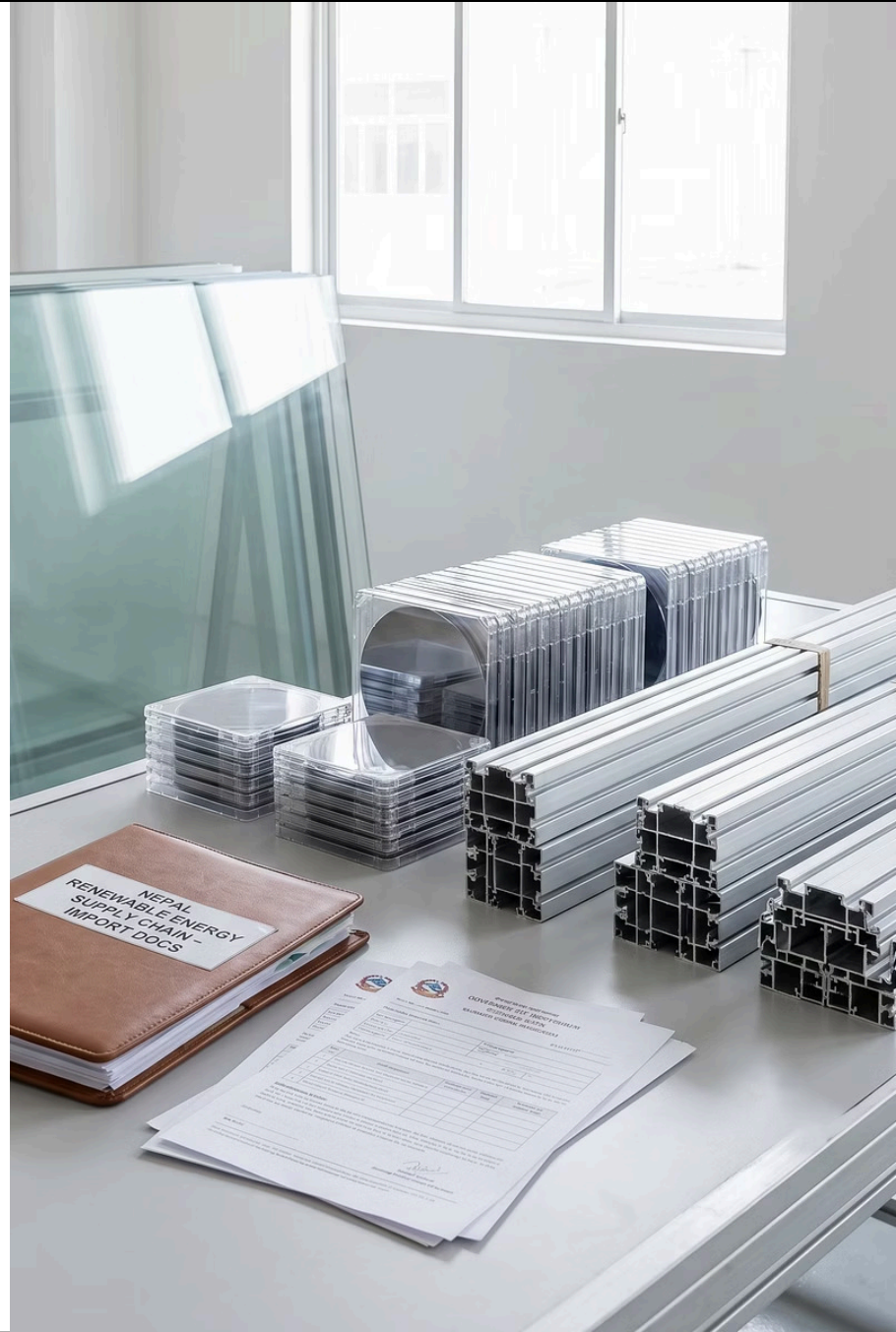

Technical Overview: Nepal's Import Duties on Solar Manufacturing Raw Materials

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 …	6–12 mo	Nepal	Varies
Typical Scale	**Ramp-Up Period**	**Region**	**Investment**
Representative solar module assembly line context	Typical production ramp from line commissioning	Focus market for this customs and duties analysis	Depends on scope and automation level of the line

Line type: Solar module assembly line · Source: PVKnowHow / J.v.G. Technology GmbH

The Challenge: Underestimated Import Costs

The Common Assumption

- Government incentives for solar energy apply broadly
- The 1% preferential tariff covers all raw materials
- Import costs are a minor line item in financial models
- Customs process is straightforward for green-energy inputs

The Reality

- Preferential 1% rate applies only to finished panels and unassembled cells
- Raw materials — glass, frames, polymers — face standard, often much higher, duty rates
- Duties compound with VAT; total landed cost significantly exceeds invoice price
- Misclassification risk adds financial and legal exposure

Nepal Customs System: HS Codes + CIF Valuation

How Nepal Classifies Imports

- All goods classified under the Harmonized System (HS) — seventh edition (2022)
- HS codes are internationally standardized at 6 digits; Nepal extends to 8 digits for detail
- The correct HS code determines the applicable tariff rate
- Annual Customs Tariff (e.g. 2024/25) published by Department of Customs, Kathmandu

How Nepal Calculates Duties

- Duties calculated on **CIF value**: Cost + Insurance + Freight
- CIF includes: invoice value, insurance premium, freight to Nepalese border
- VAT of 13% applied on top of CIF *plus* customs duty — compounding effect
- Additional levies may apply: excise, agriculture reform fee, infrastructure charges

ⓘ Using the correct HS code is more than an administrative step — it is fundamental to paying the correct tariff and avoiding legal complications.

Tariff Structure by Component

Component	HS Code (indicative)	Customs Duty	Strategic Note
Solar cells (unassembled)	8541.40.10	1%	Preferential — incentivizes local assembly
Finished solar panels	8541.40.90	1%	Preferential — for completed modules
EVA encapsulant film	3920.xx.xx (polymer films)	~15–30%	Standard polymer category; higher burden
Tempered solar glass	7007.xx.xx	~30%	Protects domestic glass industry
Aluminum frames	7604.xx.xx / 7610.xx.xx	~30%	Standard metals category; high duty
Backsheet (polymer)	3920.xx.xx	~15–30%	Similar to EVA; standard polymer rate
Junction boxes	8536.xx.xx (electrical connectors)	~15–20%	Electronic components category

⚠ Indicative rates only. Always verify exact HS codes and current duty rates with the Nepal Department of Customs (customs.gov.np) or a licensed customs broker before financial planning.

Strategic Implication: The Local Value-Add Incentive

1

Cells: 1% Duty

The highest-value component receives maximum preferential treatment — imported cheaply

2

Assembly in Nepal

Local module assembly captures the low-duty cell advantage and adds local value

3

Other Materials: 15–30%

Supporting raw materials carry higher duties — these must be built into cost models

The tariff structure strongly favors the assembly stage of production over primary manufacturing of all sub-components. A proven turnkey manufacturing concept is designed to exploit this structure from day one.

Landed Cost Calculation: EVA Film Example

Scenario Inputs

- Component: EVA encapsulant film
- CIF value: USD 100,000
- Applicable customs duty: ~15% (illustrative)
- VAT rate: 13% on (CIF + duty)

Step-by-Step Calculation

- CIF value: **USD 100,000**
- Customs duty (15%): **USD 15,000**
- Subtotal (CIF + duty): **USD 115,000**
- VAT (13% × USD 115,000): **USD 14,950**
- Total landed cost: **USD 129,950**

⚠ Result: An invoice value of USD 100,000 yields a total landed cost of ~USD 129,950 — a ~30% uplift — before the material even reaches the factory. Modeling must account for every component individually.

Import Process Overview

1

1 — HS Code Classification

Identify the correct 8-digit HS code for each material

Seek advance ruling from customs for complex or borderline products

2

2 — CIF Valuation & Documentation

Calculate CIF value: commercial invoice + insurance + freight

Prepare: commercial invoice, packing list, bill of lading, certificate of origin, customs declaration

3

3 — Customs Declaration Filing

File via Nepal's customs system (ASYCUDA / NNSW portal)

A licensed customs agent / broker is essential for compliance and efficiency

4

4 — Duty & Tax Payment

Pay basic customs duty + VAT + any applicable excise or infrastructure levies

Clearance typically 3–7 working days if documentation is complete

5

5 — Release & Delivery

Goods released after payment confirmation

Delivery to factory warehouse; records kept for compliance audit purposes

Risk Factors: Misclassification, Delays & Financial Exposure

HS Code Misclassification

- Using an incorrect HS code triggers wrong duty rate — under- or over-payment
- Can result in delays, fines, and legal complications
- Complex materials (e.g. coated polymer films) are prone to borderline classification

Customs Delays

- Incomplete documentation is the primary cause of clearance delays
- Delays extend working capital cycles and disrupt production scheduling
- Nepal's landlocked geography adds transit risk: port-to-factory lead times are long

Tariff Rate Changes

- Nepal's customs tariff is reviewed and updated annually via the Finance Act
- Mid-year adjustments are possible in response to economic conditions
- Long-term financial models must include a tariff sensitivity assumption

VAT Compounding Effect

- VAT is applied on CIF *plus* customs duty — not on CIF alone
- This compounding effect is routinely underestimated in project feasibility studies
- Every percentage point of customs duty effectively adds ~1.13% to landed cost

Strategic Conclusion

Model Every Component

- Do not assume a blanket solar incentive rate
- Build a component-by-component landed cost model
- Include CIF, duty, VAT, and logistics at each line

Leverage the Cell Incentive

- The 1% duty on unassembled cells is the key structural advantage
- Local assembly maximizes the value of this preferential rate
- Turnkey assembly lines are purpose-built to exploit this logic

Engage Expert Support Early

- Use a licensed customs broker from project inception
- Seek advance HS rulings for borderline components
- Partner with an experienced turnkey provider to reduce the learning curve

The tariff structure is intentionally designed to encourage local module assembly. A well-researched financial plan — built on accurate landed cost data — turns this policy design into a competitive advantage.

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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