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THE ARCHITECTURE OF BANKABILITY¹

Infrastructure Finance, the Legal Coding of Capital, and the Future of Large-Scale Project Delivery in a Decentralised Africa

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ABSTRACT

Africa is told it cannot build because it has no money. The claim fails on the evidence. Non-bank domestic capital pools now exceed US\$2 trillion, pension and insurance assets have crossed US\$1 trillion, and of some US\$4 trillion managed by African institutional investors less than 2.7% reaches African infrastructure and productive sectors. Against a financing gap of US\$130 to 170 billion a year, the arithmetic is one of routing rather than shortage. The paper argues that the binding constraint is not capital but the legal code that converts an asset into capital, and that whoever writes that code captures the value it creates. It makes eight contributions. It decomposes the gap into three manufactured scarcities, of allocation, price and preparation: prudential rules fence domestic savings from the assets their liabilities were made for; the subjective component of sovereign credit assessment has cost the continent about US\$74.5 billion; and fewer than 10% of projects reach financial close. It specifies the six legal modules through which bankability is manufactured and prices the sovereignty cost of each, showing that bankability is bought module by module and is therefore negotiable. It sets out a 7-layer legal stack as an operational object of policy, in place of the undifferentiated call to improve the investment climate; and it distinguishes the resource-backed loan from Resource-Based Sovereign Finance on eight tests, and reads Ghana's gold architecture as the closest working approximation to the second form. It identifies the OHADA security agent regime as the ready civil law container for a tokenised collateral pool, and proposes the Corridor Compact, a multilateral instrument that codes the six modules before financing is solicited and while sovereign leverage is at its maximum. It derives four design principles from the mycelial mechanism of the Omnidox Lectures, and advances six propositions on a decentralised future in which the decisive contest is over the verification layer rather than over tokens. The claim is narrow and therefore strong: the money exists and the assets exist; what is missing is the legal grammar through which the one reaches the other without surrendering the sovereignty that made the asset worth financing.

Keywords: Infrastructure finance; legal coding of capital; bankability; project finance; resource-backed lending; Resource-Based Sovereign Finance; local currency bond markets; institutional capital; tokenisation; decentralised finance; Metanomics; AfCFTA.

JEL: G23 · G28 · H54 · K12 · K22 · O18 · O55 · F34 · Q32

1. Introduction: The Money Is Already Here

There is a sentence in the Africa Finance Corporation's State of Africa's Infrastructure Report 2026 that ought to end a 50-year argument. The constraint, its chief executive said at the launch in Nairobi in April 2026, is no longer capital; it is intermediation. We have the savings, he continued, but not yet the systems to channel them into infrastructure and industry at scale. That statement, made by the head of the continent's principal infrastructure financier and grounded in the institution's own balance-sheet research, is the empirical form of a claim this paper develops analytically: that African infrastructure scarcity is manufactured rather than natural, that it is manufactured by law rather than by geology, and that it is therefore reversible by those willing to write the law differently.

The numbers are not in serious dispute. The report finds non-bank domestic capital pools above US\$2 trillion, against approximately US\$1.7 trillion of cumulative external flows between 2014 and 2024. Domestic pension and insurance assets crossed US\$1 trillion for the first time. Central bank reserves stood at US\$530 billion at end-2025, up from US\$480 billion a year earlier, with gold at roughly 17% of reserves against under 10% in 2022 and 2023. Including banks and sovereign vehicles, the Corporation puts total investable domestic capital at about US\$4.4 trillion. The African Development Bank reaches the same place by a different route: African institutional investors manage some US\$4 trillion, of which less than 2.7% is allocated to infrastructure and productive sectors on the continent.

Set beside that abundance, the want. The African Development Bank puts the annual infrastructure financing gap at US\$130-170 billion and the wider structural transformation gap at about US\$400 billion. The second Priority Action Plan of the Programme for Infrastructure Development in Africa carries 69 cross-border projects with aggregate capital cost of about US\$161 billion, requiring roughly US\$16 billion a year in commitments, 60% above the US\$10 billion annual average achieved under the first plan. Official development assistance fell 23.1% in 2025, the largest contraction on record. Sovereign issuance collapsed from over US\$29 billion in 2018 to US\$4-6 billion a year in 2022 and 2023. External debt service is projected to have risen from 15.4% of government revenue in 2024 to about 18.2% in 2025, and interest payments now exceed public spending on health or education in four out of five African countries.

The two sets of figures cannot both describe a shortage of money. US\$4 trillion of domestic capital sits in the same continent as a US\$150 billion annual financing gap, and the capital does not move. This paper asks why, answers in terms of legal coding rather than capital scarcity and specifies what an African architecture that coded differently would look like.

The paper proceeds as follows. Section 2 states the antecedent framework briefly, so that this paper stands alone. Section 3 reviews seven bodies of scholarship, identifies five gaps, and states this paper's contributions against them. Section 4 puts infrastructure scarcity on trial in three domains. Section 5 specifies the six legal modules of bankability and prices the sovereignty cost of each. Section 6 maps four competing financing traditions. Section 7 derives the design principles. Section 8 sets out the 7-layer legal stack. Section 9 distinguishes resource-backed lending from Resource-Based Sovereign Finance and examines the Ghana case. Section 10 treats tokenisation as a legal problem. Section 11 advances 6 propositions on the future of infrastructure finance in a decentralised world. Section 12 proposes the Corridor Compact and a 10-year sequence. Section 13 meets 6 objections. An evidence dossier follows the conclusion.

2. Antecedents: The Omnidox Framework in Brief

This paper stands alone but it builds on three prior lectures (Alagidede, 2026a, 2026b, 2026c), and 4 of their results are load-bearing here. They are stated compactly for readers who have not read them.

First, the scarcity taxonomy. Scarcity is not one thing but 3. Relative scarcity is the local fact that a chooser at a moment cannot have everything at once; it is real, universal and trivial. Absolute scarcity is the thermodynamic and ecological limit of a finite planet; it is real, it is not trivial, and it must be honoured. Manufactured scarcity is want produced by rules, enclosures, permissions and austerity that human institutions wrote and could rewrite. Orthodox economics collapses the three into one category and then treats the manufactured kind as though it were the absolute kind. The present paper concerns the manufactured kind exclusively and concedes the entropic floor in full.

Second, the two operating systems. Monodox is the order organised around the single permitted premise that there is never enough, under which the economic problem is the allocation of a fixed stock. Omnodox begins instead from sufficiency as the normal condition of a network that understands its own architecture and takes the central task to be the design of the relationships through which renewing wealth is created, circulated and shared. Metanomics is the discipline rebuilt on the second footing, within which ordinary scarcity economics survives as the special case that holds wherever limits truly bind.

Third, the mechanism. The invisible hand that Adam Smith named three times and never formalised was eventually formalised, in general equilibrium, as the division of a fixed endowment. The Omnodox alternative locates the true formalisation in the invisible mycelium: a decentralised network that redistributes from surplus toward need, keeps the system rather than the node in balance, senses deficiency and corrects it by reciprocal reward rather than decree, and regenerates the substrate it feeds upon. The field evidence for each property is reviewed in the first lecture (Simard et al., 1997; Kiers et al., 2011; Whiteside et al., 2019), with the caution urged by Karst, Jones and Hoeksema (2023), and the paper takes the mycelium as a model of generative coordination rather than as a claim about forest cognition.

Fourth, the psychological precondition. A people schooled to see its wealth as another's to price will not reach for monetary sovereignty even when the material conditions for it have arrived. Perception, efficacy belief and horizon are the operative variables, and no financing architecture will be attempted by a treasury that does not believe its own assets can stand behind its own paper. The present paper takes that as given and turns to the institutional question the psychology leaves open.

3. The Literature and Its Gaps

Bearing on the financing of African infrastructure are seven bodies of scholarship. Each is substantial, each holds a fragment of the answer, and no two of them speak to each other. This section reviews them in turn, identifies where each stops, and states the contributions this paper makes against the resulting gaps. The exercise is not ornamental. The gaps are where the value of the paper lies and naming them precisely is the discipline that distinguishes a contribution from a commentary.

3.1 Infrastructure economics and the financing gap literature

The oldest and largest body of work establishes that infrastructure raises output and that Africa has too little of it. Aschauer (1989) opened the modern empirical debate on the productivity of public capital; Calderón and Servén (2010) estimated for sub-Saharan Africa that infrastructure quantity and quality gaps account for a substantial share of the region's growth shortfall; Foster and Briceño-Garmendia (2010), in the Africa Infrastructure Country Diagnostic, produced the first systematic continental costing and put the annual requirement at about US\$93 billion, against which some US\$17 billion a year could be recovered through efficiency gains, leaving a funding gap of about US\$31 billion. Estache and Fay (2010) and Gurara et al. (2018) extended the diagnosis to the developing world generally. Successive African Development Bank Outlooks have updated the number, and it is from this tradition that the US\$130-170 billion figure descends.

The tradition's achievement is the diagnosis and the measurement. Its limitation is a conceptual one that has hardened over three decades: the gap is treated as a quantity of missing money, and the policy implication is therefore that more money must be found. Almost every institutional response of the last 15 years, from the G20 infrastructure agenda to the billions-to-trillions rhetoric, follows from that framing. What the framing cannot accommodate is the fact now established by the Africa Finance Corporation's own balance-sheet work: that the money is present in the same continent and does not move. A gap defined as a quantity cannot be closed by a change in the rules, because rules are not a quantity. This is the first gap.

3.2 Project finance, bankability and the megaproject literature

A second literature studies how large projects are financed. Esty (2004) established project finance as a distinct field of enquiry, characterised by the non-recourse special purpose vehicle and by contractual risk allocation as the substitute for a corporate balance sheet. Ehlers (2014) set out the structural obstacles to institutional participation in infrastructure debt. Inderst (2010) examined whether infrastructure constitutes an asset class at all. Flyvbjerg (2014) documented the systematic cost overrun and benefit shortfall of megaprojects and the optimism bias behind them, extending a line of enquiry Hirschman (1967) began with the Hiding Hand. McKinsey (2020) supplied the African execution data that this paper uses: fewer than 10% of projects reach financial close, about 80% fail at feasibility, and the sunk development cost of feasibility-stage projects across the six largest African markets is on the order of US\$30 billion.

This literature knows more about bankability than any other, and it treats bankability as a technical craft: a matter of structuring, of coverage ratios, of due diligence quality. What it does not do is ask who is made worse off by the structure that achieves bankability, or in what currency the achievement is paid for. Bankability appears as an unambiguous good to be maximised, and the possibility that it might be purchased at a price a state should sometimes decline to pay is outside the frame. This is the second gap.

3.3 The legal theory of finance

Pistor (2013, 2019) supplies the missing analytic. Capital, on this account, is not a substance but a legal quality conferred on an asset by coding it through a small set of modules: contract, property, collateral, trust, corporate and bankruptcy law. The coding confers priority, durability, universality and convertibility; it is performed privately by lawyers under a chosen law; and its distributive consequence is that whoever codes the asset, and whoever supplies the law, captures the value that coding creates. The account is powerful and it has been applied to financial instruments, to land, to intellectual property and to debt.

It has not been applied systematically to cross-border infrastructure in the global South, and it has not been operationalised. Pistor's work is a theory of how capital is made; it is not a specification of which modules a state should code, in what order, at what layer, and with what institutional prerequisite. The distance between the insight and a policy programme is considerable and closing it is a substantial part of what this paper attempts. This is the third gap.

3.4 The critique of de-risking and financialisation

Gabor (2021) named the Wall Street Consensus: the systematic use of public and multilateral balance sheets to absorb the downside of private infrastructure investment, on the premise that development finance is scarce and private capital must therefore be subsidised into the field. Gabor and Sylla (2023) extended the analysis to the green transition. Mawdsley (2018) traced the financialisation of development policy; Gallagher and Kozul-Wright (2022) set out the systemic case for reform of the international financial architecture.

The critique is correct in what it identifies and incomplete in what it offers. It establishes that risk is socialised and return privatised, and that the terms are set by the party bringing the guarantee. It does not, in the main, specify the alternative structure at the level of the instrument, the security package and the statute. A critique that stops at the diagnosis leaves the practitioner exactly where the diagnosis found them, with a term sheet on the desk and a corridor to finance. This is the fourth gap, and it is the gap this paper is most concerned to close.

3.5 Resource-backed finance and the resource curse

A fifth literature concerns what happens when resource wealth meets external finance. Sachs and Warner (1995) and Auty (1993) established the resource curse as an empirical regularity; Humphreys, Sachs and Stiglitz (2007) and Collier and Venables (2011) examined the institutional conditions under which the curse has been escaped. On resource-backed lending specifically, Halland et al. (2014) provided the first World Bank treatment of resource-financed infrastructure, and Mihalyi, Adam and Hwang (2020), for the Natural Resource Governance Institute, produced the definitive dataset: 52 transactions between 2004 and 2018 worth over US\$164 billion, of which 30 loans worth US\$66 billion went to sub-Saharan Africa, 53% of the African amount from 2 Chinese policy banks, 43 backed by oil, 6 by minerals, 2 by cocoa and 1 by tobacco, two-thirds to

countries scoring poorly or failing on the Resource Governance Index, with a state-owned enterprise as borrower in 40% of cases. Mihalyi et al. (2022) extended the analysis for the World Bank; Mihalyi and Trebesch (2023) built the Africa Debt Database. Bräutigam (2009, 2020) corrected the debt-trap literature on China; Ndikumana and Boyce (2011) documented odious debt and capital flight.

The verdict of this literature is broadly and rightly negative, and it has produced a governance agenda: publish the contracts, vet the terms through the ministry of finance, obtain repayment flexibility, shop among lenders, employ competent counsel. What it has not produced is a positive instrument. Because resource-backed lending is treated as a single category defined by the presence of a commodity, the possibility of a structurally different instrument, one in which the resource is retained rather than pre-sold, the issuer sits inside the fiscal perimeter, the accounts are onshore and the law is domestic, does not arise as a question. The category has swallowed the design space. This is the constructive face of the fourth gap.

3.6 Original sin and local currency bond markets

A sixth literature explains why African infrastructure is financed in the wrong currency. Eichengreen and Hausmann (1999) and Hausmann and Panizza (2003) named original sin, the inability of most developing countries to borrow abroad in their own currency, and traced its consequences for balance-sheet fragility. Berensmann, Dafe and Volz (2015) and Dafe, Essers and Volz (2018) documented the genuine rise of local currency bond markets in sub-Saharan Africa and the conditions of their development. Dafe et al. (2023) qualified the optimism, showing how such markets can reproduce international financial subordination rather than dissolving it. Gueye and Sy (2015) asked directly how much African countries should pay to borrow.

This literature is the closest in spirit to the present argument and the most useful to it. Its limitation is that it treats the local currency bond market as a sovereign funding question rather than as an infrastructure question. The link from a deepening domestic yield curve to a corridor financing, which runs through pension regulation, credit enhancement, rating availability and instrument standardisation, is not traced. The result is that a genuine achievement in sovereign debt management has not translated into project finance.

3.7 Decentralised finance and tokenisation

The seventh and newest literature concerns whether distributed ledgers change any of this. Catalini and Gans (2020) and Cong and He (2019) set out the economics of the blockchain and of smart contracts. Zetsche, Arner and Buckley (2020) provided the first systematic legal treatment of decentralised finance. Schär (2021) described the architecture. Against the enthusiasm, Aramonte, Huang and Schrimpf (2021) advanced the decentralisation illusion: that DeFi protocols exhibit substantial concentration of governance and control, so that intermediation is relocated rather than eliminated. Makarov and Schoar (2022), Auer et al. (2023) and the Financial Stability Board (2023) developed the risk analysis.

This literature is almost entirely written about developed capital markets, and it concerns the tokenisation of financial claims that were already liquid: treasuries, money market funds, corporate credit. The question of what tokenisation does for an economy whose problem is that its assets were never coded as capital in the first place has scarcely been asked. Nor has anyone examined which existing legal container in a developing jurisdiction could hold a tokenised collateral pool through an insolvency. The African tokenisation discussion, meanwhile, is dominated by payments and remittances and has not reached infrastructure. This is the fifth gap.

Literature	What it established	Where it stops	What this paper adds
Infrastructure economics and the financing gap	Infrastructure raises output; Africa's deficit measured at US\$130-170 billion a year	Treats the gap as a quantity of missing money, so the remedy is always to find more	Decomposes the gap into three manufactured scarcities of allocation, price and preparation, each with a legal cause
Project finance and megaprojects	Bankability as contractual risk allocation; fewer than 10% of African projects close	Treats bankability as an unqualified good and a technical craft	Prices the sovereignty cost of each increment of bankability, module by module
Legal theory of finance (Pistor)	Capital is a legal quality; whoever codes the asset captures the value	Not applied to Southern infrastructure and not operationalised into a policy sequence	A 7-layer legal stack and a 6-module sovereignty ledger, sequenced over 10 years
Critique of de-risking (Gabor)	Risk socialised, return privatised, terms set by the guarantor	Offers no alternative at the level of instrument, security package and statute	The Corridor Compact: ex ante multilateral coding of the six modules before financing is solicited
Resource-backed finance and the resource curse	52 RBLs worth US\$164 billion; the pathology of opacity, offshore escrow and SOE borrowing	Treats the presence of a commodity as defining a single category, closing the design space	Resource-Based Sovereign Finance, distinguished on eight operational tests, with the Ghana demonstration
Original sin and local currency bond markets	Currency mismatch as structural; genuine growth of African LCBMs; subordination persists	Treated as a sovereign funding question, not traced through to project finance	The route from domestic yield curve to corridor bond through layer 6 fiduciary reform
Decentralised finance and tokenisation	Economics of smart contracts; the decentralisation illusion; DeFi risk taxonomy	Written about already-liquid Northern claims; silent on assets never coded as capital	The verification-layer thesis, the OHADA collateral estate, and the tokenised RBL warning

Table 1. The seven literatures: the fragment each grasped, and where it stops

3.8 The five gaps and the eight contributions

Placed side by side, the seven literatures leave five gaps, and this paper's contributions are stated against them rather than in the abstract.

Gap 1 is conceptual. The financing gap is measured as a quantity and therefore cannot be explained by a fact about rules. Contribution 1 reframes it as an intermediation and coding failure and decomposes it into three scarcities that are separately measurable and separately remediable.

Gap 2 is normative. The project finance literature has no account of the price of bankability. Contribution 2 supplies the sovereignty ledger: a module-by-module statement of what each increment of bankability costs the host state, from which it follows that the price is negotiable, substitutable and sometimes worth declining.

Gap 3 is operational. The legal theory of finance is a theory, not a programme. Contribution 3 is the 7-layer stack, in which each layer names its function, its existing African instruments and its required reform, and Contribution 6 is the Corridor Compact, a drafting instrument that codes the module before the money is sought.

Gap 4 is constructive. The critique of de-risking stops at the diagnosis. Contribution 4 is Resource-Based Sovereign Finance, specified against eight tests and evidenced in the Ghanaian architecture, and Contribution 7 is the translation of the mycelial mechanism into four design principles, each with named financial instruments, so that the philosophical claim of the Omnidox Lectures issues in term sheets rather than in sentiment.

Gap 5 is anticipatory. The DeFi literature does not address economies whose assets were never coded. Contribution 5 identifies the ring-fenced security estate of the OHADA security agent regime as the civil law container a tokenised collateral pool requires, a use for which it was not designed and for which no better instrument presently exists in African law. Contribution 8 advances six propositions on the future of infrastructure finance in a decentralised world, of which the most important is that the decisive contest will be fought over the verification layer rather than over the token, and the most urgent is that the tokenised resource-backed loan is the most dangerous instrument now visible on the horizon.

MANUFACTURED SCARCITY IN INFRASTRUCTURE FINANCE

The condition in which an economy possessing the savings, the assets and the demand necessary to finance its own infrastructure is nonetheless unable to do so, because the legal, prudential and evaluative rules governing the conversion of savings into long-dated claims were written by, and for the benefit of, parties whose interest lies in the conversion taking place elsewhere. The shortage is real in its effects and fictional in its cause. It is a coding failure dressed in the language of a capital constraint.

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4. Infrastructure Scarcity on Trial: 3 Demonstrations

The method is to take the domains in which scarcity is asserted most loudly, state the abundance in fact available, set beside it the want that persists, and locate the gap in the rules rather than in nature. There follow three demonstrations, internal to infrastructure finance itself.

4.1 The scarcity of allocation: capital fenced from asset

African pension funds, insurers and sovereign vehicles hold liabilities that are long-dated, inflation-sensitive and denominated in local currency. African infrastructure assets generate revenues that are long-dated, inflation-linked and denominated in local currency. It is difficult to construct a more exact match of liability profile to asset profile, and the Canadian, Australian and Dutch pension systems built substantial infrastructure allocations on precisely this logic. Yet under 2.7% of African institutional assets reaches African infrastructure, and the bulk of pension and insurance capital sits in short-dated government paper and bank deposits.

The explanation is not investor irrationality. Prudential regulation in most jurisdictions caps alternative and unlisted allocations at levels that make a meaningful infrastructure position impossible; where caps have been relaxed, utilisation remains low because the instruments do not exist. Fiduciary standards require a credit rating for any material allocation, and frontier-market infrastructure vehicles are almost never rated. Liquidity rules penalise instruments without a secondary market, and no secondary market exists because the instruments are not standardised. Solvency treatment loads capital charges onto the very assets the liability profile demands. Each rule is individually defensible. Their aggregate effect is a legal fence between a pool of capital and the assets it was made for, and the fence is the scarcity.

4.2 The scarcity of price: the premium that manufactures its own evidence

The United Nations Development Programme (2023), working with the Brookings Institution, compared agency ratings for African sovereigns against scores derived from macroeconomic and financial indicators alone and found that the subjective residual costs African countries about US\$74.5 billion: over US\$24 billion in excess interest actually paid and more than US\$46 billion in lending never extended. The second component is the more instructive, because it is the exact fiscal signature of manufactured scarcity: capital that was available, that was sought, that the fundamentals supported, and that was withheld on a judgement. The total exceeds the entire official development assistance flow to Africa in 2021.

The market data are consistent. African Eurobonds averaged roughly 9.8% over 2018-2023, against about 5.3% for Asian issuers and 6.8% for Latin American issuers of comparable profile. African dollar bond yields reached 9% in 2024 while Asian emerging markets paid about 4.7% and Latin America about 6.5%. As of early 2026, 32 African countries carried at least one rating from the three dominant agencies and four were investment grade. African sovereigns carry roughly US\$730 billion of outstanding bonds,

so 1 percentage point of premium narrowing is worth billions a year in released fiscal space.

This scarcity has two features that matter. It is self-confirming: a premium raises debt service, debt service crowds out the investment that would improve the fundamentals, and the deteriorated fundamentals justify the premium. And it is upstream of every project, because sovereign spreads set the floor under project debt pricing, the cost of the guarantees needed to reach investment grade, and the discount rate at which a tariff must be set for a concession to close. The premium is not a separate problem from the infrastructure gap. It is a substantial part of the gap, capitalised.

4.3 The scarcity of preparation: the pipeline rationed upstream

Fewer than 10% of African infrastructure projects reach financial close and about 80% die at the feasibility and business-planning stage. Across the six largest African infrastructure markets the development costs of projects still at the feasibility-study stage have been estimated at US\$30 billion. South Africa, the continent's most institutionally developed economy, converted just under 42% of the US\$91 billion in investment pledges made through its investment conferences since 2018 into actual flows by March 2026, against a global realisation norm of 60-80%.

Preparation failure is usually presented as a capacity problem, and capacity is genuinely part of it. But the deeper cause is legal. A project becomes bankable when a defined set of risks has been allocated to parties capable of bearing them, and that allocation is performed by contracts drawn under a legal framework. Where the framework is absent, ambiguous or contested, no amount of engineering will produce a bankable project, because the engineering is not what lenders are pricing. They are pricing the enforceability of the revenue stream. Preparation scarcity is not upstream of the legal question; it is the legal question, encountered early and expensively.

Form	The abundance available	The want that persists	The true binding constraint
Allocation	Above US\$4 trillion in domestic institutional and bank capital; over US\$1 trillion in pension and life assets; liability profiles matched to infrastructure	Under 2.7% of institutional assets allocated to African infrastructure and productive sectors	Prudential caps, rating requirements, liquidity and solvency rules, and the absence of standardised intermediating instruments
Price	Global and African capital actively seeking long-dated, inflation-linked yield	About US\$74.5 billion: over US\$24 billion excess interest and more than US\$46 billion of lending never extended	The subjective residual in sovereign credit assessment, and the absence of an African evaluative authority
Preparation	69 PIDA PAP2 projects worth about US\$161 billion; identified corridor demand across the AfCFTA	Fewer than 10% of projects reach financial close; about 80% fail at feasibility; about US\$30 billion sunk in 6 markets	Absent or contested legal frameworks for risk allocation, not engineering capacity or political enthusiasm

Table 2. The three manufactured scarcities of African infrastructure finance

Sources: Africa Finance Corporation (2026); African Development Bank (2026); UNDP (2023); McKinsey (2020); AUDA-NEPAD (2023). See the evidence dossier for full attribution.

In each of the three domains, the governing constraint is not the quantity of capital available but the terms on which institutions grant access to it. The pattern is the finding.

5. Bankability as a Legal Artefact: The 6 Modules

Bankability is habitually treated as a property of a project, as though some roads were intrinsically bankable and others not. It is nothing of the kind. Bankability is a property of a contractual structure, manufactured deliberately, and the same physical asset can be rendered bankable or unbankable depending entirely on how six modules are drawn. This construct, the Sovereign Bankability Frontier, is the next stage of the evolution of infrastructure finance.

BANKABILITY

Not a characteristic of an asset but a legal artefact: the condition, deliberately manufactured through the coding of security, revenue, currency, control, forum and contingent liability, in which a defined risk has been allocated to a party a lender believes capable of bearing it, under a law that lender believes will be enforced. Every increment of bankability is purchased with an increment of legal control transferred to somebody. The only questions ever at stake are how much control, to whom, and whether the transfer was necessary.

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The six modules are set out in the order in which they are typically negotiated. Each is accompanied by its sovereignty cost, which is what the host state gives up in exchange for the increment of bankability the module delivers. The purpose of stating the cost explicitly is to make it negotiable. A price that is never named is never bargained.

Module 1: cross-border security and collateral

The lender requires a security interest in the project assets, in the shares of the project company, in the project accounts and in the receivables. In a cross-border corridor these assets sit in several jurisdictions with incompatible security regimes, so the structure must either harmonise or offshore, and offshoring is easier. The sovereignty cost is the encumbrance of a strategic national asset in favour of a foreign creditor, and, where security is held offshore, the removal of the enforcement question from national courts.

Module 2: offtake enforceability

The revenue stream must be contractually certain, which is achieved through take-or-pay offtake agreements, availability payments, minimum revenue guarantees, or tariff regimes insulated from political adjustment. The sovereignty cost is the surrender of the state's ability to set the price of an essential service, and the conversion of a political decision about tariffs into a contractual liability enforceable in damages.

Module 3: currency convertibility and repatriation

The lender requires assurance that local currency revenue can be converted and remitted, secured by convertibility undertakings, offshore collection accounts, hard-currency indexation of tariffs, or political risk insurance. This is the most consequential of the 6. It transfers a portion of monetary policy autonomy to a contract, and where offshore accounts are used it removes the revenue from the domestic banking system altogether, so that the corridor generates foreign exchange the host country never touches.

Module 4: step-in rights

On default, lenders require the right to step in, replace the operator and continue the concession, coded through direct agreements between the lenders and the contracting authority. The sovereignty cost is the state's acceptance that control of a strategic asset may pass, without a further political decision, to a creditor syndicate.

Module 5: governing law and dispute resolution

The finance documents specify a governing law and a forum. English law and, less often, New York law dominate; arbitration is usually seated in London, Paris or Geneva. The sovereignty cost is that the meaning of the bargain is settled elsewhere, by tribunals applying a foreign jurisprudence, and that the development of African commercial law is deprived of the very transactions that would have built it. This is a compounding cost: each transaction coded abroad makes the next one harder to code at home.

Module 6: contingent liability allocation

Guarantees, indemnities, termination compensation and demand risk undertakings sit on the sovereign balance sheet, frequently off-budget and frequently undisclosed until they crystallise. The sovereignty cost is fiscal: the state has issued debt it has not counted, and its future fiscal space is pledged in a document no parliament debated.

Module	What it delivers to the lender	How it is typically coded	Sovereignty cost to the host state
1. Security and collateral	Recourse to assets, shares, accounts and receivables on default	Offshore SPV, share pledges, security trustee, floating charges under foreign law	Strategic assets encumbered abroad; enforcement removed from national courts
2. Offtake enforceability	Contractual certainty of the revenue stream	Take-or-pay, availability payments, minimum revenue guarantees, insulated tariff regimes	Loss of pricing discretion over an essential service; tariff politics converted into damages
3. Convertibility and repatriation	Assurance that local revenue can be converted and remitted	Offshore collection accounts, hard-currency indexation, convertibility undertakings, political risk cover	Monetary autonomy contractualised; export earnings never enter the domestic system

Module	What it delivers to the lender	How it is typically coded	Sovereignty cost to the host state
4. Step-in rights	Continuity of the concession under a replacement operator	Direct agreements between lenders and the contracting authority	Control of a strategic asset may pass to creditors without a further political decision
5. Governing law and forum	A jurisprudence and a tribunal the lender trusts	English or New York law; arbitration seated in London, Paris or Geneva	Meaning of the bargain settled abroad; African commercial law starved of the cases that would build it
6. Contingent liability	A sovereign backstop behind project-level risk	Guarantees, indemnities, termination compensation, demand undertakings	Undisclosed and often unbudgeted debt; future fiscal space pledged without parliamentary debate

Table 3. The six legal modules of bankability and their sovereignty cost

There are two conclusions. The sovereignty cost of a financing is not an unfortunate by-product of bankability; it is the price at which bankability is purchased, module by module, and it is therefore negotiable, substitutable and capable of being paid in a different currency. And the coding is done by whoever brings the lawyers. Where an African state arrives at a corridor negotiation without a domestic legal architecture already in place, the code will be supplied by the counterparty and the counterparty's law will govern. The remedy is not to refuse the code. It is to write it first.

6. The 4 Financing Traditions and What Each Costs

There are four traditions competing to finance African corridors. Each assembles the six modules differently and each therefore occupies a different position on the trade-off between bankability achieved and sovereignty consumed. They are treated on their merits, because the argument is not that external capital is illegitimate but that its terms are negotiable and are presently negotiated badly.

6.1 Resource-backed lending

The instrument is not intrinsically vicious. It solves a genuine problem: a state with proven resources and no credit history obtains finance at a scale and speed the bond market will not offer. The pathology lies in the coding. The collateral is future output, pre-sold; the offtake is contracted at prices the lender's own trading arm influences; receipts are routed through an offshore escrow the borrower does not control; the governing law is foreign; the contract is confidential, often unseen by the ministry of finance; and the resulting liability appears in no debt statistic until it crystallises. All six modules are coded against the borrower simultaneously, which is why the Natural Resource Governance Institute found borrowers severely indebted and at risk of losing collateral worth more than the value of the loan itself.

6.2 Western de-risking and blended finance

The Lobito Corridor railway is the current exemplar and deserves careful reading rather than dismissal. Financial close was reached on 3 July 2026 at US\$753 million, comprising US\$553 million from the United States International Development Finance Corporation and US\$200 million from the Development Bank of Southern Africa, structured by the Africa Finance Corporation and Eaglestone as co-financial advisers for the concessionaire, Lobito Atlantic Railway, a joint venture of Mota-Engil and Trafigura, covering the rehabilitation, upgrade and long-term operation of 1,300 kilometres of brownfield rail between the Port of Lobito and the Democratic Republic of Congo border.

There are two things true of this transaction at once, and holding both is the beginning of a serious analysis. It is a genuine achievement: a complex, multi-lender, cross-border project financing structured and closed on the continent, with an African institution central to the structuring and an African development bank in the senior debt. And it is a transaction whose commercial logic is the movement of copper and cobalt to the Atlantic, whose concessionaire includes a global commodity trader with an interest in the freight it carries, and whose geopolitical rationale is competition over critical minerals logistics. The corridor is bankable because the mineral offtake makes it so. Whether the value the corridor creates is captured in Angola, in Zambia, in the Congo or elsewhere is decided in the concession documents, not in the engineering.

6.3 Concessional and multilateral syndication

The classical development finance route offers long tenors, below-market pricing and technical rigour. Its constraints are the volume ceiling, the conditionality, the procurement drag, and the fact that the concessional envelope is not of the scale the gap requires. African multilateral financial institutions supply on the order of 8% of African infrastructure financing. Multilateral capital is necessary and it is not sufficient, and any architecture premised on its expansion is an architecture premised on the generosity of others.

6.4 Endogenous African institutional capital

The fourth tradition barely exists as practice and is the subject of the rest of this paper. It routes domestic pension, insurance and sovereign wealth capital into domestic infrastructure through instruments denominated in local currency, coded under African law, credit-enhanced by African institutions and rated by an African authority. Its advantages are structural. It eliminates the currency mismatch that has destroyed more African infrastructure financings than any other single factor; it retains within the continent the value the coding creates; and it converts the pension liability of an African worker into the road that worker's children will use. Its obstacles are precisely the legal fences of section 4.1, and they are removable by legislation.

Tradition	Who codes the asset	What the anchor is	Bankability achieved	Sovereignty consumed
Resource-backed lending	Lender's counsel; foreign law; frequently confidential	Pre-sold future output at prices the lender's trading arm influences	High and fast, at scale	Very high: all six modules coded against the borrower at once
Western de-risking and blended finance	DFI counsel under English or New York law, local counsel advising	Public and multilateral balance sheets absorbing first loss	High, and demonstrable at scale	Moderate to high: risk socialised, return privatised, terms set by the guarantor
Concessional and multilateral syndication	Multilateral standard documentation; sovereign guarantee	The sovereign covenant and the concessional envelope	Moderate; constrained by volume ceilings	Low to moderate: conditionality and procurement rules rather than asset control
Endogenous African institutional capital	African counsel under African law, where the architecture exists	Domestic savings matched to domestic, local-currency, inflation-linked revenue	Currently low, because instruments and enhancement are missing	Low: value capture and legal control retained onshore

Table 4. The four financing traditions compared

The typology carries an uncomfortable implication for policy rhetoric. No financing tradition currently available to an African state delivers high bankability at low sovereignty cost. The first two buy bankability with control, the third caps the volume, and the fourth has the right structure and does not yet exist at scale. The task is therefore not to choose among the four but to build the fourth, using the first three deliberately and on improved terms while it is being built.

7. From Mechanism to Instrument: The 4 Design Principles

The mycelial mechanism specifies four properties of a generative network. Each corresponds to a specific and documented financial instrument, and the correspondence is what converts a philosophy into an architecture.

7.1 Redistribution from surplus to need: state-contingent debt service

The mycelium moves phosphorus down the concentration gradient, from rich patches to poor (Whiteside et al., 2019). The financial correlate is the state-contingent instrument: debt service that flexes with the capacity of the asset and the economy to pay. Commodity-linked bonds, output-linked warrants, revenue-sharing concessions and climate-resilient debt clauses all instantiate the principle that good seasons should pay more and hard seasons should breathe. The African case for these instruments is overwhelming and their use remains marginal, for two reasons: they are harder to price, and the party that

benefits from rigidity is the party drafting the term sheet. Section 11 argues that the first reason is dissolving.

7.2 Systemic balance: the corridor as the unit of account

The network's health, not the yield of any single fruiting body, is the unit of account. The Africa Finance Corporation reached the same conclusion empirically in 2026, arguing that Africa's largest infrastructure opportunity lies in integrated systems connecting energy, transport, industry and digital layers into demand-anchored ecosystems, because integration improves bankability and enables scale. A road alone carries traffic risk; a road, a transmission line, an industrial park and a fibre route sharing a corridor carry each other's demand. Cross-collateralisation at corridor level, a single corridor authority with a pooled revenue waterfall, and a corridor-level credit rating are the instruments that make the network rather than the node the borrower.

7.3 Incentive-compatible correction: reciprocal reward, not decree

In the mycorrhizal symbiosis the plant rewards the partner that delivers and withholds from the one that does not (Kiers et al., 2011), so that correction of a shortfall and alignment of incentives are the same motion. The financial correlate is performance-linked rather than availability-based payment: tariffs and concession fees that rise with measured service quality, output-based aid, and local content obligations tied to verified transfer rather than declared intention. An availability payment that pays a concessionaire whether or not the road is used is a decree; a payment that tracks measured throughput is a reciprocal reward.

7.4 Regeneration: the substrate left richer

The saprotroph creates by decomposing and leaves the substrate richer than it found it. The financial correlate is the requirement that a financing build the domestic capacity to do the next financing without external help. Local-currency issuance deepens the domestic bond market; a domestically arranged transaction builds an arranging capability; a security package coded under African law builds African precedent; a project rated by an African agency builds a rating record. Each is an increment of substrate, and their absence is why the tenth transaction in a given market is frequently no cheaper than the first. Regeneration is not corporate social responsibility. It is the discipline of pricing capability transfer into the transaction and refusing structures that leave the ground as they found it.

Design principle	Financial correlate	Instrument	Failure mode when absent
Redistribution from surplus toward need	Debt service that flexes with capacity to pay	State-contingent bonds, commodity-linked coupons, revenue-sharing concessions, resilience clauses	Procyclical default and serial restructuring at the worst possible moment

Design principle	Financial correlate	Instrument	Failure mode when absent
Systemic balance; the network as unit of account	Corridor rather than project as the borrowing unit	Corridor authority, pooled waterfall, cross-collateralisation, corridor-level rating	Stranded single assets carrying demand risk they cannot bear alone
Incentive-compatible correction by reciprocal reward	Payment that tracks delivered performance	Output-based tariffs, service-quality-linked concession fees, verified local content	Availability payments that reward presence rather than service
Regeneration of the substrate	Capability transfer priced into the transaction	Local-currency issuance, domestic arranging mandates, African law, African rating	The tenth transaction costs what the first did; no domestic market is built

Table 5. Design principle, financial correlate and instrument

8. The Legal Infrastructure: A 7-Layer Stack

If bankability is manufactured by law, the correct object of policy is not a project pipeline but a legal stack. There follow seven layers, each with its function, the African instruments that already exist and the reform each requires. The stack is cumulative: a defect at a lower layer cannot be repaired at a higher one, which is why so much project preparation money is spent on transactions that were legally impossible before the first feasibility study was commissioned.

8.1 Layer 1: constitutional and fiscal authority

The first question a lender's counsel asks is whether the entity signing has authority to bind the state and whether the obligation will be counted. This layer comprises the public financial management legislation, the debt authorisation framework, the contingent liability register and the parliamentary approval thresholds. Its African weakness is not the absence of statutes but their circumvention: resource-backed borrowing routed through state-owned enterprises outside the budget, guarantees issued without registration, and off-balance-sheet commitments discovered at the point of crystallisation. The reform is a single, statutory, published register of all contingent liabilities, with an express provision that an unregistered guarantee is unenforceable against the state. That provision converts a governance aspiration into code lenders must respect, because their own diligence will then require the registration.

Ghanaian practice under the reserve accumulation policy contains a small and instructive example of this layer working. Gold purchased into reserves may be sold only with the prior approval of Cabinet and of Parliament. That is a legal ring-fence on a national asset, written before the asset was accumulated rather than after it was pledged, and it is precisely what distinguishes a sovereign reserve from a collateral pool.

8.2 Layer 2: sectoral and public-private partnership law

The second layer authorises the transaction type. The reference instrument is the UNCITRAL Model Legislative Provisions on Public-Private Partnerships and the accompanying Legislative Guide, adopted at the Commission's 52nd session in Vienna in July 2019, which replaced and expanded the earlier texts on privately financed infrastructure projects of 2000 and 2003. They cover the scope of authority to contract, project planning and fiscal impact assessment, competitive selection with a preference for the request for proposals with dialogue, and the content, duration, extension and termination of the partnership contract.

Africa is better provided at this layer than is often assumed. Ghana's Public Private Partnership Act, 2020 (Act 1039), in force from 29 December 2020, regulates the cycle from appraisal through procurement to agreement, sets approval thresholds, mandates local content plans and, in a provision of considerable importance to this argument, requires that partnership agreements be governed by Ghanaian law. Nigeria operates through the Infrastructure Concession Regulatory Commission established under its 2005 statute; Kenya consolidated its framework in the Public Private Partnerships Act, 2021; South Africa proceeds under the Public Finance Management Act and Treasury Regulation 16. The weakness is not the statutes but the absence of a standard-form suite beneath them, so that every transaction is drafted from first principles at the state's expense and the drafting is done by whoever can afford the counsel.

8.3 Layer 3: the coding of the asset

This is the layer at which capital is actually made. It comprises corporate law for the special purpose vehicle, security interests over movables and immovables, the registries in which those interests are perfected, the trust or agency device by which a syndicate holds security collectively, and the insolvency regime that determines what happens on default.

Here Africa possesses an asset it has systematically failed to use. The OHADA Uniform Act on Security Interests, revised in 2010 and in force from 15 May 2011, created the agent des sûretés at articles 5 to 11: a security agent empowered to constitute, register, manage and enforce security in its own name on behalf of multiple creditors. Because OHADA law did not recognise the trust, the drafters built a functional equivalent. The security interests held by the agent form a separate estate, a patrimoine d'affectation, insulated from the insolvency of the agent. The revised Act also permits the pacte comissoire, allowing a secured creditor to appropriate and realise collateral without a court order. The instrument was sufficiently well made that the French reform effected by ordonnance of 4 May 2017 drew substantially upon it. Some 17 African states share this law. A cross-border security package under OHADA, held by an African credit institution acting as agent des sûretés, is legally available today for every francophone corridor on the continent, and it is used far less than it should be, largely because the transaction advisers are trained in another tradition.

The corresponding reform for common law Africa is the movable collateral registry: a unified, notice-based, electronically searchable register in which a security interest over

any movable asset, including receivables, inventory and equipment, can be perfected in minutes. Where such registries have been introduced they have transformed secured lending. Where they are absent, security over movables is coded offshore or not at all.

8.4 Layer 4: the coding of revenue

Bankability is won or lost at the revenue layer, because it is the revenue and not the asset that services the debt. Its instruments are the offtake or concession agreement, the tariff methodology and its adjustment formula, the escrow and waterfall structure that sequences payments, and the credit support behind the offtaker. In African power and transport the recurring failure is identical: a creditworthy project sells to an uncreditworthy utility, and the entire financing then rests on a sovereign guarantee the ministry of finance would prefer not to give and frequently does not register.

There are two reforms that address this directly. The first is the standing liquidity facility, a revolving cash facility sized at a stated number of months of offtaker payments, which pays the project when the utility does not and is replenished by the state. It is far cheaper than a full sovereign guarantee and it addresses the risk lenders actually price, which is delay rather than repudiation. The second is the corridor-level waterfall of section 7.2, in which revenues from all assets in a corridor flow into a single legally segregated account and are distributed by a published rule, so that the strong asset carries the weak one through ramp-up and the network rather than the node is what lenders underwrite.

8.5 Layer 5: the coding of currency

Currency mismatch has destroyed more African infrastructure financings than any other risk, because a road paid for in local currency and financed in dollars is a leveraged short position on the exchange rate held by a public entity that cannot hedge it. This is original sin (Eichengreen and Hausmann, 1999; Hausmann and Panizza, 2003) encountered at the level of the project rather than the sovereign. The instruments at this layer are the currency of account and the currency of payment, indexation formulae, hedging facilities, partial risk guarantees against convertibility events, and above all local-currency issuance.

The position taken here is unambiguous. Local-currency financing is not a second-best used when hard currency is unavailable. It is the structurally correct instrument, because it matches the currency of the revenue to the currency of the liability, and because it is the only route by which the US\$4 trillion of domestic savings identified in section 1 can reach the assets those savings were made for. Every reform at layers 6 and 7 exists to make local-currency infrastructure finance possible at scale. On this reading the convertibility module of section 5 is not a technical necessity but a symptom: it is required because the financing was arranged in a currency the project does not earn. The qualification supplied by Dafe et al. (2023) must be respected, however. A local currency bond market can reproduce international financial subordination rather than dissolve it where the marginal holder is a foreign investor who exits at the first sign of stress. The remedy is the domestic institutional holder of section 8.6, whose liabilities do not permit exit.

8.6 Layer 6: fiduciary and prudential rules for institutional capital

This is the layer at which the fence of section 4.1 is built and therefore the layer at which the largest single gain is available. The layer requires four reforms, and each is a matter of ordinary financial legislation rather than of grand architecture.

- Raise and then operationalise the alternative asset limits in pension regulation, and create an explicit infrastructure category rather than leaving infrastructure to compete inside a residual bucket with private equity and hedge funds.
- Create the intermediating instrument. Trustees cannot buy a concession agreement; they can buy a rated, listed, standardised infrastructure bond or a fund unit. The absence of the wrapper, not the absence of appetite, is the binding constraint.
- Supply the credit enhancement that lifts a project instrument into the rating band a trustee may hold. The African Development Bank's approval on 22 May 2026 of a US\$125 million equity investment in African Trade and Investment Development Insurance, raising its stake from about 3% to 14% and targeting an eventual US\$10 billion a year of guarantee capacity, is the most consequential recent development at this layer. ATIDI has supported about US\$93 billion of trade and investment since inception and is rated A by Standard and Poor's and A2 by Moody's, so its guarantee genuinely moves an instrument across the fiduciary threshold.
- Supply an evaluative authority whose judgement African trustees may lawfully rely upon. The African Credit Rating Agency, mandated by the African Union through the African Peer Review Mechanism, headquartered in Mauritius, due to be launched there in October 2026, private-sector led and beginning with local-currency ratings, is the institution designed for this purpose. Its significance is not that it will be kinder than the incumbents. It is that a locally domiciled rating of a local-currency instrument held by a local trustee is the correct evaluative object, and it has never existed.

8.7 Layer 7: dispute resolution and enforcement

The final layer determines where the meaning of the bargain is settled. Its African instrument is the Protocol on Investment to the Agreement Establishing the African Continental Free Trade Area, adopted by the Assembly on 19 February 2023, which enters into force 30 days after the 22nd instrument of ratification and which, on entry into force, terminates and replaces the intra-African bilateral investment treaties, of which about 173 are in force. The Protocol is a genuinely African instrument: it preserves the right to regulate, imposes obligations on investors as well as on states, and includes a denial-of-benefits clause aimed at treaty shopping. Its annex on dispute prevention, management and resolution remains under negotiation, and that annex is where the sovereignty question at this layer will actually be decided.

There follow three practical reforms. Ratify, because an instrument that has not entered into force codes nothing. Build the forum, because arbitration seated in Kigali, Lagos, Cairo, Nairobi, Accra or Johannesburg, under African institutional rules and with African arbitrators, is how a jurisprudence accumulates and how the cost of resolving an African dispute falls. And reconcile the interface, because a corridor financing involves both an investment treaty relationship and a set of commercial contracts, and unless the two forums are reconciled by design an award in one may be undone in the other.

Layer	Function	Existing African instruments	Reform required
1. Constitutional and fiscal authority	Establishes who may bind the state and ensures the obligation is counted	PFM and loans acts; parliamentary thresholds; Ghana's Cabinet and Parliament consent requirement for reserve gold sales	Statutory published contingent liability register; unregistered guarantees unenforceable against the state
2. Sectoral and PPP law	Authorises the transaction type and the procurement route	UNCITRAL Model Provisions (2019); Ghana Act 1039 (2020); Nigeria ICRC Act (2005); Kenya PPP Act (2021); South Africa PFMA Reg 16	Standard-form contract suite beneath the statute; a resourced PPP unit with real drafting capacity
3. Coding of the asset	Converts the asset into enforceable security	OHADA agent des sûretés (arts 5-11) and its ring-fenced security estate; company and insolvency law	Movable collateral registries in common law states; deliberate use of OHADA security agents in corridor transactions
4. Coding of revenue	Makes the revenue stream contractually certain	Concession and offtake agreements; tariff methodologies; escrow and waterfall structures	Standing liquidity facilities in place of blanket sovereign guarantees; corridor-level pooled waterfalls
5. Coding of currency	Matches the currency of revenue to the currency of liability	Local currency bond markets; regional hedging facilities; partial risk guarantees	Local-currency issuance as the default; domestic institutional holders as the marginal buyer
6. Fiduciary and prudential rules	Determines whether domestic institutional capital may lawfully participate	Pension and insurance regulation; ATIDI guarantees; AfCRA (Mauritius, local-currency focus)	Explicit infrastructure asset class; standardised listed wrappers; scaled guarantee capacity; African ratings trustees may rely on
7. Dispute resolution and enforcement	Determines where the meaning of the bargain is settled	AfCFTA Protocol on Investment (2023); African arbitral centres; the OHADA Common Court of Justice and Arbitration	Ratify the Protocol; settle its dispute annex; seat corridor arbitrations in Africa; reconcile treaty and contract forums

Table 6. The 7-layer legal stack

9. Resource-Backed Lending and Resource-Based Sovereign Finance

The most common objection to this argument is that it proposes resource-backed lending under a new name, and that resource-backed lending has an evidence base which is largely a record of harm. The objection deserves the most precise answer this paper can give, because the two instruments share a word and share nothing else.

A resource-backed loan pre-sells future output to an external counterparty, under foreign law, through an offshore account, on confidential terms, frequently by a state-owned enterprise acting outside the budget. Resource-Based Sovereign Finance issues a claim against verified wealth already measured and held, under domestic law, through onshore accounts, on published terms, by a statutory issuer whose disposals require legislative consent. The first alienates the asset in advance of its extraction. The second monetises a stock the nation retains. The difference is not one of degree; it is a difference in every one of the six modules of section 5.

RESOURCE-BASED SOVEREIGN FINANCE

The issuance by a state, under its own law and through its own institutions, of claims against wealth it has verified, measured and continues to hold, on published terms, with disposal of the underlying subject to legislative consent, and with debt service that flexes with the capacity of the resource base to pay. It is distinguished from resource-backed lending, which alienates unextracted output to an external counterparty under foreign law, by the retention of the asset, the location of the account, the identity of the coder and the transparency of the instrument. The test is simple: after the transaction, does the nation still own the thing, and can its parliament still see the contract?

Yegandi Alagidede

Test	Resource-backed loan (Monodox)	Resource-Based Sovereign Finance (Omnidox)
1. What is pledged	Future output not yet extracted, pre-sold at prices the lender influences	A verified, measured stock the nation continues to own and hold
2. Borrower or issuer	Frequently a state-owned enterprise outside the budget	A statutory issuer inside the fiscal perimeter, with a published mandate
3. Governing law and forum	Foreign law, foreign seat, offshore enforcement	Domestic or OHADA law, African seat, onshore enforcement
4. Accounts	Offshore escrow the borrower does not control	Onshore segregated accounts under domestic banking supervision
5. Transparency	Confidential; often unseen by the ministry of finance; absent from debt statistics	Published contract, registered contingent liability, audited collateral report
6. Debt service profile	Fixed schedule irrespective of price or volume; procyclical	State-contingent: more in good seasons, less in hard ones, written into the instrument
7. Disposal of the underlying	Effectively at the creditor's option on default	Requires Cabinet and parliamentary approval; enforcement cannot bypass the legislature
8. Who captures the coding value	The party that supplied the law and the lawyers	The issuing state and its domestic financial system

Table 7. The eight tests distinguishing resource-backed lending from Resource-Based Sovereign Finance

9.1 *The Ghana demonstration*

Ghana has, over the 18 months to mid-2026, assembled something close to the second column of that table without using any of the vocabulary of this paper. The sequence is worth setting out precisely, because it is the most important natural experiment in African resource-anchored finance currently running.

The Ghana Gold Board Act, 2025 (Act 1140) established a statutory body mandated to generate foreign exchange and to support gold reserve accumulation by the Bank of Ghana, consolidating a fragmented and heavily smuggled artisanal export trade into a single regulated channel. In 2025 the Board oversaw the export of 103 tonnes of gold, generating over US\$10 billion in foreign exchange inflows and lifting recorded artisanal and small-scale exports sharply from the 63.6 tonnes recorded for the whole of 2024. Gross international reserves rose from US\$9.0 billion at end-2024 to US\$13.8 billion at end-2025, equivalent to 5.7 months of import cover. On 27 February 2026 Parliament adopted the Ghana Accelerated National Reserve Accumulation Policy, setting a weekly purchase target of about 3.02 tonnes, of which at least 2.45 tonnes from the artisanal sector and a minimum of 0.57 tonnes from large-scale mining, on a trajectory to 8.6 months of import cover by end-2026, 11.8 months by 2027 and 15 months by 2028. Gold acquired into reserves may be sold only with prior Cabinet and parliamentary approval. Presenting the mid-year budget review on 23 July 2026, the Minister for Finance reported that the intervention had generated an additional US\$15 billion in foreign exchange inflows and had moved the current account balance from a surplus of 1.9% of output in 2024 to 8.3% in 2025, an improvement of 6.4 percentage points that the Minister attributed to the intervention. The cedi appreciated 40.7% against the dollar in 2025 and inflation fell from 23.5% in January 2025 to 3.8% in January 2026.

There are three features of this architecture that matter here, and they are legal rather than commodity features. The asset is retained rather than pre-sold: the state buys and holds gold, it does not pledge future production. The issuer is statutory and inside the fiscal perimeter, which is the direct inverse of the state-owned enterprise pattern that made resource-backed loans so opaque. And disposal requires legislative consent, which converts the reserve from a collateral pool into a sovereign asset. Ghana has, in effect, built layers 1 and 3 of the stack around a single commodity, and the macroeconomic result has been immediate.

It should be said plainly what has not yet been built, because a paper that claimed otherwise would deserve to be disbelieved. The architecture to date is a reserve accumulation architecture, not an issuance architecture. The gold anchors the currency by strengthening the external position; it does not yet stand behind a domestic instrument that finances a road. Both the Bank of Ghana and the International Monetary Fund have raised the question of where the carrying cost of the programme sits, and the transition of the Gold Board from agent of the central bank to full statutory operation in 2026 is precisely an attempt to answer it. Offtake prepayment arrangements of about US\$300 million secured from offtakers sit closer to the resource-backed loan pattern than to the sovereign pattern and should be watched carefully. The next step, and it is the step this

paper recommends, is to convert a defined and audited tranche of the reserve into the credit enhancement layer of a domestic, cedi-denominated infrastructure issuance programme, so that the gold does not merely stabilise the currency but is put to work as the thing that lifts a corridor bond into the band an African pension trustee may lawfully hold.

10. Tokenisation as a Legal Problem

The temptation in this area is to treat tokenisation as a technological achievement awaiting regulatory permission. That is the wrong order. Tokenisation is a legal problem with a technological component, and the technology has been adequate for some years. What has been missing is the code in Pistor's sense: the modules that make a token a claim rather than a speculation.

The African regulatory position changed materially in the 18 months to mid-2026. Ghana's Virtual Asset Service Providers Act, 2025 (Act 1154), passed by Parliament on 19 December 2025 and assented to on 30 December, establishes a licensing and supervisory framework administered jointly by the Bank of Ghana and the Securities and Exchange Commission. The schedule of licensable activities expressly includes stablecoin issuance and asset tokenisation services, which is the statutory hook a resource-backed claim requires. Nigeria's Investment and Securities Act, 2025 and Kenya's virtual asset legislation of October 2025 move in the same direction. Between them these statutes end the era in which the principal legal risk of a tokenised African instrument was that no one could say what it was.

There remain five legal preconditions, none of them technological. They constitute the actual work programme, and an issuance that skips any one will fail at the point where it matters, which is the point of redemption under stress.

Precondition	The question it answers	The instrument that answers it
1. Legal characterisation	Is the token a security, a payment instrument, a commodity receipt, or a claim sui generis?	Statutory or regulatory classification, with the redemption right expressed as a contractual claim against a named obligor rather than an expectation
2. Settlement finality	At what moment does transfer of the token transfer legal title, and is that moment recognised by the courts?	Amendment of securities settlement and payment systems legislation to recognise distributed ledger entries as constituting finality
3. Insolvency remoteness of the collateral estate	If the issuer fails, do holders reach the underlying, or do they queue behind general creditors?	A ring-fenced statutory estate. The OHADA patrimoine d'affectation under the agent des sûretés regime is a ready civil law prototype; a statutory trust serves in common law states

Precondition	The question it answers	The instrument that answers it
4. Verification and attestation	Who certifies that the reserve exists, at what frequency, and with what liability for error?	Licensed assayer and auditor regime, published attestation cycle, statutory liability for false attestation, independent custodian
5. Redemption and corridor discipline	Can issuance exceed verified collateral, and what happens under stress?	A convertibility corridor written into the instrument: a hard issuance ceiling as a proportion of audited collateral, tightening automatically under stress

Table 8. The five legal preconditions for a tokenised resource claim

The third precondition deserves particular emphasis because it is the one most often skipped and the one on which the whole structure rests. A token whose underlying sits on the issuer's balance sheet is not a claim on a resource; it is an unsecured claim on a company that owns a resource, and the difference becomes apparent only in insolvency, which is the only moment that matters. The OHADA security agent regime already provides the civil law answer: a security estate separate from the estate of the agent and unaffected by the bankruptcy of the agent. It was designed for syndicated lending in 2010, it is in force in 17 states, and it is, without amendment, the correct legal container for a tokenised collateral pool. That a uniform African law drafted for another purpose turns out to solve the central legal problem of resource tokenisation is the kind of result the Sankofa method predicts: the instrument was already there, and what was required was the recognition.

11. The Future: Infrastructure Finance in a Decentralised World

What follows are six propositions about where this is going. They are advanced as testable claims rather than forecasts, and they are deliberately unglamorous, because the useful consequences of distributed ledgers for African infrastructure have little to do with the features that attract attention.

11.1 Proposition 1: the unit of financing collapses, and the savings constraint moves

Infrastructure has been an institutional asset class because the minimum ticket was institutional. Fractionalisation removes that constraint at the technical level: a claim on a corridor can be held in units of a few cedis or shillings. The consequence for Africa is specific and large. The continent's savings problem has never been the absence of savings but their informality and their dispersion, and mobile money has already demonstrated that dispersed African savings can be aggregated at scale when the instrument fits the holder. A tokenised, listed, locally denominated corridor claim held directly by hundreds of thousands of savers is a different mobilisation route from the pension fund, and it does not wait on trustee reform. It waits instead on precondition 1 of Table 8, legal characterisation, which is why the binding constraint shifts from intermediary willingness to statutory drafting.

11.2 Proposition 2: intermediation relocates rather than disappears

The decentralisation illusion identified by Aramonte, Huang and Schrimpf (2021) is the most important corrective in this literature and it applies with full force here. DeFi protocols exhibit substantial concentration of governance and control; the intermediary is not eliminated but relocated into protocol governance, oracle provision and validator sets, where it is less visible and less accountable. Any African architecture that assumes decentralisation is delivered by the technology will discover that it has replaced a regulated bank with an unregulated foundation. The Omnidox reading is different and more demanding. The mycelium has no central brain and yet decides, but it decides through a dense mesh of local reciprocal relationships, not through the absence of structure. The corresponding financial form is polycentric and institutional: multiple African custodians, multiple assayers, multiple regulated venues, no single key. Decentralisation is a design achievement, not a technical property, and it must be legislated into existence.

11.3 Proposition 3: the decisive contest is over the verification layer

This is the central claim of the section. In a tokenised system the token is trivial; what carries value is the attestation that the underlying exists, in the stated quantity, of the stated quality, under the stated custody. Whoever performs that attestation occupies the position credit rating agencies occupy today, and does so with less competition and greater informational advantage. If African reserves, minerals, carbon stocks and agricultural inventories are tokenised on the basis of attestations performed by foreign assayers, foreign auditors and foreign oracle providers, then the Africa premium of section 4.2 will be reconstituted in a new form, denominated in attestation fees and haircuts rather than in basis points, and it will be harder to contest because it will present as a technical standard rather than as a judgement.

The strategic implication is immediate and it is not being acted upon. Africa should be building the assay, custody, audit and attestation layer with the urgency it has brought to the credit rating question. The African Credit Rating Agency is the right instinct applied to the wrong layer for the coming decade. An African attestation authority, licensed under statutes like Ghana's Act 1154, with statutory liability for false attestation and a published cycle, is the institution the next decade requires and it does not yet exist anywhere on the continent.

11.4 Proposition 4: programmable covenants make state-contingency cheap

State-contingent debt has been advocated for three decades and remains marginal. The reasons are practical rather than conceptual: verification cost, dispute over the trigger, and the renegotiation that follows every ambiguity. A covenant expressed in code against an attested data feed collapses those costs. Debt service that steps down automatically when a published commodity index falls below a threshold, or when measured corridor throughput falls below a band, requires no negotiation and generates no dispute, because the adjustment has already occurred by the time anyone convenes. This is the single most valuable contribution of distributed ledgers to African sovereign and project finance, and

it is entirely unglamorous. It is also the mycelial principle of section 7.1 rendered executable: source-to-sink routing written into the instrument rather than renegotiated in every downturn.

11.5 Proposition 5: settlement law becomes infrastructure policy

Delivery-versus-payment on a shared ledger eliminates the settlement risk that presently requires escrow agents, correspondent banks and multi-day cycles in cross-border African transactions. The Pan-African Payment and Settlement System has begun to address the payment leg at the level of the region. The securities leg awaits amendment of national settlement finality legislation, precondition 2 of Table 8. The consequence, when it arrives, is that a corridor treasury becomes programmable: revenues from four countries arrive into a single segregated pool, the published waterfall executes without a paying agent, and the reconciliation that presently consumes months becomes continuous. The corridor waterfall of section 8.4 stops being an administrative aspiration and becomes an operational fact.

11.6 Proposition 6: the tokenised resource-backed loan is the danger

The warning is stated last because it is the most important. Every efficiency described above is available to the counterparty as well as to the state, and it is available to them first, because they have the counsel, the technology and the capital. A resource-backed loan whose collateral is tokenised, whose offtake is enforced by smart contract against an oracle the lender selects, whose escrow is an address rather than an account, and whose governing law is the law of a jurisdiction chosen for the flexibility of its digital asset statute, is a strictly worse instrument for the borrower than the paper version. It is faster to execute, harder to renegotiate, invisible to the debt statistics, and enforceable without a court. The 40% of resource-backed loans booked to state-owned enterprises outside the budget could be executed in a week by an entity with a wallet.

This is not a speculative concern. It is the predictable next form of an instrument that has already been documented 52 times, and the legal defences against it are exactly the eight tests of Table 7 and the five preconditions of Table 8, applied without exception. A state that legislates settlement finality, tokenisation licensing and collateral estates without simultaneously legislating that the underlying of any tokenised sovereign resource claim may be disposed of only with parliamentary consent, has built the road and omitted the brakes.

Proposition	Claim	What it requires	How it could be falsified
1. The unit collapses	Fractionalisation moves the minimum ticket from institutional to retail, opening a savings mobilisation route that does not wait on trustee reform	Legal characterisation of the claim; listing and disclosure regime	Retail uptake of a compliant, listed corridor claim remains negligible at competitive yields

Proposition	Claim	What it requires	How it could be falsified
2. Intermediation relocates	Decentralisation is a design achievement, not a technical property; governance and oracle provision reconcentrate	Polycentric custody, multiple assayers, multiple venues, no single key	A tokenised African infrastructure instrument operates at scale without governance concentration
3. Verification is the contest	Value accrues to whoever attests that the underlying exists; the Africa premium can be reconstituted as attestation cost	An African assay, custody, audit and attestation authority with statutory liability	Attestation fees and haircuts on African tokenised assets converge on global norms without African provision
4. Covenants become cheap	Programmable covenants collapse the verification and renegotiation cost that has kept state-contingent debt marginal	Attested data feeds; settlement finality; a published trigger	State-contingent instruments remain marginal even where attested feeds exist
5. Settlement law is policy	Delivery-versus-payment on shared ledgers makes the corridor waterfall operational rather than administrative	Amendment of settlement finality law; regional payment interoperability	Cross-border corridor settlement costs and cycles fail to fall after finality reform
6. The tokenised RBL is the danger	Every efficiency is available to the counterparty first; the tokenised resource-backed loan is faster, harder to renegotiate and invisible to debt statistics	Parliamentary consent for disposal of any tokenised sovereign resource claim; mandatory registration	Tokenised resource-backed transactions appear with published terms, onshore accounts and domestic law

Table 9. The six propositions on the future of infrastructure finance in a decentralised world

12. The Corridor Compact and a 10-Year Sequence

The preceding sections yield an instrument and a programme. The instrument is the Corridor Compact: a single multilateral legal frame agreed by the states along a corridor before any financing is sought, which pre-codes the six modules on terms the states have chosen rather than terms a counterparty supplies. Its purpose is to move the negotiation upstream, to the moment at which the states hold the most leverage they will ever hold, which is the moment before the money is needed.

THE CORRIDOR COMPACT

A multilateral instrument concluded among the states of a trade corridor prior to the solicitation of financing, which establishes a single corridor authority, a common security regime, a pooled and legally segregated revenue waterfall, a harmonised tariff methodology, a common governing law and African seat of arbitration, a shared contingent liability register, and a standing reservation of a defined tranche of the financing for domestic institutional capital in local currency. Its function is to ensure that the six modules of bankability are coded once, in advance, by the parties whose sovereignty they consume.

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The minimum viable Compact requires 12 provisions.

- A corridor authority with international legal personality, capacity to contract and to hold assets, and a governance structure in which no single state holds a blocking key.
- A single governing law for corridor finance documents, being either the law of a designated corridor state or the OHADA framework where applicable, with an African seat of arbitration named in advance.
- A common security regime, with a designated security agent qualifying under article 5 of the OHADA Uniform Act where the corridor includes OHADA states, and reciprocal recognition of perfected interests across all corridor jurisdictions.
- A pooled revenue waterfall: all corridor revenues into a single legally segregated account, distributed by a published rule, with cross-collateralisation across assets during ramp-up.
- A harmonised tariff methodology with a formulaic adjustment mechanism, removing tariff setting from annual political negotiation without removing it from public accountability.
- A standing liquidity facility sized at a stated number of months of offtaker payments, replenishable, in place of blanket sovereign guarantees.
- State-contingent debt service as the default: coupons or concession fees that flex with measured throughput or commodity price within a published band.
- A reserved tranche, being a defined minimum percentage of the corridor financing reserved for African institutional investors in local currency, with the credit enhancement necessary to make that tranche lawfully holdable.
- A shared, published contingent liability register, with the express provision that an unregistered guarantee is unenforceable.
- Local content and capability transfer obligations expressed as verified outcomes with measurement and consequence, not as declared intentions.
- A publication rule: every corridor finance contract published within a stated period of signature, subject only to narrowly defined and time-limited commercial redactions.
- A step-in protocol under which creditor step-in requires notification to, and a defined consultation with, the corridor authority, so that transfer of control over a strategic asset remains a visible political act.

Phase	Actions	Institutional owner	Test of success
Years 1-2: Foundation	Contingent liability registers legislated and published; PPP standard-form suites drafted; movable collateral registries established; AfCFTA Investment Protocol ratified to the 22nd instrument	Ministries of finance and justice; AU Commission; parliaments	Register published and legally binding; Protocol in force
Years 2-4: Enablement	Pension and insurance regulations amended to create an explicit infrastructure class; standardised listed infrastructure bond wrapper approved; AfCRA rating local-currency issues; ATIDI guarantee capacity scaled toward US\$10 billion a year	Central banks, pension regulators, capital market authorities, AfDB, ATIDI, AfCRA	First domestically rated, locally denominated, guarantee-enhanced infrastructure bond bought by a domestic pension fund
Years 3-6: Demonstration	Two corridors selected; Corridor Compacts concluded before financing solicitation; reserved tranche placed with domestic institutions; state-contingent coupons priced	Corridor authorities, RECs, AFC, Afreximbank, DBSA	A corridor reaching financial close with a majority African, majority local-currency capital stack
Years 4-7: Anchoring	A verified reserve tranche committed as credit enhancement behind a domestic issuance programme; audited collateral reporting cycle established; convertibility corridor written into the instrument	Central banks, statutory resource boards, auditors general	An issuance whose enhancement is a domestic verified asset rather than an external guarantee
Years 5-8: Verification	African assay, custody and attestation authority licensed and operating; statutory liability for false attestation; published attestation cycle	Securities regulators, central banks, standards bodies, professional institutes	A tokenised African claim attested wholly within Africa and accepted at global haircut norms
Years 6-10: Settlement and scale	Ring-fenced statutory collateral estates constituted; settlement finality recognised in law; licensed tokenised claims issued and redeemed under stress at least once	Securities regulators, central banks, licensed VASPs, custodians	A redemption honoured in a stressed market without recourse to external support

Table 10. A 10-year sequencing programme

13. Objections

This is resource-backed lending with better manners.

It is not, and Table 7 gives the answer test by test. The resource-backed loan alienates unextracted output to an external counterparty under foreign law through an offshore account on confidential terms. Resource-Based Sovereign Finance issues a claim against a retained, verified, audited stock under domestic law through onshore accounts on published terms, with disposal requiring legislative consent and debt service that flexes with capacity to pay. If a proposed transaction fails any of the eight tests it is a resource-backed loan and this paper opposes it. The distinction is operational, not rhetorical, and it can be applied to any term sheet in an afternoon.

Pension trustees owe fiduciary duties and should not be conscripted into national development.

The objection is correct and it is accepted without qualification. No argument is made for directed investment, and any regime that compels trustees to hold assets on political grounds should be resisted, including by the author. The claim is different: that the current allocation is itself a distortion, produced by rules that make the correct asset unholdable rather than by any trustee judgement that it is unattractive. A long-dated, inflation-linked, local-currency claim on a domestic revenue stream is a better match for an African pension liability than a short-dated treasury bill rolled indefinitely. The reforms at layer 6 compel no allocation. They remove the obstacles to a voluntary one and then let trustees decide. If, with a rated instrument, a scaled guarantee and a listed wrapper available, African trustees still decline, the thesis has been tested and found wanting, and that is the appropriate outcome.

Tokenisation is speculative froth attached to a serious argument.

Much of it is. The response is the discipline of section 10: a token that is not a legally characterised claim against a named obligor, over a ring-fenced estate, with an audited attestation cycle and a hard issuance corridor, is not an instrument of this framework. The specification is deliberately demanding, and the demand is the point. Tokenisation adds three things and only 3: divisibility, which lets a domestic saver hold a fragment of a corridor; provenance, which lets a claim carry its own audit trail; and programmability, which makes state-contingent covenants cheap. None requires belief in anything. All three are ordinary improvements to settlement and record-keeping, and if they cannot be delivered under the five preconditions they should not be delivered at all.

Sovereignty rhetoric raises the cost of capital.

This is the most serious objection and it contains a real risk. A state that signals it may reinterpret contracts will pay more, and deservedly. But the argument runs the other way. What is proposed is not less enforceability; it is more, relocated. A published contract, a registered contingent liability, a ring-fenced statutory estate, a formulaic tariff and a named African seat of arbitration are all increases in legal certainty. The uncertainty that presently prices into African spreads is substantially the uncertainty of opacity:

undisclosed guarantees, unregistered collateral, contracts no one has read. The Compact reduces that uncertainty. Sovereignty in this framework means writing the code, not declining to be bound by it.

You cannot code what you cannot administer.

True, and it is why the sequencing in Table 10 puts registers and standard forms before corridors and tokens. Capability is the substrate, and section 7.4 makes its accumulation a design requirement rather than an aspiration. The specific remedy is that every transaction should carry an explicit, priced, measured capability transfer: a domestic co-arranger with a real mandate, domestic counsel on the drafting rather than on the certificate, a domestic rating alongside the international one, and a published transaction post-mortem. This costs basis points. It is the cheapest infrastructure Africa can buy.

Local currency markets are too shallow to carry this.

They are shallow, and they are also the only markets whose depth Africa controls. Shallowness is not a fixed parameter; it is the cumulative consequence of every issuance that went abroad instead. The domestic market deepens by being used, which is why the reserved tranche in the Compact is stated as a minimum rather than an aspiration, and why the first corridor bond matters more for the precedent it sets than for the capital it raises. There is a floor beneath this argument and the paper concedes it, exactly as the first Omnidox lecture conceded the entropic floor: a project whose imported capital goods must be paid in dollars will need some dollars, and no amount of domestic issuance changes that. The claim is that the currency composition of African infrastructure finance is presently far from that floor, and that the distance is written in rules.

14. Conclusion: Attend to the Roots

The claim of this paper can be stated without hedging. Africa is not short of capital for infrastructure. It holds more than US\$4 trillion of domestic institutional and bank savings, more than the entire stock of external flows received in the decade to 2024, and it deploys under 2.7% of the institutional portion into the assets those savings were made for. It is short of three things, and all three are legal. It is short of the rules that would permit domestic capital to reach domestic assets. It is short of an evaluative authority whose judgement of African risk is grounded in African data and on which African trustees may lawfully rely. And it is short of the coding capacity that turns an asset into capital, which is why the coding is done by others and why the value the coding creates is captured by others.

Scarcity here is manufactured, and it is measurable in each of its three forms: about US\$74.5 billion in the subjective residual of credit assessment; a fence of prudential rules separating a US\$1 trillion pension pool from the roads its liabilities match; and four projects in five dying at feasibility because no legal framework existed to allocate their risks. The mechanism translates. A generative financial architecture routes resources from surplus toward need through state-contingent instruments, keeps the network

rather than the node as the unit of account through the corridor, corrects deficiency by reciprocal reward rather than by decree through performance-linked payment, and leaves the substrate richer than it found it by pricing capability transfer into every transaction. None of these is exotic. All are ordinary instruments of project finance assembled around a different premise about what the transaction is for.

Ghana has shown in 18 months that the resource anchor works when it is coded properly: a statutory issuer inside the fiscal perimeter, an asset retained rather than pre-sold, disposal requiring parliamentary consent, and a macroeconomic result no external programme delivered in a decade. What remains is to carry that architecture from the reserve into the issuance, from the currency into the corridor, and from one country into the compacts that bind a corridor's states before its financing is sought.

The decentralised turn will not resolve any of this by itself, and it may make it worse. The efficiencies it offers are available first to the party with the counsel and the capital, and the tokenised resource-backed loan, faster to execute, harder to renegotiate and invisible to the debt statistics, is the predictable next form of an instrument already documented 52 times. What the turn does offer, if the legal work is done first, is three things worth having: a savings mobilisation route that does not wait on trustee reform, a covenant technology that finally makes state-contingent debt cheap enough to be normal, and a settlement architecture that makes the corridor treasury an operational fact rather than an administrative aspiration. The contest that decides which future arrives will be fought over the verification layer, and it is not yet being fought at all.

The mushroom breaks the surface only because the network beneath it has done the unseen work of years. So it is with a nation's infrastructure. Attend to the visible asset alone, the road, the port, the transmission line, and one will keep mistaking the fruit for the organism and the fence around it for a law of nature. Attend to the roots, the legal grammar through which savings actually become capital, and the financing of Africa's infrastructure ceases to be a thing that is petitioned for and becomes a thing that is built, from what the continent already holds, by those willing to write the code.

Unseen roots. Abundant harvest.

Evidence Dossier: Verified Figures and Findings

Figures are stated as they appear in the argument, each attributed to a primary source. Where an estimate is contested or range-bounded, the range is given rather than a point value.

Claim	Verified figure or finding	Source
Domestic capital pools	Non-bank domestic capital pools above US\$2 trillion, against approximately US\$1.7 trillion of cumulative external flows 2014-2024; pension and insurance assets above US\$1 trillion for the first	Africa Finance Corporation (2026)

Claim	Verified figure or finding	Source
	time; total investable domestic capital estimated at about US\$4.4 trillion	
Institutional allocation	African institutional investors manage around US\$4 trillion, of which less than 2.7% is allocated to infrastructure and productive sectors in Africa	African Development Bank (2026)
Reserves and gold	African central bank reserves US\$530 billion in 2025, from US\$480 billion in 2024; gold about 17% of reserves, from under 10% in 2022-2023	Africa Finance Corporation (2026)
External flows	ODA fell 23.1% in 2025, the largest contraction on record; sovereign issuance fell from over US\$29 billion in 2018 to US\$4-6 billion annually in 2022-2023	Africa Finance Corporation (2026)
Infrastructure gap	US\$130-170 billion per year across energy, transport, water, digital and logistics; needs of US\$181-221 billion per year over 2023-2030; structural transformation gap of about US\$402 billion by 2030	African Development Bank (2024; 2026)
PIDA PAP2	69 cross-border projects, aggregate capital cost about US\$160.8 billion, requiring about US\$16 billion a year, 60% above the US\$10 billion annual average of PAP1	AUDA-NEPAD (2023)
The Africa premium	Subjectivity in sovereign credit assessment costs African countries up to US\$74.5 billion: over US\$24 billion in excess interest and more than US\$46 billion in forgone lending, exceeding total ODA to Africa in 2021	UNDP (2023); Gilpin and Bhattacharya in Brookings, Foresight Africa 2024
Yield differentials	African Eurobond yields averaged about 9.8% over 2018-2023 against 5.3% for Asia and 6.8% for Latin America; African dollar bond yields reached 9% in 2024 against about 4.7% for Asian emerging markets and 6.5% for Latin America	AfriCatalyst (2025); OECD (2025)
Ratings coverage	32 African countries carried at least one rating from the three dominant agencies in early 2026, of which 4 were investment grade; African sovereigns carry roughly US\$730 billion in outstanding bonds	UNECA and APRM (2026); African Business (2026)
Preparation failure	Fewer than 10% of African infrastructure projects reach financial close; about 80% fail at the feasibility and business-plan stage; development costs of feasibility-stage projects in the six largest markets estimated at US\$30 billion	McKinsey (2020)

Claim	Verified figure or finding	Source
Conversion of pledges	South Africa converted just under 42% of US\$91 billion in investment pledges since 2018 into realised flows by March 2026, against a global realisation norm of 60-80%	Asamani and Ika (2026)
Debt service burden	External debt service-to-revenue projected to rise from 15.4% in 2024 to about 18.2% in 2025; interest payments exceed health or education spending in four of 5 African countries; 32 countries spend more on external debt service than on healthcare and 25 more than on education; average 17% of revenue to debt service	World Bank (2026); open letter of economists, October 2025
Resource-backed loans	52 RBLs identified 2004-2018 totalling over US\$164 billion, of which 30 loans worth US\$66 billion to sub-Saharan Africa; 53% of the African amount from 2 Chinese policy banks; 43 oil-backed, 6 mineral, 2 cocoa, 1 tobacco; two-thirds of borrowers scoring poorly or failing on the Resource Governance Index; SOE borrower in 40% of cases	Mihalyi, Adam and Hwang (2020)
Lobito Corridor	Financial close 3 July 2026 at US\$753 million: US\$553 million from the US DFC and US\$200 million from DBSA; concessionaire Lobito Atlantic Railway, a Mota-Engil and Trafigura joint venture; 1,300 km brownfield rail from the Port of Lobito to the DRC border	Africa Finance Corporation (2026a)
Guarantee capacity	AfDB approved a US\$125 million equity investment in ATIDI on 22 May 2026, raising its stake from about 3% to 14%, with a stated ambition of US\$10 billion in annual guarantees; ATIDI has supported about US\$93 billion since inception and is rated A by S&P and A2 by Moody's	African Development Bank (2026a); ATIDI (2026)
Ghana gold architecture	Reserves US\$13.8 billion (5.7 months cover) from US\$9.0 billion at end-2024; 103 tonnes exported in 2025 generating over US\$10 billion; ASM recorded exports from 63.6 tonnes in 2024; GANRAP adopted 27 February 2026, weekly target about 3.02 tonnes, path to 15 months cover by 2028; additional US\$15 billion in FX inflows reported at the 2026 mid-year review; current account surplus from 1.9% (2024) to 8.3% (2025); cedi appreciation 40.7% in 2025; inflation 23.5% (Jan 2025) to 3.8% (Jan 2026)	Ghana Gold Board (2026); Ministry of Finance, Ghana (2026); Bank of Ghana (2026)

Claim	Verified figure or finding	Source
Ghana virtual assets	Virtual Asset Service Providers Act, 2025 (Act 1154) passed 19 December 2025 and assented 30 December 2025; BoG and SEC as regulators; licensable activities expressly include stablecoin issuance and asset tokenisation services	Bank of Ghana (2026a); Republic of Ghana (2025b)
OHADA security agent	Articles 5 to 11 of the revised Uniform Act on Security Interests create the agent des sûretés, restricted to credit institutions, holding a security estate separate from its own and unaffected by the insolvency of agent or debtor; the regime informed the French reform effected by ordonnance of 4 May 2017	OHADA (2010); Hogan Lovells (2017)
AfCFTA Investment Protocol	Adopted 19 February 2023; enters into force 30 days after the 22nd instrument of ratification; terminates and replaces about 173 intra-African bilateral investment treaties; dispute settlement annex under negotiation	African Union (2023); UNCTAD (2024)

Table 11. Evidence dossier

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