Choosing a Factory Location in Uganda: Industrial Park vs. Greenfield Site

Industrial Park vs. Greenfield — A Comparative Analysis

Content Partner: J. v. G. technology GmbH

Turnkey solar module production lines — since 1997

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Technical Overview: Uganda's Industrial Parks vs. Greenfield Factory Sites

Created as part of the PVKnowHow Knowledge Network

Prepared by J.v.G. Technology GmbH

European specialists in turnkey solar module production lines

CONTEXT

Uganda: An Emerging Manufacturing Opportunity

Why Uganda

- Growing domestic and regional demand for solar products
- Government policy prioritizing industrial development and FDI
- Import duty exemptions on solar equipment and components
- Strategic East African location for regional distribution

The Manufacturing Decision

- Solar module assembly is viable at boutique and mid-scale levels
- Site selection is the single most impactful early decision
- Infrastructure readiness determines project cost and timeline
- Two primary location strategies: Industrial Park vs. Greenfield

Uganda's manufacturing sector contributes approximately 16.5% of GDP. Government initiatives target accelerated industrialization through serviced industrial zones.

OVERVIEW

Industrial Park vs. Greenfield — Defining the Choice

Industrial Park

- Government-designated zone planned for industrial use
- Serviced plots with utilities and infrastructure in place
- Shared services: security, logistics access, administration
- Faster path to market; lower setup risk
- Lease or purchase available; some SEZ incentives applicable

Greenfield Site

- Undeveloped private land — full design and layout control
- Investor responsible for all infrastructure from scratch
- Maximum flexibility for custom factory layout and expansion
- Longer timelines; higher upfront capital exposure
- Full responsibility for utilities, security, and permitting

The core trade-off: **control and flexibility** (Greenfield) vs. **speed, risk reduction, and operational focus** (Industrial Park).

INFRASTRUCTURE

Infrastructure & Utilities: Side-by-Side Comparison

Factor	Industrial Park	Greenfield Site
Power Supply	Dedicated substation; more stable grid connection	Independent connection required; can take months or years
Backup Power	Shared or park-managed generator infrastructure	Investor must procure and fund full backup diesel capacity
Water Supply	Industrial water provided by park operator	Borehole drilling required — surveys, permits, cost
Wastewater	Centralized treatment facility managed by park	Investor must build and operate own treatment system
Roads & Access	Internal roads, loading bays, and logistics lanes included	Investor may need to construct or upgrade access road
ICT / Telecoms	Often pre-installed in modern parks	Separate procurement and installation required

UTILITIES DEEP DIVE

Power and Water Reliability

Grid Power — Industrial Park

- Dedicated industrial-grade substation connection
- More stable supply than general grid in non-industrial zones
- Backup systems often shared across tenants — lower cost per factory
- Utility contract managed at park level — less bureaucratic friction

Grid Power — Greenfield

- High-capacity connection to a remote site can take months or years
- Grid instability outside industrial zones is a documented risk
- Significant diesel backup investment nearly always required
- Backup capex directly increases solar panel manufacturing plant cost

Water — Industrial Park

- Industrial water supply included as a managed park service
- Wastewater treatment handled centrally — compliance simplified
- No borehole investment or hydrogeological survey required

Water — Greenfield

- Borehole drilling required: surveys, drilling permits, and costs
- On-site wastewater treatment must be built to national standards
- Environmental compliance burden falls entirely on investor

ADMINISTRATION

Administrative and Permitting Process

Industrial Park Pathway

- Many parks — especially SEZ-designated — offer one-stop-shop permitting
- Park authority acts as facilitator between investor and government agencies
- Uganda Investment Authority (UIA) provides centralized support for FDI registration
- Streamlined approvals: business registration, land title, work permits
- Faster timeline from approval to construction start

Greenfield Pathway

- Investor navigates multiple ministries independently
- Required: land zoning permits, environmental impact assessments, construction permits
- Fragmented process across Ministry of Public Works, Environment, and Commerce
- Delays in permitting phase postpone production start and increase pre-production costs
- Higher risk of unpredictable bureaucratic bottlenecks

Uganda's Investment License is currently free of charge and obtainable within 2–5 working days via UIA — but this is only the first of multiple required approvals for a greenfield project.

SECURITY

Security Comparison

Industrial Park — Shared Security Model

- Perimeter fencing and single controlled entry point managed by park operator
- Dedicated security force patrolling the entire zone
- CCTV and access control often integrated into park infrastructure
- Cost shared across all tenants — significantly lower per-business expense
- Security compliance typically pre-certified for industrial insurance purposes

Greenfield — Investor-Funded Security

- Full responsibility for perimeter wall construction and access systems
- Investor must procure, hire, and manage private security team independently
- CCTV and surveillance systems: additional capex and ongoing opex
- Security infrastructure becomes a significant and ongoing operational cost
- No shared risk mitigation — exposure to theft, vandalism, and unauthorized access higher

⚠ Physical security for high-value manufacturing equipment and finished goods inventory is a **paramount concern** for any industrial operation in an emerging market context.

LOGISTICS

Logistics and Accessibility

Factor	Industrial Park	Greenfield
Road Access	Integrated internal logistics network	May require investor-funded upgrades
Port / Customs	Often closer to established import corridors	Depends on site location choice
Loading / Unloading	Shared dock infrastructure available	Investor constructs own facilities
Supplier Proximity	Cluster effect — other industrial tenants nearby	Isolated; no industrial ecosystem
Workforce Access	Transportation corridors to urban labour pools	Recruitment catchment may be limited

Key Logistics Insight

The efficiency of a solar module production line depends on the smooth flow of raw materials in and finished goods out. Site accessibility is not a secondary concern — it directly impacts production continuity and unit economics.

Industrial parks designed under Uganda's national industrialization program are positioned across key regional corridors to maximize logistics access.

ECONOMICS

Cost and Timeline Implications

Capital Expenditure Profile

- **Industrial Park:** Lower infrastructure capex — utilities, roads, and security already built
- **Greenfield:** Significant additional capex for power connection, water, wastewater, perimeter, and roads
- Greenfield infrastructure premium can materially shift the total project budget

Project Timeline

- **Industrial Park:** Faster permitting and utility connection — production start accelerated
- **Greenfield:** Power connection alone can take months to years; EIA and zoning add further delays
- Pre-production cost exposure increases with every month of delay

Operational Cost Efficiency

- Shared services in an industrial park reduce per-factory security, utility admin, and maintenance costs
- Greenfield sites carry full overhead for every infrastructure system independently
- Industrial rent benchmarks (Uganda): medium factories ~$2,000–$3,000 USD/month

RISK

Risk Reduction Advantages of an Industrial Park

1

Infrastructure Risk

Utilities, roads, and services are pre-built and managed — eliminating the most common project failure points for new manufacturers

2

Regulatory Risk

One-stop-shop permitting and park facilitation reduces bureaucratic unpredictability and legal exposure for foreign investors

3

Operational Risk

Shared security, centralized services, and established logistics corridors allow management focus on production, not infrastructure maintenance

Based on experience from proven turnkey manufacturing projects, the risk reduction offered by an industrial park is **often the decisive factor** for investors entering a new regional market.

SUMMARY

Strategic Comparison Summary

Criterion	Industrial Park	Greenfield Site
Power Reliability	Higher — dedicated industrial substation	Lower — grid instability risk outside zones
Water & Wastewater	Managed centrally by park operator	Full investor responsibility and cost
Permitting Speed	Faster — facilitated one-stop process	Slower — multi-agency, fragmented process
Security	Shared perimeter and professional force	Full investor cost and management burden
Logistics Access	Integrated — roads, docks, corridors	Investor-dependent on site location
Capex Requirement	Lower total infrastructure outlay	Higher — all infrastructure self-funded
Time to Production	Faster — infrastructure pre-exists	Longer — utility and permit delays likely
Design Flexibility	Moderate — plot within park constraints	Maximum — full site control
Risk Profile	Lower for first-time regional investors	Higher — all variables self-managed

Key Project Data

Industry

Solar module manufacturing

Factory Type

Boutique / automated production

Location Focus

Uganda, East Africa

Site Options Analyzed

Industrial Park vs. Greenfield

Key Decision Factors

Utilities · Permitting · Logistics · Security · Timeline

Source

PVKnowHow / J.v.G. Technology GmbH

Analysis basis: Composite scenario drawing on documented experience from turnkey solar manufacturing projects in emerging markets. Figures and conditions reflect general market conditions; site-specific due diligence is required for any investment decision.

CONCLUSION

Strategic Conclusion

For first-time regional investors, the industrial park model systematically eliminates the highest-impact project risks.

- Utilities, security, logistics, and permitting are pre-solved — not variables
- Time-to-production is materially shorter than any comparable greenfield approach
- Infrastructure capex is lower; management attention stays on manufacturing operations
- Greenfield remains viable for investors with higher risk tolerance and strong local knowledge
- Optimal choice depends on investor's capital profile, risk appetite, and strategic timeline

An experienced European turnkey provider integrates site selection analysis into full-line factory planning — reducing the learning curve for new manufacturers entering production in emerging markets.

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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