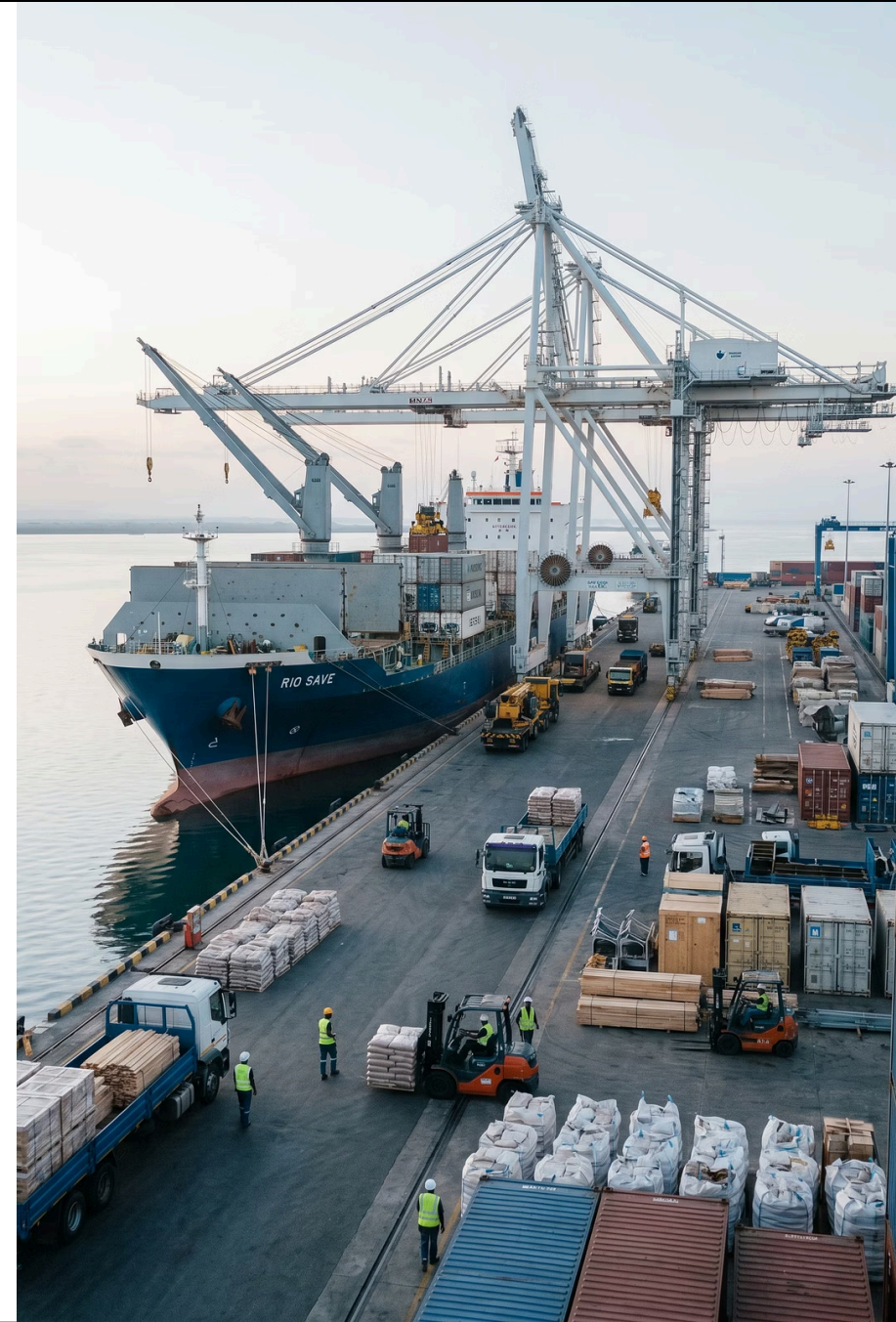


# Navigating Import Logistics: A Practical Guide for Raw Materials and Equipment via Mozambican Ports

Solar Manufacturing Equipment & Raw Materials  
A Factual Guide for Project Developers

Content Partner: J. v. G. technology GmbH  
*Turnkey solar module production lines — since 1997*  
[www.jvg-thoma.com](http://www.jvg-thoma.com)





# Technical Overview: Raw Material and Equipment Logistics via Mozambican Ports



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

**5–15d**

## Clearance Time

Typical customs clearance  
window under ASYCUDA  
World

**25–40d**

## Sea Freight

Estimated transit time from  
European port to  
Mozambique

**2 Ports**


## Primary Entry Points

Maputo (south) and Beira  
(centre) — distinct strategic  
roles

**1 System...**

## Customs Platform

ASYCUDA World — UN-  
standard electronic  
declaration system

 Focus: Solar manufacturing import logistics · Process: Equipment & raw material import · Customs system: ASYCUDA World · Region: Mozambique / Southern Africa · Source: PVKnowHow / J.v.G. Technology GmbH

# Mozambique Ports Overview: Maputo vs. Beira

Criterion	Maputo Port	Beira Port
Location	Southern Mozambique	Central Mozambique
Primary Hinterland	South Africa, Eswatini, southern MZ	Zimbabwe, Zambia, Malawi, central MZ
Port Capacity	Larger, more developed container facilities	Smaller, shallower draft limitation
Rail Connection	CFM South — Ressano Garcia corridor	CEAR — Beira–Machipanda corridor
Road Access	EN4 to South Africa; strong logistics network	EN6 to Zimbabwe border; developing capacity
Typical Use Case	Heavy capital equipment; larger consignments	Central/northern project sites; landlocked routes

# Strategic Role for Regional Supply Chains

## Why Mozambique Matters

- Gateway to landlocked Southern African markets
- Two deep-water ports serving distinct regional corridors
- SADC trade agreements reduce some duty friction for regional projects
- Growing investment in port infrastructure under concession operators

## Supply Chain Implications

- Port selection directly affects inland transit time and cost
- Equipment dimensions determine viable transport mode
- Route planning must account for seasonal road conditions
- Early engagement with a licensed clearing agent is essential

# Customs Process: ASYCUDA, DU, Duties & Inspections

- 1 — Electronic Declaration via ASYCUDA World**

Single Administrative Document (DU) lodged electronically by licensed clearing agent

All supporting documents attached digitally at time of filing
- 2 — Tariff Classification & Duty Assessment**

HS codes determine applicable import duties and VAT obligations

Manufacturing equipment may qualify for reduced rates or exemptions under investment incentives
- 3 — Risk-Based Channel Assignment**

Green channel: documentary check only — fastest release

Yellow/Red channel: physical inspection required — adds 2-5 days minimum
- 4 — Payment & Release**

Duties and port fees settled; terminal delivery order issued

Goods released to bonded warehouse or directly to transport

# Logistics Timeline: Sea Freight, Clearance & Inland

1

## Sea Freight

25–40 days from European origin port to Maputo or Beira

FCL recommended for large equipment; LCL for smaller raw material consignments

2

## Port & Customs Clearance

5–15 days typical under ASYCUDA World

Pre-arrival filing reduces dwell time; physical inspection can extend this window

3

## Inland Transport

1–5 days depending on final site location and mode (road vs. rail)

Oversized loads require route survey and escort permits in advance

**i** **Total indicative project logistics window:** Allow 35–60 days port-to-site as a conservative planning baseline. Buffer for inspection delays and seasonal road disruptions is strongly recommended.

# Key Risks: Equipment Sensitivity, Raw Materials & Delays

## Equipment Sensitivity

- Precision manufacturing machines require climate-controlled containers
- Vibration and shock during sea transit can affect calibration
- Oversized machinery may require special lifting equipment at port
- Re-commissioning and re-calibration on-site must be budgeted

## Raw Material Handling

- Encapsulants (EVA, TPO) are temperature and humidity sensitive
- Backsheet and glass require careful stacking and padding to prevent breakage
- Solar cells are fragile and must be packed in anti-static, shock-resistant crates
- Chemical inputs (solvents, fluxes) subject to hazardous goods regulations and IMDG classification

## Customs & Delay Risks

- Incorrect HS code classification can trigger re-assessment and penalties
- Missing or incomplete documentation causes holds at customs
- Physical inspection (red/yellow channel) adds 2-5 days minimum
- Port congestion and vessel schedule changes can compound delays

## Mitigation Measures

- Engage licensed clearing agent with solar/industrial equipment experience
- Pre-classify all HS codes before shipment and confirm with AT (Autoridade Tributária)
- File pre-arrival documentation to minimise dwell time
- Build contingency buffer of 10-15 days into project logistics schedule

# Pre-Shipment Checklist for Solar Equipment Imports into Mozambique



## 1 — Confirm Port of Entry

Select **Maputo** (south) or **Beira** (centre) based on project site location, cargo volume, and specific port capabilities.



## 2 — Appoint Clearing Agent

Engage a licensed Mozambican clearing agent with a strong track record in industrial or solar equipment imports.



## 3 — Pre-classify HS Codes

Accurately determine Harmonized System (HS) codes for all goods; confirm with Autoridade Tributária (AT) to prevent delays and penalties.



## 4 — Prepare Full Documentation

Compile all necessary documents: commercial invoice, packing list, bill of lading, certificate of origin, and comprehensive technical specifications.



## 5 — Check Duty Exemptions

Verify eligibility for reduced duty rates or exemptions under investment incentive frameworks, such as approval from the Centro de Promoção de Investimentos (CPI).



## 6 — Arrange Specialized Packaging

Ensure climate-controlled and shock-resistant packaging for sensitive solar equipment (e.g., inverters, modules) to prevent damage during transit.



## 7 — File Pre-arrival Declaration

Submit the electronic Single Administrative Document (DU) via ASYCUDA World prior to vessel arrival to significantly reduce port dwell time.



## 8 — Confirm Inland Transport

Finalize inland transport routes, secure any required oversized load permits, and confirm final site access, especially for large components.



**Key Insight:** Early preparation of documentation and proactive engagement with a licensed clearing agent — ideally 6–8 weeks before vessel departure — is the single most effective way to reduce customs clearance delays and unexpected costs.

# 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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