African Edge Data-Centre Portfolio Finance with Anchor-Tenant Guarantees

An Evidence-Gated Framework for Standard Contracts, Telemetry, Portfolio Covenants and Recovery

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Abstract

Edge data centres can bring computing, storage and content closer to African users, enterprises and public services. Their financing problem differs from a large hyperscale campus. Each facility may be small, depend on a local power and fibre path, serve a limited customer pool and incur country-specific regulatory and currency risk. A diversified portfolio can improve resilience only when assets, contracts, telemetry, accounts and remedies are sufficiently standard to be monitored and enforced as one credit.

This paper develops an African Edge Data-Centre Portfolio-Finance Framework. It defines site eligibility, standardises anchor-tenant agreements and guarantees, reconciles technical availability with billable service and aggregates cash through controlled accounts. It distinguishes a tenant service commitment from a parent guarantee, a demand indication from minimum revenue and facility availability from customer acceptance. The framework uses site-level telemetry, country and customer concentration limits, reserve mechanics, foreign-exchange controls and portfolio stop-draw tests.

The worked case is wholly hypothetical. A platform develops twelve 1.5 MW facilities across six African markets, creating 18 MW of planned customer-usable IT load. Total cost is assumed at USD 108 million, funded with USD 58 million of senior debt, USD 32 million of sponsor equity and USD 18 million of anchor-tenant prepayments and subordinated capacity payments. Each site has a ten-year service agreement, a five-year minimum-revenue period and a limited parent guarantee covering specified unpaid minimum revenue after a 60-day cure process. The portfolio converts from construction to term debt only after ten sites are accepted, at least 13.5 MW is customer-usable, aggregate annualised contracted revenue reaches USD 25 million and forward debt-service coverage is at least 1.45 times. These figures do not describe an identified platform, tenant, lender, country programme or transaction.

The analysis concludes that aggregation should follow evidence rather than facility count. Each site should enter the borrowing base only after title, permits, power, fibre, tested capacity, insurance, security, customer acceptance and cash controls are verified. A guarantee should receive value only for its enforceable amount, term, conditions, obligor, jurisdiction and collection path. Portfolio covenants should measure billable capacity, availability, collected revenue, liquidity and concentration; average performance should not conceal a failing site or exhausted local remedy. Recovery planning should preserve operating clusters, network relationships, site access and customer continuity while comparing portfolio, country-cluster and site-by-site outcomes.

JEL Classification: G21, G28, G31, G32, L86, O18

Keywords: African edge data centres, portfolio finance, anchor-tenant guarantee, digital infrastructure, telemetry, power availability, multi-country finance, portfolio covenants, edge computing, project finance

1. Define the portfolio perimeter

The decision question is which companies, sites, land rights, power systems, fibre links, customer contracts, guarantees, accounts and cash flows support the facility. The evidence file should begin with entity charts, ownership records, site schedules, contracts, permits, account mandates, security documents and intercompany agreements. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [1][2]

The principal failure is that a branded regional platform is treated as one borrower even though value and remedies sit in separate entities and countries. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to map every asset, obligation, cash flow and enforcement right to its legal owner and financing vehicle. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

2. Identify the edge-demand case

The decision question is which latency, localisation, resilience, content, enterprise and public-service needs support each site. The evidence file should begin with traffic studies, customer workloads, internet-exchange data, mobile demand, enterprise pipeline and signed commitments. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [3][4]

The principal failure is that continent-wide digital growth substitutes for a city-level demand and customer case. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to underwrite demand by catchment, workload, customer and executable contract rather than regional headline growth. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

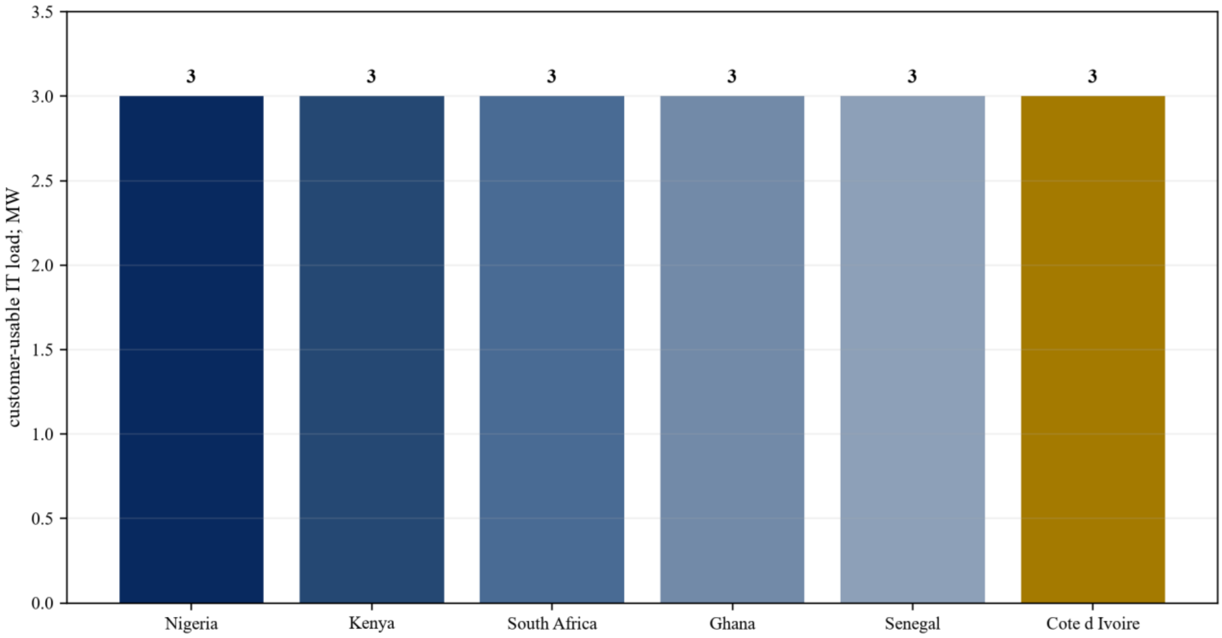
3. Standardise site archetypes

The decision question is which modular design, capacity, redundancy, cooling, security and service scope can repeat across markets. The evidence file should begin with design basis, equipment schedule, operating standards, site surveys, climate data and customer specifications. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [5][6]

The principal failure is that facilities described as standard contain material differences in capacity, equipment, resilience and operating cost. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to define approved archetypes and quantify every permitted deviation before funding. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

Figure 1. Hypothetical twelve-site portfolio by market



Wholly hypothetical; customer-usable IT load in MW.

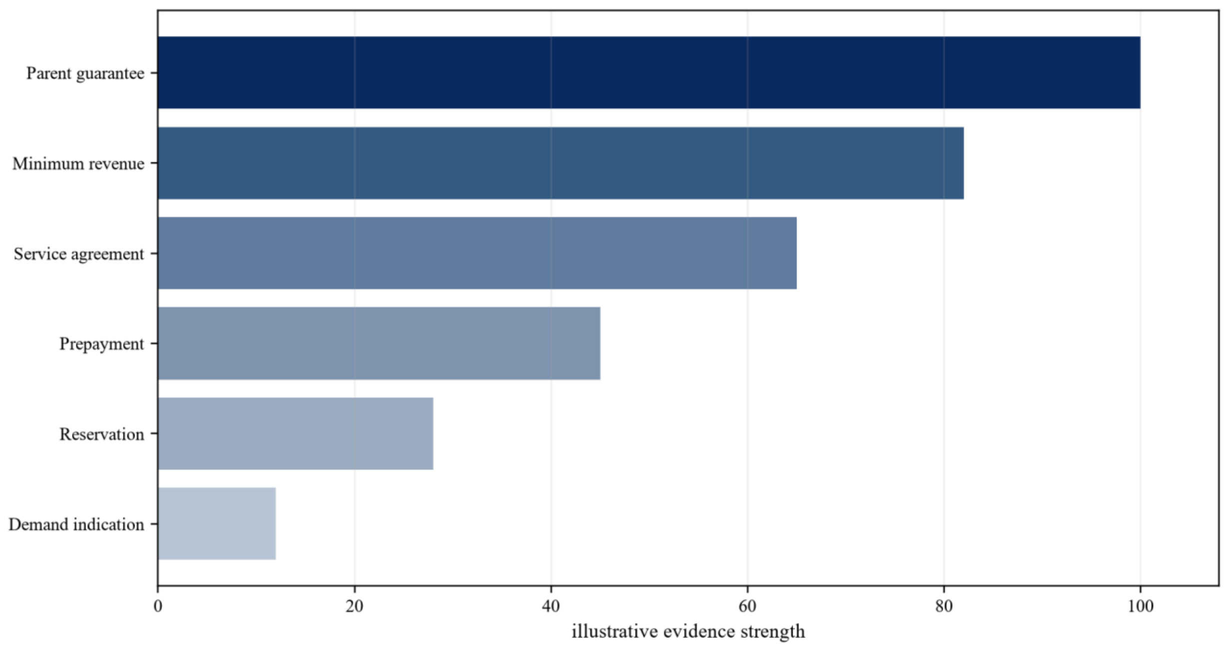
4. Build the anchor-commitment ladder

The decision question is which tenant documents create demand evidence, prepayment, minimum revenue and enforceable payment. The evidence file should begin with letters of interest, reservations, prepayments, service agreements, acceptance schedules and guarantees. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [7][8]

The principal failure is that anchor status is inferred from brand or expected traffic rather than an enforceable obligation. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to classify every commitment by capacity, price, term, conditions, remedy, obligor and support. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

Figure 2. Anchor-tenant commitment evidence ladder



Proposed hierarchy; executed terms and applicable law determine enforceability.

Table 1. Anchor-commitment evidence ladder

Commitment	Core evidence	Financing treatment
demand indication	non-binding interest	market context only
reservation	capacity, fee and expiry	conditional evidence
prepayment	funded cash and refund rights	liability-adjusted source
service agreement	scope, price, term and acceptance	contracted cash subject to conditions
minimum revenue	enforceable floor and remedies	stressed contracted cash
parent guarantee	valid support and obligor capacity	limited credit enhancement

Proposed classification; documents and applicable law determine treatment.

5. Underwrite the guarantee

The decision question is what amount, period, trigger, defence, cap, currency and enforcement route apply to parent support. The evidence file should begin with executed guarantee, board authority, legal opinions, governing law, financial statements and claims mechanics. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [8][9]

The principal failure is that guaranteed revenue is modelled without the limits and conditions that determine collection. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to value the guarantee only after contractual, credit, jurisdictional and timing haircuts. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

6. Verify anchor credit quality

The decision question is which entity owes service payments and which entity provides support. The evidence file should begin with group structure, audited accounts, ratings, covenant data, guarantee and intercreditor documents. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [7][10]

The principal failure is that a regional telecom or cloud brand is treated as equivalent to the credit of the actual obligor. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to underwrite each obligor and guarantor and monitor changes in ownership, leverage, liquidity and legal capacity. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

7. Create the standard contract suite

The decision question is which provisions remain consistent across service, power, fibre, maintenance, site and finance documents. The evidence file should begin with approved forms, deviation schedules, legal opinions, customer amendments and country annexes. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [8][11]

The principal failure is that portfolio modelling assumes common economics while termination, credits, acceptance and indexation differ by site. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to use controlled templates with a quantified deviation register and lender consent thresholds. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

Table 2. Standard contract deviation register

Provision	Standard position	Escalation trigger
acceptance	witnessed site test	subjective customer discretion
minimum revenue	stated amount and dates	usage-only payment
service credits	capped and measurable	uncapped remedy
termination	defined default and cure	convenience termination
indexation	documented currency formula	unilateral reset
assignment	lender and successor rights	prohibited transfer

Proposed control; each country requires legal review.

8. Gate site readiness

The decision question is which land, permits, construction, power, network, security and customer conditions permit a site draw. The evidence file should begin with title or lease, permits, designs, contracts, engineer reports, utility evidence, fibre orders and acceptance plan. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [12][13]

The principal failure is that capital is advanced because a site is in the rollout plan before it is legally and technically financeable. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to require a site-specific readiness certificate and sufficient remaining funds before every construction draw. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

Table 3. Site-readiness certificate

Gate	Evidence	Stop-draw event
site rights	title or lease and consents	defect or expiry
permits	construction and operation approvals	missing approval
power	rights, works and tests	delay or capacity loss
fibre	contracts and physical diversity	shared route or expiry
customer	aligned scope and acceptance	downsizing or termination
funding	balanced sources and remaining cost	shortfall

Proposed lender gate; finance documents determine conditions.

9. Prove power availability

The decision question is which grid, generation, storage, backup, fuel and curtailment arrangements support contracted service. The evidence file should begin with connection rights, supply agreements, load studies, generator tests, fuel contracts, telemetry and outage history. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [14][15]

The principal failure is that installed equipment capacity is equated with reliable customer-usable IT load. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to derive eligible load from tested concurrent power and cooling under the applicable resilience standard. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

10. Prove fibre and route diversity

The decision question is which carriers, paths, exchange points and cross-border links sustain service and recovery. The evidence file should begin with route maps, carrier contracts, diversity evidence, latency tests, outage history and step-in rights. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [2][16]

The principal failure is that two commercial contracts are treated as diversity despite shared ducts, landing stations or upstream networks. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to verify physical route separation and define alternative capacity and cure rights. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

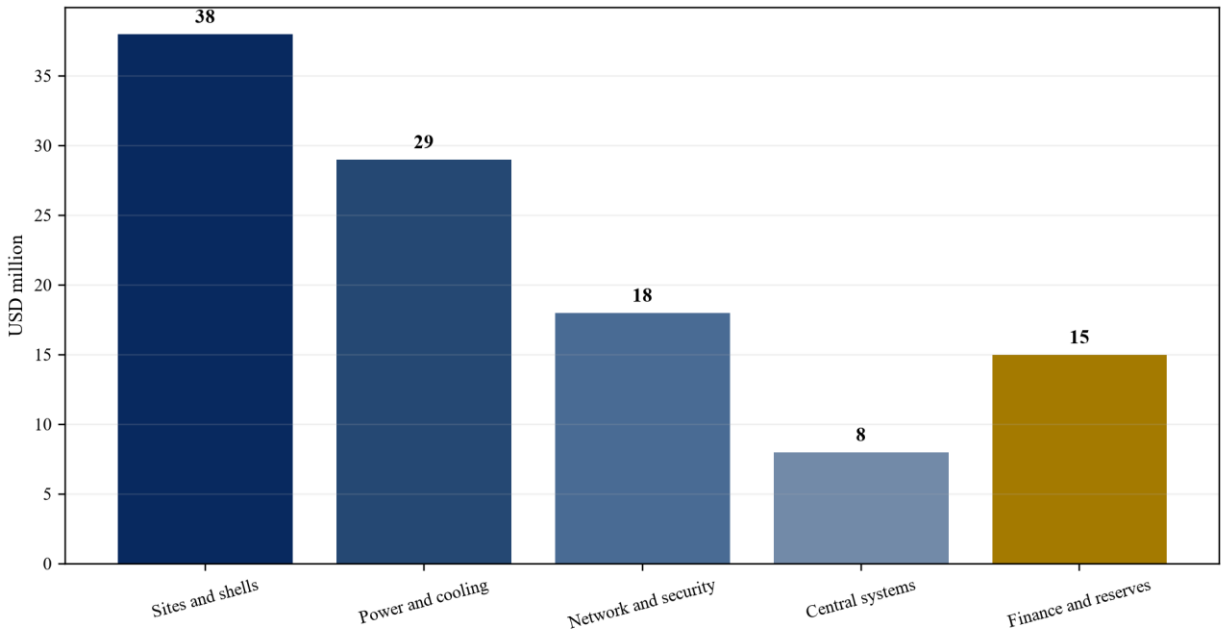
11. Rebuild sources and uses

The decision question is how land, civil work, power, cooling, network, security, financing, reserves and working capital are funded. The evidence file should begin with contracts, invoices, cost plans, tax treatment, procurement records and sponsor evidence. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [12][17]

The principal failure is that portfolio totals conceal underfunded sites, refundable taxes and unallocated central costs. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to reconcile each use to a site, beneficiary, committed source and eligibility rule. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

Figure 3. Hypothetical portfolio sources and uses



Wholly hypothetical; USD million.

12. Allocate shared and central cost

The decision question is how network operations, monitoring, software, spares, staff and development cost are allocated. The evidence file should begin with cost centres, service agreements, headcount, licences, spares policy and site utilisation. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [17][18]

The principal failure is that central cost is omitted from site economics or allocated by an arbitrary revenue percentage. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to use an auditable driver and test both site contribution and portfolio cash after shared cost. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

13. Design construction draw gates

The decision question is which progress, budget, power, fibre, customer and security evidence permits each advance. The evidence file should begin with draw request, invoices, engineer certificate, customer schedule, account statement and remaining-cost test. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [12][13]

The principal failure is that portfolio debt grows while specific sites lose readiness or customer alignment. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to gate each draw by site and suspend the portfolio when common or concentration failures arise. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

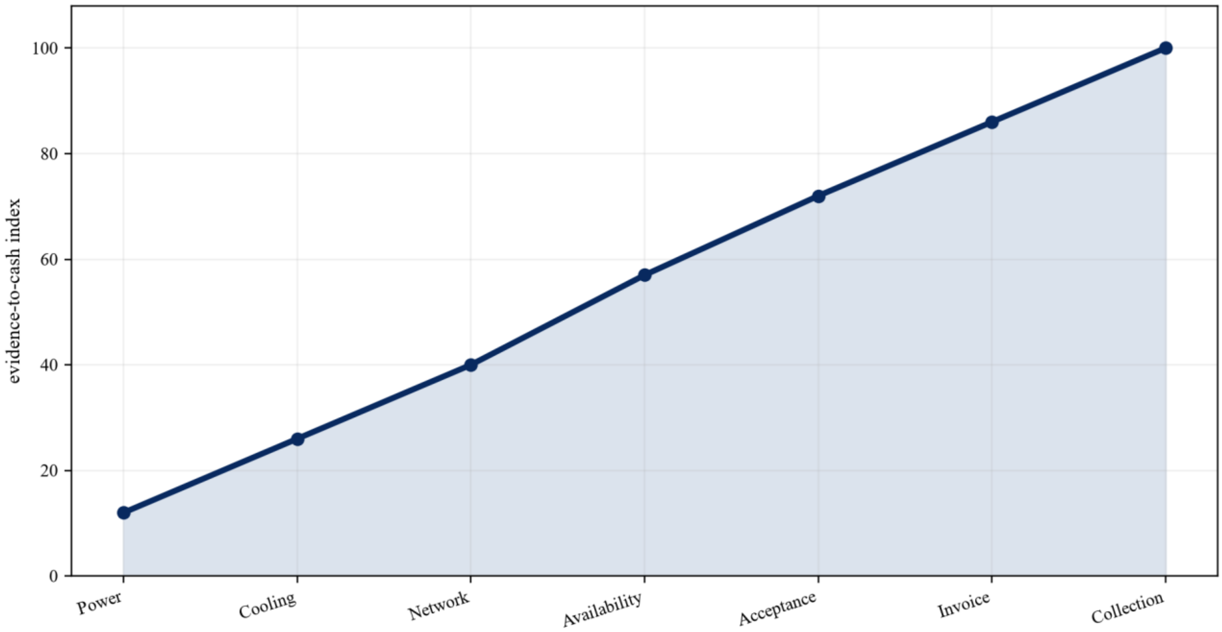
14. Create the telemetry evidence chain

The decision question is how physical capacity, availability, consumption, incidents and customer service become lender evidence. The evidence file should begin with meter data, building systems, network monitoring, tickets, logs, invoices and immutable audit trails. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [19][20]

The principal failure is that management reports aggregate availability without reconciling sensors, incidents, credits and billing. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to preserve site-level source data, exception ownership and independent access for the finance parties. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

Figure 4. Telemetry-to-cash evidence chain



Proposed control sequence; contracts determine actual billing rights.

Table 4. Site telemetry and cash reconciliation

Evidence point	Source	Financial use
available power	meter and switchgear	eligible capacity
cooling performance	building system	service availability
network uptime	carrier and network monitor	contract compliance
accepted capacity	customer certificate	billing right
invoice	finance system	receivable
bank receipt	controlled account	debt-service cash

Proposed control chain; source systems require independent assurance.

15. Translate service into collected cash

The decision question is when tested capacity and availability create enforceable invoices and bank receipts. The evidence file should begin with acceptance records, minimum-revenue terms, metering, invoices, credits, disputes and bank statements. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [8][18]

The principal failure is that contracted megawatts and reported availability are treated as cash before acceptance, credit and collection. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to model revenue from enforceable billing events and reconcile it monthly to collected cash. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

16. Control currency and cash movement

The decision question is how local-currency revenue, dollar-linked obligations, taxes, convertibility and distributions affect debt service. The evidence file should begin with contracts, account statements, hedge terms, tax advice, exchange controls and distribution approvals. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [21][22]

The principal failure is that portfolio cash is summed in one currency without conversion cost, timing, restriction or trapped-cash risk. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to apply country-level cash waterfalls, liquidity buffers and permitted hedge or indexation rules. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

17. Map country and regulatory risk

The decision question is which licences, data rules, telecom approvals, foreign ownership and enforcement requirements apply. The evidence file should begin with licences, data-protection rules, permits, legal opinions, policy registers and compliance evidence. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [11][23]

The principal failure is that one operating model assumes rights and remedies transfer consistently across countries. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to maintain a country annex and stop eligibility when a required approval or lawful operating basis changes. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

18. Integrate environmental and social controls

The decision question is how land, energy, fuel, water, noise, labour, security and community effects are managed. The evidence file should begin with impact studies, permits, plans, monitoring, incident records and stakeholder evidence. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [24][25]

The principal failure is that small modular sites are assumed immaterial despite cumulative fuel, battery and community effects. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to apply portfolio standards with site-specific risk controls and lender reporting. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

19. Fund construction and operating liquidity

The decision question is how interest, commissioning, delay, fuel, repairs, customer ramp and trapped cash are financed. The evidence file should begin with monthly model, reserve accounts, sponsor commitments, insurance and downside actions. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [13][21]

The principal failure is that a fully funded construction plan excludes cash required between technical completion and stable collection. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to size portfolio and country liquidity for combined delay, outage, ramp and currency scenarios. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

20. Set eligibility and portfolio covenants

The decision question is which site, customer, cash, performance and concentration tests protect lenders before payment default. The evidence file should begin with borrowing base, telemetry, contracts, accounts, valuations and compliance certificates. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [9][19]

The principal failure is that average coverage conceals a site cluster that is unbillable, unsupported or cash trapped. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to combine site eligibility with portfolio DSCR, liquidity, concentration and stop-draw tests. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

Table 5. Proposed portfolio covenant dashboard

Test	Measurement	Possible response
eligible sites	fully gated site count	stop draws
billable capacity	accepted customer load	resize availability
availability	site and portfolio telemetry	cure or reserve

Test	Measurement	Possible response
concentration	customer and country share	restrict expansion
liquidity	controlled unrestricted cash	cash trap
forward DSCR	collected cash after stress	prepay or cure

Proposed framework; negotiated documents determine thresholds.

21. Apply the hypothetical twelve-site case

The decision question is how USD 108 million of uses and USD 58 million of debt behave across six countries. The evidence file should begin with the stated hypothetical site, cost, funding, contract, guarantee, reserve and conversion assumptions. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [1][12]

The principal failure is that one aggregate model hides which sites produce accepted and transferable cash. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to show site-by-site cost, draw, acceptance, billable load, revenue, guarantee support and cash availability. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

Table 6. Hypothetical twelve-site financing case

Metric	Central assumption	Conversion or downside
sites	12	minimum 10 accepted
planned customer-usable IT load	18.0 MW	minimum 13.5 MW
total cost	USD 108m	USD 108m-120m
senior debt	USD 58m	capped at USD 58m
sponsor equity	USD 32m	plus cures
tenant prepayments and subordinated payments	USD 18m	USD 10m-18m
annualised contracted revenue	USD 30m	minimum USD 25m
forward DSCR	1.62x	minimum 1.45x at conversion

Wholly hypothetical; figures do not describe an identified transaction.

22. Convert site evidence into debt capacity

The decision question is how eligible sites, customer-usable load, contracted revenue and collection support availability. The evidence file should begin with site certificates, borrowing-base schedule, contracts, telemetry, accounts and downside model. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [9][13]

The principal failure is that full facility availability is reached before enough sites and cash flows satisfy conversion tests. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to cap debt at the lower of eligible cost, stressed cash-flow capacity and net recovery support. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

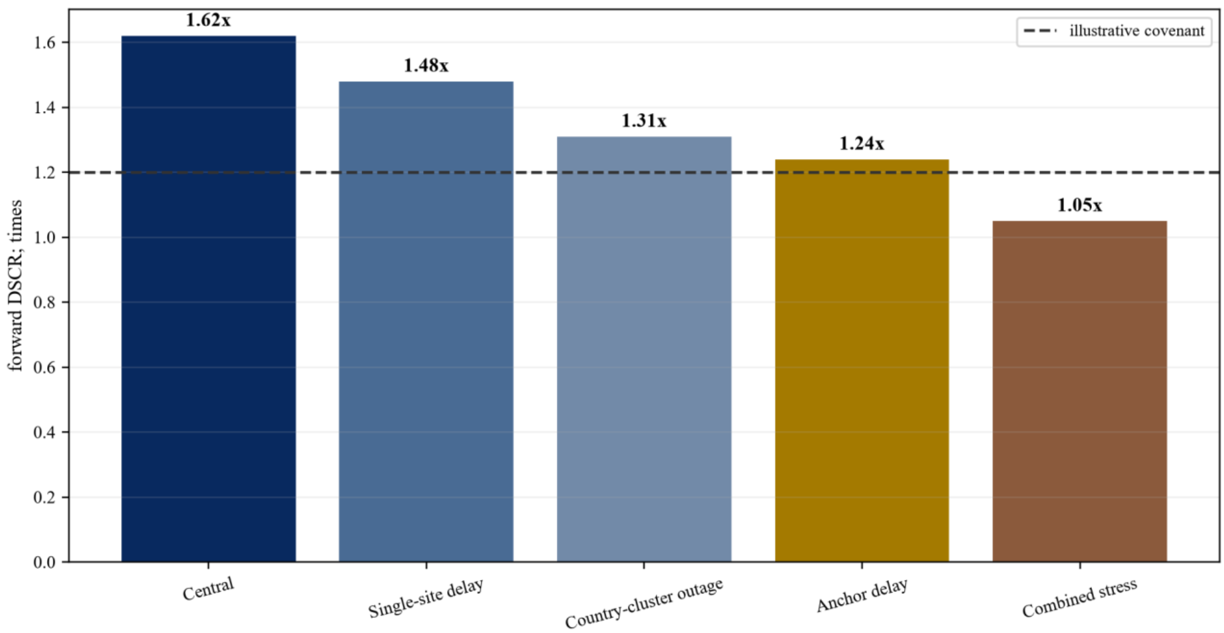
23. Stress power, fibre and availability

The decision question is which correlated outages, fuel constraints, route failures and repair delays impair service. The evidence file should begin with utility history, fuel logistics, route maps, incident data, spares, response plans and customer credits. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [14][16]

The principal failure is that independent site sensitivities miss shared grid, carrier, supplier and operating dependencies. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to run country-cluster and portfolio events with customer credits, costs, cures and cash effects. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

Figure 5. Hypothetical portfolio DSCR under correlated stress



Wholly hypothetical; times debt service.

24. Stress anchor support

The decision question is how tenant failure, guarantee expiry, cap exhaustion, dispute and collection delay affect repayment. The evidence file should begin with contracts, guarantees, obligor credit, claims history, jurisdiction and replacement demand. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [8][9]

The principal failure is that a guarantee is treated as immediate cash throughout the loan term. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to model the precise protected amount and collection path and retain liquidity through the claim period. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

25. Control concentration and substitution

The decision question is whether the portfolio can withstand loss of one country, customer, carrier or operating partner. The evidence file should begin with concentration schedules, replacement pipeline, reconfiguration cost, approvals and transition time. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [7][20]

The principal failure is that site count is treated as diversification despite common anchors and infrastructure dependencies. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to set exposure limits and cost credible customer, carrier and operator substitution plans. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

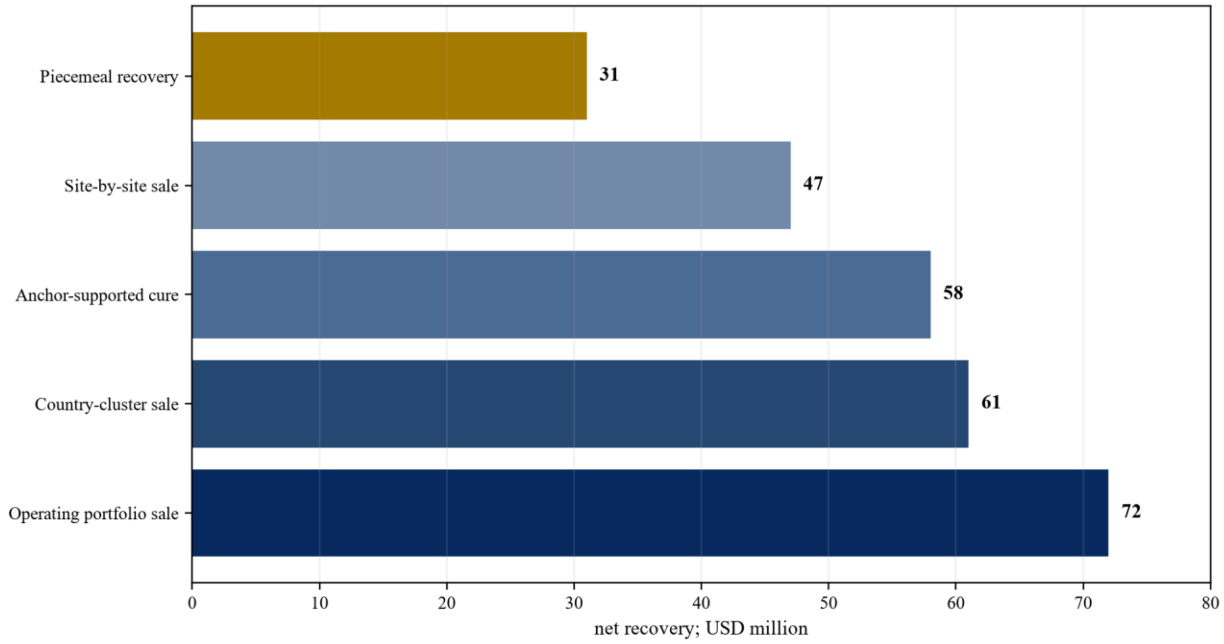
26. Build the security and recovery plan

The decision question is which shares, assets, contracts, accounts, insurance and step-in rights can be enforced. The evidence file should begin with security documents, registrations, consents, site rights, customer terms, valuations and sale plans. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [9][12]

The principal failure is that cross-border security is described globally while local perfection and operating continuity remain incomplete. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to map enforceability and compare portfolio, country-cluster and individual-site recovery after all costs. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

Figure 6. Hypothetical net recovery by route



Wholly hypothetical; USD million after completion, sale and enforcement costs.

27. Gate portfolio expansion

The decision question is when additional sites or countries improve rather than dilute lender protection. The evidence file should begin with pipeline, archetype compliance, customer evidence, funding, concentration and operations capacity. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [13][20]

The principal failure is that new sites enter because growth is strategic while they consume liquidity and increase complexity. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to require pro forma covenant compliance, funded cost and evidence parity before inclusion. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

28. Reach the financing decision

The decision question is whether standard assets, enforceable anchors, transparent telemetry, liquidity and recovery support the facility. The evidence file should begin with portfolio perimeter, site gates, contract suite, telemetry, cash model, covenants, security and recovery dossier. Each item should record source, date, legal owner, responsible reviewer, expiry or refresh date and the affected site, country and customer. Regional digital growth provides context. It does not establish a specific project's repayment source or remedy. [1][9]

The principal failure is that the importance of African digital infrastructure displaces transaction-specific repayment evidence. Portfolio finance converts multiple construction and operating exposures into one lender claim. The lender needs a traceable chain from site rights and verified capacity to accepted service, invoiced revenue, collected cash, support claims and executable recovery.

The recommended response is to approve only exposure supported by eligible sites, collected cash, limited recognised guarantees and funded downside actions. Management estimates may support scenarios when identified and reconciled to observed evidence. The central case should retain current contracts, verified availability and cash that can reach the debt accounts. Downside analysis should combine related power, fibre, customer, currency, country, liquidity and enforcement effects.

Table 7. Portfolio-financing decision record

Decision	Minimum evidence	Possible action
commitment	perimeter, contracts and balanced funding	approve or resize
each site draw	readiness and remaining funds	fund or stop
site eligibility	tested service and cash controls	include or exclude
portfolio conversion	sites, load, revenue and DSCR	convert or extend
deterioration	liquidity, support and recovery impact	cure or restructure
enforcement	operating and break-up proceeds	sell, transfer or enforce

Proposed governance; transaction-specific approval remains necessary.

Frequently asked questions

Q: Can several small edge data centres support one portfolio facility? A: They can when site eligibility, contracts, telemetry, accounts, security and reporting are sufficiently standard. The lender should retain site-level visibility and remedies rather than relying only on aggregate ratios.

Q: What makes an anchor-tenant guarantee financeable? A: The guarantee should identify the protected obligation, amount, currency, term, trigger, cure process, defences, cap, governing law, obligor authority and collection route. The guarantor's capacity and jurisdiction also require underwriting.

Q: Should a customer prepayment be treated as equity? A: Its treatment depends on refund rights, performance conditions, set-off, priority, permitted use and termination consequences. A prepayment may be a restricted funding source and a liability rather than permanent loss-absorbing capital.

Q: How should site availability be measured? A: Availability should come from verified power, cooling and network telemetry reconciled to incidents, maintenance, customer acceptance, service credits, invoices and collections. Portfolio averages should retain the underlying site results.

Q: What should exclude a site from the borrowing base? A: Examples include defective site rights, missing permits, insufficient tested power, non-diverse fibre, customer termination, failed acceptance, missing insurance, unperfected security, cash-control failure or a remaining-cost shortfall.

Q: How should currency risk be controlled? A: The model should identify revenue currency, indexation, debt currency, conversion cost, hedge terms, taxes, controls and trapped-cash risk by country. Liquidity and distributions should be tested after those constraints.

Q: What should stop further portfolio draws? A: Examples include a site funding gap, common power or carrier failure, anchor deterioration, guarantee expiry, country concentration breach, insufficient liquidity, covenant failure or loss of a required approval.

Q: What is the central recovery question? A: The lender should compare an operating portfolio sale, country-cluster sale, anchor-supported cure, site transfer and piecemeal recovery after completion cost, service continuity, consents, taxes, delay and transaction expenses.

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