STONE RESEARCH INTELLIGENCE

The pipe between factories

Why Africa's next industrial parks should be designed as shared production systems, not fenced estates

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Standfirst

Rwanda is preparing to expand its industrial parks while studying how Korea turned waste heat, wastewater and by-products into competitive infrastructure. The lesson is larger than circular economy. Africa's zones can lower production costs, improve resilience and satisfy tougher export standards if park operators are equipped to measure, match, contract and finance exchanges between firms. StoneComms proposes a Symbiosis Readiness Test for deciding where that promise is commercially real — and where it is still decorative.

237 established African SEZs across 38 AU states [6]	**320+** factories across Rwanda's zones and industrial parks [2]	**783** eco-industrial opportunities identified across 21 pilot parks [8]	**US$22.7m** annual savings identified in three South African parks [8]

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THE PIPE BETWEEN FACTORIES

StoneComms editorial illustration: an African industrial park operating as a shared system for energy, water, materials, production and logistics.

The industrial park as an operating system

Shared infrastructure creates value only when resource flows are measured, technically matched, legally cleared, physically connected, professionally operated and financed against verified performance.

EXECUTIVE THESIS

The most valuable piece of industrial infrastructure may be the relationship between two plants

Industrial parks are usually sold through what can be seen from the road: serviced plots, power lines, access roads, gates, warehouses and tax incentives. Their deeper economic value is less visible. It lies in whether the firms inside the fence can operate as a system.

One factory rejects heat while the factory next door burns fuel to create it. A food processor pays to dispose of organic material while another business imports feedstock that could be made from it. Several tenants maintain separate generators, water-treatment units, laboratories, logistics contracts and waste collections because nobody has the mandate, data or commercial structure to organise a shared service. The park has achieved proximity without achieving coordination.

Rwanda's latest industrial-policy work makes this gap unusually timely. On 24 August 2026, the World Bank described how a Rwandan delegation had studied Korea's eco-industrial parks, where steam, wastewater, energy and industrial by-products move between firms through deliberately organised networks. Rwanda is now using the World Bank-supported Green Industrialization through Industrial Parks and Special Economic Zones programme, financed by the Korea Green Growth Trust Fund, to strengthen the policy, institutional and infrastructure foundations for greener industrial development. [1]

The timing matters. Rwanda has two special economic zones and eight industrial parks, containing more than 320 factories. In August, the government announced Rwf10 billion for land and basic infrastructure in four priority parks: Musanze, Rwamagana, Muhanga and Bugesera. Its Industrial Policy 2024-2034 targets annual manufacturing growth of 13 per cent and faster growth in higher-value production, exports and decent jobs. [2][3]

This creates a design choice. Rwanda can build conventional industrial estates and add environmental projects later. Or it can treat the next wave of parks as shared production platforms from the outset: mapping resource flows, clustering complementary tenants, reserving corridors for pipes and common services, and giving the park operator a mandate to broker exchanges.

The second route is not automatically greener or cheaper. Industrial symbiosis is easy to illustrate and hard to transact. Volumes must match. Heat must be at the right temperature. Supply must arrive when demand occurs. By-products must be legally usable, technically consistent and safe. Firms must be willing to disclose operating data, accept dependency on a neighbour and sign long-term contracts. Shared infrastructure requires capital before savings appear.

That difficulty is the point. An eco-industrial park is not a landscaped industrial estate with solar streetlights. It is a coordination institution backed by infrastructure, data and contracts.

STONECOMMS ORIGINAL SYNTHESIS Africa's industrial-park opportunity should be judged through a Symbiosis Readiness Test: measure the streams, prove the match, clear the rules, build the shared backbone, assign an operator and finance verified savings. Only when all six conditions are credible should a waste, water, heat or energy exchange be treated as investable infrastructure rather than an attractive concept.

This synthesis draws on Rwanda's current expansion, the International Framework for Eco-Industrial Parks, UNIDO's experience across 21 pilot parks, and evidence on the operating constraints of African special economic zones. [1][7][8][9] It does not imply that every park should contain complex exchanges. In some places, reliable grid power, wastewater treatment and professional park

management are the higher priority. The framework is designed to identify that difference before money is committed.

KEY FINDINGS

01 | Rwanda has a rare greenfield advantage

Retrofitting a live industrial zone requires firms to interrupt production, renegotiate contracts and work around infrastructure that was never designed for exchange. Rwanda's expansion creates an opportunity to reserve utility corridors, locate complementary tenants and specify common systems before plots are locked in. The advantage will be lost if eco-industrial planning is postponed until after occupancy. [1][2]

02 | Africa's zones already concentrate enough industry to make the model consequential

UNCTAD estimated 237 established special economic zones in 38 African Union member states in 2021, plus more than 200 single-enterprise zones. A later UNIDO-Africa Economic Zones Organization survey collected responses from 63 zones across 26 countries. Industrial parks are therefore not a niche policy instrument; they are a distributed platform through which energy, water, waste and export performance can be improved at scale. [6][7]

03 | The opportunity is commercial, but implementation is the bottleneck

UNIDO's first Global Eco-Industrial Parks Programme phase identified 783 opportunities across 21 parks in seven countries. Only 177, or 22 per cent, had been implemented at the reporting cut-off, while 371 were being planned. Implemented measures produced annual savings of 44,803 MWh of energy, 117,925 tonnes of carbon-dioxide equivalent, 510,151 cubic metres of water and 13,676 tonnes of waste or materials. [8]

04 | Park operators must become utility orchestrators, not only landlords

Industrial symbiosis does not emerge reliably from co-location. Someone must maintain the resource map, convene firms, test feasibility, aggregate demand, procure shared infrastructure, manage service standards, report performance and resolve disputes. International guidance treats an accountable park-management entity as foundational. [1][8][9]

05 | Export regulation is turning resource data into market infrastructure

The European Union's Carbon Border Adjustment Mechanism entered its definitive regime on 1 January 2026 for cement, iron and steel, aluminium, fertilisers, electricity and hydrogen. In August 2026 the European Commission published detailed guidance for non-EU operators on monitoring actual embedded emissions. For affected African producers, credible energy and emissions data increasingly sit alongside ports, customs and quality standards as part of export readiness. [10]

06 | The wrong park can become a greener white elephant

Eco-industrial features cannot rescue weak demand, poor location, unreliable governance or empty plots. The World Bank warns that parks without credible demand projections and expected economic returns can become high-cost, low-benefit assets. Shared systems should deepen a commercially viable cluster, not disguise the absence of one. [9]

1 | WHY THIS MATTERS NOW

Rwanda is making choices that will be expensive to reverse

Rwanda's manufacturing ambitions are unusually explicit. The Industrial Policy 2024-2034 seeks more local value addition, higher productivity, technological upgrading, diversified exports and deeper participation in regional and international value chains. It sets a 13 per cent annual manufacturing-growth target. The country's wider private-sector strategy aims to double export revenues from US$3.5 billion in 2023 to US$7.3 billion by 2029 and raise private investment from US$2.2 billion to US$4.6 billion. [3][11][12]

Industrial parks are part of the delivery machine. Government reported in August 2026 that more than 320 factories had been established across two special economic zones and eight industrial parks, and allocated Rwf10 billion to basic infrastructure in four parks. Roads, electricity, water and treatment facilities are necessary. The eco-industrial question is whether they will be planned as separate services supplied to each plot or as a platform capable of supporting exchanges between plots. [2]

That distinction can determine decades of operating cost. A park layout fixes distances between firms. Pipe routes, substations, treatment plants, drainage, storage and access roads become expensive to move. Tenant selection fixes the likely mix of heat, water, waste and material flows. The legal terms attached to land and utilities determine whether an operator can later introduce shared services. Design decisions made during expansion can therefore enable industrial symbiosis, make it prohibitively costly, or leave it permanently dependent on improvisation.

Rwanda also has a policy foundation on which to build. Its Green Growth and Climate Resilience Strategy includes greening special economic zones and industrial parks, increasing finance for productive green technologies, strengthening cleaner-production capacity and advancing circular-economy practice. In June 2026, Rwanda's environment authority invited SMEs and NGOs to pilot waste-valorisation projects, noting that Kigali alone was estimated to generate about 600 tonnes of unsorted waste a day in 2024. [4][5]

The risk is fragmentation: industrial-park infrastructure in one programme, waste pilots in another, energy efficiency in a third, investment promotion in a fourth and carbon reporting somewhere else. Eco-industrial planning creates value only if these strands meet in the operating economics of actual firms.

2 | WHAT AN ECO-INDUSTRIAL PARK ACTUALLY IS

Not a green estate, but an operating agreement

The International Framework for Eco-Industrial Parks, developed by UNIDO, the World Bank Group and GIZ, assesses four dimensions: park management, environmental performance, social performance and economic performance. Its environmental benchmarks include treated wastewater, responsible reuse, energy management, resource efficiency and mechanisms for by-product exchange. Its economic and social dimensions include viable services, employment conditions, community engagement and local linkages. [9]

The word "eco" can obscure the commercial logic. Firms cooperate because the exchange reduces cost, improves reliability, creates revenue or protects market access. Environmental improvement is often the result of making resources more productive.

Korea's industrial symbiosis system illustrates the mechanism. In Ulsan, steam from municipal waste treatment supplies nearby industrial users. Waste heat, treated water and by-products move through infrastructure and contracts rather than being handled as isolated disposal problems. Korea supported the process through national institutions and regional centres able to identify matches, test business cases and facilitate partnerships. [1]

The World Bank reports that Korea's national eco-industrial programme reduced energy use across participating parks by about 6 per cent annually, cut greenhouse-gas emissions by 2.1 million tonnes

of carbon-dioxide equivalent per year, saved 36.8 million tonnes of industrial water and generated more than US$660 million in combined economic gains. These are reported programme outcomes from a mature industrial system, not a forecast for Rwanda or Africa. [9]

Africa's application will be different. Many parks still contend with unstable electricity, limited water, weak waste systems, high logistics costs and incomplete occupancy. The first shared service may be a reliable wastewater plant, aggregated renewable power, a testing laboratory, cold storage or common logistics rather than a sophisticated steam network. The principle remains the same: firms gain access to a service that is more reliable or economical when organised at park scale.

3 | AFRICA'S ZONE BOOM HAS A UTILITY PROBLEM

Co-location is not yet coordination

The UNIDO-AEZO survey offers a useful but limited view of the continent's zone infrastructure. Conducted at the end of 2022, it received responses from 63 zones in 26 countries, of which 47 zones were operational. The sample is not a census and is geographically concentrated, but it reveals both scale and inconsistency. [7]

Electricity remains central. Earlier cross-country evidence reviewed in the survey found that firms in African zones experienced less downtime than firms outside them, yet many zones remained exposed to the same unstable power and water systems as the wider economy. The survey also found a wide range of utility capacity and service maturity. Environmental practice existed, but dedicated management capacity was uneven: 11 responding zones, or 23 per cent, reported personnel specifically devoted to energy management. [7]

This matters because industrial symbiosis increases coordination demands. A park that cannot meter electricity or enforce wastewater standards is not ready to operate a market in waste heat. A zone authority that lacks current tenant and utility data cannot identify viable exchanges. A park without a trusted operator cannot persuade one manufacturer to depend on another's by-product.

There is a policy temptation to leap directly to visible technology: solar panels, recycling plants or waste-to-energy facilities. The less photogenic foundations come first — occupancy data, material-flow accounting, service standards, legal definitions, maintenance capacity, credible billing and an operator able to negotiate with tenants.

4 | THE ECONOMICS ARE REAL — AND SLOW

The gap between identified savings and implemented projects is the central evidence

UNIDO's Phase I results show why enthusiasm should be disciplined. Across 21 parks, technical assistance identified 783 eco-industrial opportunities. By the end of 2023, 177 had been implemented and 371 were in planning. Implemented projects delivered meaningful resource savings. But renewable-electricity and water-recycling projects had particularly low implementation shares because infrastructure and investment projects take years to develop. [8]

South Africa makes the gap vivid. Across East London Industrial Development Zone, Ekandustria Industrial Park and Phuthaditjhaba Industrial Park, UNIDO identified 25 opportunities with potential annual financial savings of approximately US$22.7 million, 162,816 MWh of renewable electricity, 250,288 tonnes of carbon-dioxide-equivalent reductions, 446,818 cubic metres of water savings and 16,044 tonnes of waste or material savings. At the reporting cut-off, one opportunity had been implemented, generating reported annual financial savings of about US$78,000; 20 were planned. [8]

The difference does not disprove the business case. It defines the implementation challenge. An opportunity study is not an asset. It becomes one only when firms agree terms, a permitted technical design exists, capital is committed, construction is complete and performance is verified.

The same UNIDO work found that the average score of the 21 parks against the international framework rose from 49 per cent in 2019 to 64 per cent by the end of 2023. No park met every benchmark. South Africa made substantial progress despite electricity instability, institutional constraints and infrastructure limitations. [8]

For investors and governments, the implication is to finance a pipeline rather than an idea. Early grants may support resource mapping and feasibility. Concessional or public capital may fund common infrastructure where benefits spill across tenants or communities. Commercial finance becomes more plausible when contracted users, metered savings and accountable operation are in place. Sustainability-linked loans, green bonds and circular-economy finance can help, but only if the underlying data and cash flows are credible. [9]

5 | RWANDA'S GREENFIELD ADVANTAGE

Design the exchanges before pouring the concrete

Rwanda does not need to replicate Ulsan's industrial structure. It needs to import the discipline of designing around relationships between firms.

The four parks receiving new public infrastructure serve different locations and potential sector mixes. A viable symbiosis plan should therefore begin with demand and cluster logic, not a standard list of green technologies. Agro-processing parks may offer organic residues, wastewater, refrigeration demand and opportunities for fertiliser, feed, biogas or heat recovery. Construction-material clusters may offer mineral residues and high-temperature heat demand. Textile or leather clusters require strong water, chemical and effluent management. Logistics and light-manufacturing parks may gain more from shared power, warehousing, testing and transport than from material exchange.

Greenfield planning can reserve corridors for future pipes and cables, place water-intensive tenants near treatment and reuse infrastructure, group compatible heat sources and users, allocate land for recovery businesses, and require meters that produce usable operating data. Tenant agreements can include obligations to share non-sensitive resource information and participate in feasibility assessments, while protecting commercially sensitive production data.

The operator's role should also be settled early. A regulator can set rules, but day-to-day symbiosis needs a party with incentives to improve park performance. The operator may be public, private or mixed; the essential requirement is a clear mandate to manage shared infrastructure, contract with tenants, recover costs, report service quality and remain accountable for environmental and social performance.

6 | STONECOMMS ORIGINAL SYNTHESIS

The Symbiosis Readiness Test

StoneComms proposes six gates for deciding whether a proposed exchange is ready to enter an investment pipeline. The framework synthesises the implementation evidence from Rwanda, UNIDO's pilot parks, the international eco-industrial framework and Africa's wider special-economic-zone experience. [1][7][8][9]

1. MEASURE | Is there a reliable resource baseline?

The park and participating firms need measured quantities, quality, timing, variability and current costs for energy, water, waste and material streams. Estimates may be adequate for screening but not for financing. Metering boundaries, data ownership and confidentiality must be defined.

2. MATCH | Is there a technically credible source and user?

Supply and demand must align in volume, specification, pressure, temperature, timing and distance. The analysis should include shutdowns, seasonality, growth plans and alternative users. A large annual quantity can conceal an unusable daily or hourly mismatch.

3. CLEAR | Can the exchange occur legally and safely?

The material may be regulated as waste even when it has productive value. Permits, product standards, environmental liability, worker safety, transport rules and customs treatment must be clear. Contracts must allocate responsibility when quality fails or a supplier stops production.

4. CONNECT | Is the shared backbone practical?

Pipes, storage, treatment, substations, digital monitoring, laboratories, roads or collection systems must have a permitted route, an owner, maintenance arrangements and resilience. Greenfield parks should protect these routes before land is allocated.

5. OPERATE | Is one entity accountable for the system?

An operator must convene tenants, manage data, procure or oversee infrastructure, bill users, enforce service standards and plan continuity. Without this function, each exchange remains a fragile bilateral experiment.

6. FINANCE AND PROVE | Do contracted savings support investment and verification?

The business case should distinguish private savings, public benefits and community effects. Financing must match the risk: feasibility support, public or concessional capital for common assets, and commercial finance for contracted cash flows. Performance should be metered against a baseline so savings, emissions reductions and service outcomes can be verified.

Passing all six gates does not guarantee success. It means the proposal has moved from environmental aspiration to an investable operating hypothesis. Failure at a gate is diagnostic: it tells policymakers whether the next intervention should be data, regulation, infrastructure, institutional capacity or finance.

7 | PAN-AFRICAN SCALABILITY TEST

One framework, different first moves

Rwanda's strongest advantage is sequencing. It can apply the readiness test while expanding parks. The first priority is to protect future options: good cluster selection, resource baselines, utility corridors, operator mandates and contracts that allow shared services.

South Africa's opportunity is different. Its three UNIDO pilot parks already contain firms and infrastructure, and the identified savings are substantial. The priority is conversion: move planned opportunities through feasibility, contracting and financing while accounting for electricity instability and institutional constraints. [8]

Ethiopia's Hawassa Industrial Park shows both the reach and fragility of a more integrated model. The World Bank reports approximately 18,000 workers, 85 per cent of them women, together with zero-liquid-discharge wastewater treatment, ISO 14001 certification and women's safety programmes. The park nevertheless faced external shocks including the suspension of United States trade preferences and regional insecurity. Efficient infrastructure cannot compensate for lost market access, but it can improve operating performance and social standards within a viable cluster. [9]

Egypt entered UNIDO's programme later and recorded slower implementation progress. Its identified opportunity set was large, but only one measure was reported implemented at the Phase I cut-off. That reinforces the need to distinguish the quantity of opportunities from institutional capacity to deliver them. [8]

Morocco's Tangier automotive cluster represents another route: a mature export platform where greening shared services can protect competitiveness in carbon-conscious supply chains. Rwanda's smaller, landlocked economy cannot copy its port-linked model, but it can adopt the same principle of designing park services around the requirements of target value chains. [9]

The continental case is therefore not a single eco-industrial blueprint. It is a common readiness discipline applied to different binding constraints.

8 | IMPLICATIONS FOR POLICY, CAPITAL AND IMPLEMENTATION

1. Require a resource-and-demand map before approving major shared assets

Every proposed common treatment plant, recovery facility, renewable-energy system or exchange network should be backed by tenant demand, measured streams, sensitivity analysis and a continuity plan. Public funding should not substitute for absent customers.

2. Write symbiosis into park governance

Licences and operator agreements should define responsibility for resource data, common infrastructure, environmental performance, tenant coordination and reporting. Operators need authority to introduce shared services and sign contracts, subject to transparent regulation and competition safeguards.

3. Build the data layer at the same time as roads and pipes

Meters, common definitions, secure data exchange and park-level monitoring are physical investment enablers. They also support export compliance. Since the EU's definitive CBAM regime now requires verified information on embedded emissions for covered goods, parks serving carbon-intensive exporters have a direct commercial reason to aggregate credible energy and emissions data. [10]

4. Finance preparation as deliberately as construction

Feasibility studies, engineering, permitting, legal structuring and tenant negotiation are not administrative overhead. They are the process that turns a list of potential savings into a bankable project. Dedicated project-preparation facilities can reduce the failure rate between identification and implementation.

5. Protect SMEs from being priced out of shared systems

Large anchor firms can create sufficient demand for common infrastructure, but tariffs and connection requirements may exclude smaller tenants. Aggregated procurement, standard contracts, technical assistance and proportionate metering can help SMEs participate without shifting unreasonable risk onto the park operator.

6. Treat communities as part of the operating system

Water extraction, waste transport, air quality, traffic, employment and emergency risk cross the park boundary. Shared infrastructure should improve, not merely relocate, environmental performance. Community engagement and publicly intelligible reporting are therefore part of investment resilience and social licence.

7. Make park performance comparable

Governments and development financiers should publish a small common set of indicators: occupancy, uptime, utility cost and reliability, water treated and reused, waste recovered, energy and emissions intensity, jobs and working conditions, local sourcing, investment mobilised, and verified tenant savings. Project announcements should be separated from implemented and operating results.

9 | COMMISSIONABLE RESEARCH AGENDA

The next useful study is not another catalogue of African industrial parks. It is a transaction-level map of where shared systems can work.

A 24-week commission could apply the Symbiosis Readiness Test across eight to twelve parks in four African markets, combining greenfield and brownfield sites. Rwanda would test planning before build-out; South Africa would test conversion of an existing opportunity pipeline; Ethiopia or Egypt would test institutional and market constraints; and a mature export cluster in Morocco, Kenya or another market would test carbon-data and buyer requirements.

The evidence package should include anonymised tenant resource-flow data, utility bills, outage records, waste and water analyses, park master plans, infrastructure condition surveys, legal classification of priority by-products, operator capabilities, financing terms, worker and community interviews, buyer standards and export exposure.

The outputs should be practical: a park-level material and utility atlas; ranked exchange opportunities; pre-feasibility cases; contract and tariff options; a regulatory barrier matrix; an operator-capability diagnostic; an MRV protocol; community and worker safeguards; and an investment pipeline separating grant-funded preparation, public common assets and commercially financeable projects.

The likely client group is a consortium of industrial-park authorities, development-finance institutions, climate funds, trade agencies, utilities and anchor manufacturers. Their shared question is not whether industrial symbiosis is desirable. It is which exchanges can operate, who should own them and what evidence is needed to finance them.

10 | CONCLUSION

Africa's industrial parks have often been asked to solve several problems at once: scarce serviced land, unreliable utilities, weak logistics, slow administration, low investment, limited exports and insufficient jobs. Adding circularity can sound like one more demand placed on already stretched institutions.

The better interpretation is operational. An eco-industrial park is a way to make the infrastructure already being built work harder. It can turn a treatment cost into a usable input, aggregate demand for reliable energy, spread the cost of laboratories and logistics, and give exporters better evidence about how their products were made.

Rwanda's current expansion is important because the least expensive pipe is the one allowed for before the road is finished and the plots are occupied. But the pipe itself is not the achievement. The achievement is a durable commercial relationship between its two ends.

STONECOMMS ORIGINAL SYNTHESIS The decisive unit of green industrial policy is not the technology installed inside one factory. It is the verified exchange that improves the economics of two firms and the performance of the park around them. Measure it, match it, clear it, connect it, operate it, finance it — and prove that it works.

METHODOLOGY

A desk study of eco-industrial parks as competitiveness infrastructure

Research question. As African governments expand or retrofit industrial parks, which conditions determine whether resource sharing can become commercially viable infrastructure rather than an environmental demonstration?

Scope. Pan-African synthesis using public evidence available to 31 August 2026, with a current policy and investment focus on Rwanda and comparative evidence from South Africa, Ethiopia, Egypt and Morocco. International experience is used to identify mechanisms, not to project African results.

Unit of analysis. The park-level exchange of energy, heat, water, waste, by-products, infrastructure or services between firms, park operators and adjacent urban systems.

Method. Qualitative cross-source synthesis and descriptive comparison. Primary and institutional sources were prioritised. Quantitative programme results are reproduced with their reported time periods and scopes. No causal inference is made from programme summaries, identified opportunities or cross-country case studies.

Original synthesis. The Symbiosis Readiness Test and its six gates — Measure, Match, Clear, Connect, Operate, Finance and Prove — are StoneComms analytical proposals derived from the cited implementation evidence. They have not been validated as a formal investment, engineering or certification standard.

RISKS, COUNTERARGUMENTS AND LIMITATIONS

Eco-industrial planning can become an expensive layer of complexity

Parks with weak occupancy, unreliable basic utilities or limited operator capacity may gain more from conventional service improvement than from complex exchanges. The readiness test is intended to reveal that priority, not force every park into the same model.

Interdependence creates new operational risk

A firm using a neighbour's heat or by-product becomes exposed to that neighbour's shutdowns, quality changes and commercial decisions. Redundant supply, storage, quality standards, termination rights and continuity plans may reduce but not eliminate this risk.

Identified savings are not realised savings

The largest African figures in this report include opportunities identified or planned, not only measures implemented. They should not be treated as bankable cash flows until engineering, contracts, finance and operating results exist.

International results are not directly transferable

Korea's industrial density, institutions, financing and infrastructure differ materially from African markets. Türkiye and Viet Nam provide useful mechanisms, not expected African outcomes. Rwanda's landlocked geography and smaller manufacturing base change both opportunity and cost.

Survey evidence is incomplete

The UNIDO-AEZO survey covered 63 zones in 26 countries and was concentrated geographically. Response counts vary by question. It is not a census of African zones, and some comparisons rely on older studies with different methods.

Environmental gains can conceal social costs

Resource efficiency does not guarantee fair work, community benefit or safe waste handling. Exchanges can shift pollution or liability to weaker firms and surrounding communities. Environmental, labour and social safeguards remain necessary.

Carbon regulation has a limited initial sector scope

The EU's CBAM currently covers selected carbon-intensive products. Its direct relevance varies by park and tenant. Wider buyer and reporting pressures may grow, but this report does not assume universal coverage.

This is a desk study

No confidential tenant data, engineering tests, material samples, utility audits, investment models, worker interviews or community fieldwork were used. The proposed framework is a research and project-preparation hypothesis, not engineering, legal or investment advice.

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Data notes

- The estimate of 237 established African special economic zones is UNCTAD's 2021 figure and is not presented as a 2026 census.
- The UNIDO-AEZO survey was conducted at the end of 2022 and published later. Response counts differ across questions; percentages should be read against the stated samples.
- UNIDO GEIPP results distinguish opportunities identified, implemented and planned. Environmental and financial savings are annualised estimates or reported results within the programme's methodology.
- Rwanda's factory and park counts are attributed to the Ministry of Trade and Industry's August 2026 report.
- Korea, Türkiye and other non-African cases illustrate mechanisms and reported programme outcomes; they are not used to forecast African savings.
- Currency values are reproduced in the denomination used by the source. No exchange-rate conversion or inflation adjustment was applied.

SOURCE NOTE

This report is based on publicly available policy documents, institutional studies, programme reporting and regulatory guidance available up to 31 August 2026. StoneComms original synthesis is explicitly labelled. No proprietary data, engineering audit, interviews or original fieldwork were used.