Kenya’s Business Climate: A Guide for Solar Manufacturing Ventures

Investment Case & Market Analysis — East Africa

Content Partner: J. v. G. technology GmbH

Turnkey solar module production lines — since 1997

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Technical Overview: Kenya's Business Climate for Solar Manufacturing

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

~15 GW	USD 2...	12	1,603
Solar Potential	**Module Imports**	**Gazetted SEZs**	**Licensed Solar Firms**
Kenya's estimated total solar generation potential (Renewable Energy Portal Kenya)	Solar PV modules imported by Kenya between 2020–2024 (SEforALL)	Special Economic Zones operational as of early 2025 (SEforALL)	Licensed solar PV firms and contractors in Kenya by 2023/24 — up from 741 in 2018/19

Market focus: Kenya / East Africa · Industry: Solar module manufacturing · Market drivers: Renewable energy expansion · Policy support: VAT exemptions + SEZ incentives · Workforce: Young manufacturing labor pool · Source: PVKnowHow / J.v.G. Technology GmbH

Kenya's Investment Climate

Macroeconomic Position

- Largest economy in Eastern Africa (IEA, 2024)
- Vision 2030 targets newly industrialising, middle-income status
- Strong institutional frameworks and investment facilitation bodies
- KenInvest acts as primary facilitator for incoming investors

Investment Facilitation

- One-stop-shop service through Kenya Investment Authority (KenInvest)
- 100% investment deduction on manufacturing machinery
- 150% deduction for investments over KES 200M outside Nairobi
- National Energy Policy 2025–2034 sets pathway to universal electricity access by 2030

Solar Market Growth — Kenya

Installed Capacity

- Grid-connected solar reached ~340 MW in 2024 — a 20% year-on-year increase
- Government target: 600 MW solar capacity by 2030 (National Energy Policy)
- Solar contributes ~4% of grid mix; estimated potential is 15 GW

Off-Grid Dominance

- Kenya accounts for ~74% of all solar home system sales in East Africa (IEA, 2023)
- One in five Kenyan households uses solar-powered standalone systems or mini-grids
- Electricity access rose from 37% (2013) to 79% (2023)

Market Trajectory

- African solar sector projected to grow 42% in 2025 (Global Solar Council)
- Additional 23 GW continental capacity projected by 2028
- Kenya identified as fastest-growing renewable market in East Africa

Manufacturing Incentives — Overview

VAT Exemptions

- Solar equipment, modules, and accessories exempt from standard 16% VAT
- Applies to raw materials and inputs for solar module assembly
- Reinstated and strengthened under Kenya Finance Act, 2021

Import Duty Relief

- Exemptions or significant reductions on duties for manufacturing machinery
- Production equipment may qualify for 0% duty via remission schemes
- EAC removes duty on solar cells — the highest-cost input component

SEZ Tax Benefits

- 0% corporate tax for first 10 years of operation in a SEZ
- Reduced rate of 15% for subsequent 10 years (vs. standard 30%)
- Full exemption from all taxes and duties on SEZ inputs and construction

Incentives anchored in long-term national policies: Vision 2030, Investment Promotion Act, and the SEZ Act. Source: PVKnowHow / KenInvest / SEforALL

Legal & Regulatory Framework

Core Legislation

- VAT Act (2013) and VAT Amendment Act (2014) — solar equipment exemptions
- Finance Act (2021) — reinstated VAT exemption on renewable energy products
- Investment Promotion Act and SEZ Act — governance of incentive frameworks

Regulatory Bodies

- KenInvest — primary investment facilitation authority; assists with registration and permits
- SEZA (Special Economic Zones Authority) — oversees 12 gazetted SEZs
- EPRA (Energy and Petroleum Regulatory Authority) — sector licensing and net-metering rules

Green Manufacturing Policy

- Kenya Green Manufacturing Policy (SEforALL) signals government intent for local production
- Renewable Energy Auctions Policy (2021) replaced tariff system with competitive pricing
- Significant increase in solar licenses issued — 741 (2018/19) to 1,603 (2023/24)

Infrastructure & Logistics

SEZ Infrastructure

- 12 gazetted SEZs provide ready-to-use industrial plots with utilities connected
- Reliable access to power, water, and transport logistics within zones
- Streamlined customs procedures and quicker regulatory approvals
- Naivasha SEZ: located near geothermal power sources and on the Standard Gauge Railway (SGR)

Transport & Supply Chain

- Standard Gauge Railway (SGR) improves inland logistics significantly
- Core raw materials (wafers, glass, EVA, backsheets) currently imported — primarily from Asia
- Local sourcing of aluminum frames and glass becoming more feasible
- Grid reliability issues exist outside SEZs — on-site backup recommended

Labor & Workforce

~$200

General Labor

Approx. monthly wage for general solar industry labor (PVKnowHow, 2024)

~$320

Solar Electrician

Approx. monthly wage for a qualified solar electrician (PVKnowHow, 2024)

~$1,520

Design Engineer

Approx. monthly wage for a solar design engineer (PVKnowHow, 2024)

Workforce Characteristics

- Young, growing workforce — a structural manufacturing asset
- Growing pool of university-educated engineers and technicians
- Specialized solar manufacturing skills still developing — initial training phase required
- Government strongly encourages local hiring within manufacturing investments

Training Considerations

- Experienced international turnkey providers typically include on-site staff training
- No prior manufacturing experience required for a trained workforce entry program
- Demonstrated local employment plans strengthen investment proposals with regulators

Financing & Development Support

Development Finance Institutions (DFIs)

- Multiple active DFIs in Kenya offering debt financing and equity investment
- World Bank-backed KOSAP program supports off-grid solar deployment at scale
- Example: USD 35M, 15-year EAIF loan contributed to a 40 MW solar project in Kenya

International Climate Finance

- Kenyan government actively facilitating access to green financing and climate funds
- French Development Agency: USD 92M agreement for energy transmission infrastructure
- Sun King secured USD 156M financing (Citigroup + British International Investment, 2025)

Investment Incentive Stack

- VAT and import duty exemptions on core machinery preserve significant upfront capital
- Saved capital can be redeployed to QC equipment, training, or raw material inventory
- SEZ corporate tax holidays improve project IRR materially over a 10–20 year horizon

East African Market Access

1

Kenya as Hub

Local production serves ~USD 296M import gap (2020–2024) and positions manufacturer as regional supplier

2

EAC Export Opportunity

Uganda, Tanzania, Rwanda, and DRC present significant export markets for locally made modules (PVKnowHow)

3

AfCFTA Gateway

Kenya's CAIP industrial parks linked to SGR, highways, and AfCFTA market access — enabling continent-wide reach

Kenya is identified as the largest and most mature market for off-grid solar solutions globally, accounting for ~74% of East Africa's solar home system sales (IEA, 2023).

Strategic Opportunities

Import Substitution

- ~USD 296M in modules imported 2020–2024 — almost entirely met by foreign supply
- Clear and immediate market for domestically manufactured modules
- Rising licensed solar contractor base (1,603 firms) creates distribution infrastructure

Policy Alignment

- 100% renewable energy target by 2030 requires significant new solar deployment
- Green Manufacturing Policy actively prioritizes local production of solar technology
- Feed-in Tariff policy enables solar energy producers to sell excess power to the grid

Turnkey Entry Model

- Proven turnkey manufacturing concepts available for 10–200+ MW/yr production lines
- Semi-automatic lines (10–20 MW) equally benefit from VAT and duty waivers
- No prior manufacturing experience required when partnering with an experienced provider

Risks & Challenges

Operational Risks

- Grid reliability issues outside SEZs — production continuity requires backup power planning
- Grid losses estimated at 23% (IEA, 2023) — affects operating cost assumptions
- Core raw materials (silicon wafers, EVA, backsheets) must be imported for foreseeable future
- Incentive applications (duty remission, SEZ status) require formal approval processes

Market & Policy Risks

- Electricity affordability remains a challenge — among highest prices in Africa (IEA, 2024)
- No mandated local content percentages currently — policy may evolve
- Currency depreciation has historically driven inflation and project cost overruns
- Customs clearance can extend to 3+ weeks if discrepancies arise (PVKnowHow)

⚠ Risk mitigation: SEZ location addresses grid, logistics, and regulatory risks simultaneously. Expert due diligence on land tenure, zoning rules, and incentive eligibility is essential prior to commitment.

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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