The AI Factory Financing Stack: Separating Real Estate, Power, Compute and Model Risk

A Four-Layer Framework for Asset Separation, Contracted Cash Flow, Circularity Control and Downside Financeability

Authored by Chennakeshav Adya, Independent Researcher

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Abstract

Artificial-intelligence infrastructure is being financed through a rapidly widening mix of corporate bonds, bank facilities, private credit, equipment finance, project vehicles, joint ventures, leases, customer commitments and public support. The resulting asset is often described as an AI factory. That description is operationally useful, yet it can obscure four different economic layers: the property and physical data-centre system; the power and grid-access system; the compute and networking equipment; and the model, software and customer-demand system that creates revenue.

This paper develops a four-layer financing framework for separating those risks before they are recombined in a capital stack. The framework contains an asset-and-evidence register, risk-allocation matrix, capital-provider map, circularity test, controlled borrowing-base method and downside waterfall. It is designed for developers, infrastructure investors, lenders, private-credit funds, equipment financiers, sovereign and public investors, operators and customers assessing projects whose bankability depends on several counterparties performing in sequence.

Current evidence shows why the separation matters. The Bank for International Settlements reported that hyperscaler gross bond issuance exceeded USD 100 billion in 2025 and described a growing use of off-balance-sheet special-purpose vehicles and joint ventures. Its 2026 Annual Economic Report also identified circular financing, third-party construction, long leases with exit clauses, limited disclosure and concentration in private credit as emerging vulnerabilities. The International Energy Agency reported that data-centre electricity demand grew by 17% in 2025, while electricity use by AI-focused facilities grew by about 50%. It expects global data-centre electricity consumption to rise from about 485 TWh in 2025 to around 950 TWh in 2030. The United States Department of Energy reported 176 TWh of US data-centre electricity use in 2023 and a possible range of 325 TWh to 580 TWh by 2028. These figures describe system scale; they do not establish the financeability of an individual project.

The paper's principal conclusion is that capital should follow the durability and controllability of each layer. Real-estate and power capital needs long-dated rights, completion evidence and transferable cash flows. Compute capital needs serial-level control, deployment evidence, technology haircuts and redeployment routes. Model-linked capital needs customer quality, unit economics, governance, compliance and renewal evidence. Consolidated returns and debt capacity should be recognised only after intercompany flows, reciprocal contracts and guarantees have passed a circularity test.

All project costs, capacity, equipment values, utilisation, customer commitments, interest rates, advance rates, timing and recovery outcomes in this paper are hypothetical modelling assumptions. They are included to demonstrate the method and are not forecasts, valuations, offers or descriptions of an identified transaction. Actual financing capacity depends on executed agreements, jurisdiction, technology, counterparties, security, tax, regulation, accounting and market conditions.

JEL Classification: G21, G23, G31, G32, L86, L94, Q40

Keywords: AI infrastructure, data centres, power, compute, model risk, project finance, private credit, SPV, circular financing, offtake, obsolescence, downside waterfall

1. Finance a system rather than a building

An AI factory creates revenue only when four layers perform together. The real-estate layer provides site control, permits, buildings, cooling, fibre routes and physical resilience. The power layer provides interconnection, generation, transmission, distribution, storage and operating flexibility. The compute layer provides processors, memory, networking, servers, software and maintenance. The model-and-demand layer converts capacity into workloads, customer contracts, billable service and cash.

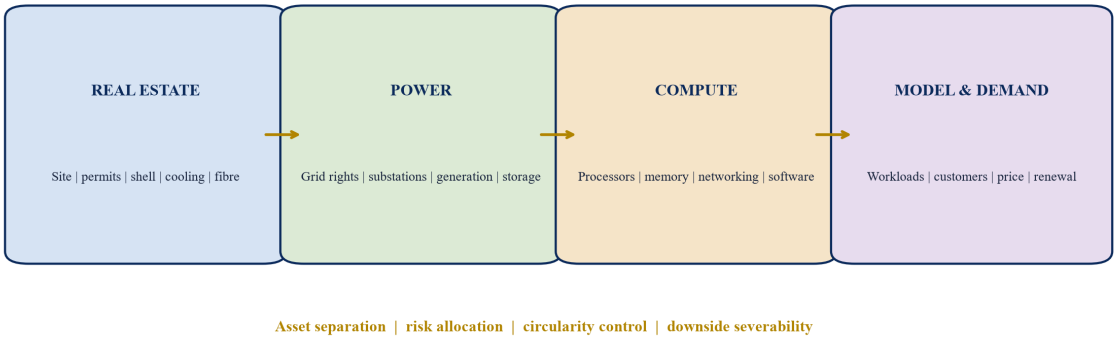
The layers have different useful lives and failure modes. A data-centre shell can remain usable across multiple hardware cycles. Grid rights and substations can support several operators or tenants when transfer and access rights permit. Compute equipment can lose economic relevance well before physical failure. A model or application can experience rapid changes in performance, price, regulation, customer adoption or competitive position. A single blended discount rate, leverage ratio or collateral value can therefore hide the location of risk.

The financing memorandum should start with a four-layer asset map. Every material asset, right, contract, cash flow, liability and guarantee receives a legal owner, operating user, useful-life assumption, evidence source, dependency, security position and downside route. Intercompany leases and service agreements should state how revenue and cost move between layers. Any asset used by two entities should have one ownership record and one enforceable priority schedule.

Repayment should then be written as a chain of dated transitions. A controlled site becomes permitted construction. Construction becomes energised capacity. Energised capacity receives accepted compute. Accepted compute delivers contracted workloads. Contracted workloads produce controlled cash. Each transition requires evidence, remaining cost, time, accountable party and remedy. A failure at an early transition can make later headline contract value unavailable.

Four financing tests organise the analysis. The asset-separation test establishes what exists and who controls it. The risk-allocation test assigns each risk to the party able to manage or absorb it. The circularity test determines whether purported support ultimately relies on the same funding or demand. The downside-severability test establishes whether each layer can continue, transfer, refinance or be sold if another layer fails.

Figure 1. Four-layer map for an AI factory



Capital and cash flow should be traced separately through real estate, power, compute and model-linked demand before consolidation.

2. Establish site and development control

The first gate identifies the precise project boundary. The file should reconcile land or lease rights, parcel maps, access, easements, zoning, development approvals, environmental conditions, water, utilities, fibre routes, taxes and title encumbrances. A powered-shell lease must identify landlord works, tenant works, delivery condition, rent commencement, casualty, condemnation, expansion, assignment, mortgagee protection and termination.

Site economics depend on more than acreage. Power density, substation proximity, transmission constraints, water and cooling strategy, network diversity, flood and weather exposure, construction labour, tax treatment, community response and permitting time affect financeability. A site with inexpensive land and an uncertain energisation date may be less valuable than a higher-cost site with firm capacity and a credible construction route.

The special-purpose structure should match the assets and contracts. Land, powered shell, equipment, energy and customer agreements can sit in different entities. The lender needs enforceable rights across that structure, including equity pledges, mortgages or leasehold security, assignments, account control, equipment liens, contract rights, insurance and step-in. Bankruptcy-remote language does not remove operational dependency on sponsors, affiliates or shared services.

Development approvals should enter a dated register. Each permit, environmental obligation, utility approval, construction milestone and occupancy condition should show authority, source document, issue date, expiry, cost and responsible owner. Local counsel and technical advisers should confirm the requirements for the actual jurisdiction. A projected permit date remains an assumption until the relevant authority acts.

Community and resource commitments can become schedule or operating risks. Noise, emissions, water, backup generation, traffic and ratepayer concerns can influence approvals or tariffs. The

project should present credible mitigation, monitoring and stakeholder ownership. A credit model that excludes funded compliance measures understates cost-to-complete.

Table 1. Site and development-control register

Dimension	Minimum evidence	Credit question	Facility response when unresolved
property right	title, ground lease, powered-shell lease and survey	can the borrower develop, operate, mortgage and transfer the intended project?	exclude unsupported value or require enforceable control
zoning and permits	approvals, conditions and inspection schedule	can the defined use and density operate lawfully?	condition precedent, reserve or delayed availability
access and fibre	easements, carrier orders and route diversity	can equipment, staff and network service reach the site?	direct agreement and completion milestone
environmental and water	studies, permits, cooling design and discharge plan	are construction and operating obligations funded?	contingency, monitoring and covenant
tax and incentives	executed agreements and eligibility analysis	which benefits survive delay, ownership change or default?	recognise only controlled and transferable value
insurance	builder's risk, property, equipment, business interruption and cyber	is the project protected through construction and operation?	agreed coverage before relevant draw
enforcement transfer	consents, cure periods and replacement rights	can a qualified successor operate or sell the project?	consent package and downside plan

The register requires current property, permitting, utility and transaction evidence.

3. Make power an availability condition

Power is frequently the binding resource. A credit file should distinguish requested megawatts, studied capacity, reserved capacity, contracted service, construction-ready capacity, energised capacity, critical IT load and actual operating load. Each measure answers a different question. Customer contracts and equipment orders should use the capacity that can be delivered within the programme.

The US Department of Energy reported that domestic data-centre load reached approximately 176 TWh in 2023 and projected 325 to 580 TWh in 2028.[1] The IEA expects the United States and China to account for nearly 80% of global data-centre electricity-consumption growth through 2030.[3] Those national projections show demand scale; they do not establish availability at an individual node.

The power schedule should identify utility, transmission owner, regional transmission organisation or independent system operator where relevant, point of interconnection, service voltage, load ramp, network upgrades, deposits, contribution in aid of construction, security, curtailment, outage, commissioning and long-stop dates. The project should allocate delay and cost between utility, developer, landlord, energy provider and customer.

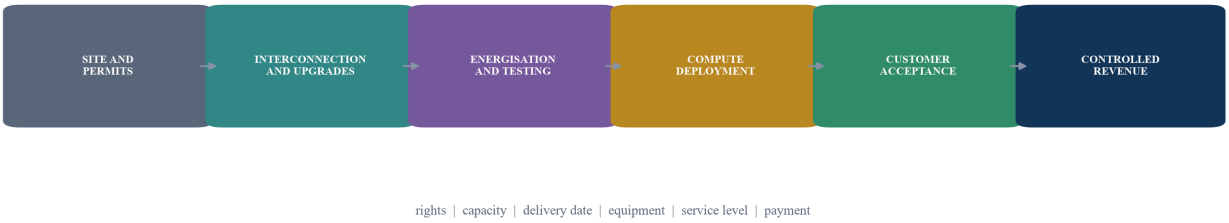
Co-location and behind-the-meter arrangements require careful analysis. FERC's December 2025 PJM action addressed rates, terms and conditions for co-located load and recognised that large

loads had pursued co-location partly because of interconnection delays.[7] A project should not assume that physical proximity to generation removes transmission service, reliability, tariff or cost-allocation issues. Regulatory counsel and system engineers should assess the actual arrangement.

NERC's 2025 long-term assessment projects substantial North American peak-demand growth and identifies data centres as a major driver.[4] Resource adequacy and transmission conditions can change between commitment and operation. The facility should require periodic confirmation of service status, upgrade schedule, contingency operation and material regulatory developments.

Figure 2. Power-to-revenue chain

POWER BECOMES LENDER CASH THROUGH A CHAIN OF ACCEPTED MILESTONES



Later-stage contract value is recognised only when preceding power, construction and acceptance dependencies are funded and evidenced.

Table 2. Power-readiness evidence schedule

Stage	Evidence	Principal risk	Credit control
service request	accepted request and study scope	requested capacity may not be deliverable	no revenue recognition from request alone
system study	completed study and upgrade estimate	cost and schedule can change	funded contingency and milestone update
executed agreement	signed service and construction terms	conditions, deposits and customer obligations remain	draw tied to satisfied conditions
network works	utility and developer progress evidence	critical equipment or permits can slip	independent schedule and long-stop trigger
energisation	test certificates and available capacity	partial capacity may limit deployment	tranche availability by accepted megawatt
operating service	tariff, curtailment, outage and backup plan	operating cost and uptime can vary	coverage test and resilience covenant

Power rights, costs and dates should be confirmed for the specific utility and market.

4. Build a sources-and-uses statement across asset layers

The project should maintain both a consolidated sources-and-uses statement and a layer-by-layer schedule. The consolidated view tests total funding. The layer view prevents long-dated capital from being consumed by assets with a shorter useful life or by costs that do not support the same collateral and cash-flow case.

Real-estate uses include land, development rights, civil works, shell, cooling, fire protection, security and fibre pathways. Power uses include deposits, interconnection studies, network upgrades, substations, backup generation, storage and commissioning. Compute uses include processors, memory, networking, racks, software, spares and installation. Model-and-demand uses include data preparation, model development, integration, customer acquisition, compliance, working capital and operating reserves.

Each source should be classified by legal borrower, committed amount, permitted use, availability conditions, draw period, tenor, repayment, security, guarantee, intercreditor position and evidence. Customer prepayments should not simultaneously be treated as unrestricted equity, contracted revenue and debt-service cash. Equipment deposits funded by a lender should not also appear as sponsor equity. A guarantee from an affiliate should be adjusted for obligations that affiliate already supports.

Table 3. Four-layer sources-and-uses control

Layer	Principal uses	Suitable capital evidence	Key leakage control
Real estate	Site, civil works, shell and cooling	Title or lease, permits, fixed-price scope, equity and construction facility	Ring-fence land and completion funding
Power	Interconnection, upgrades, substations, generation and storage	Executed utility rights, funded deposits, milestone facility and public support	Restrict power deposits and upgrade reserves
Compute	Processors, memory, networking, software and installation	Purchase orders, serial register, equipment finance and customer-linked capital	Match draw to delivery, title and acceptance
Model and demand	Data, models, integration, sales, compliance and working capital	Sponsor capital, strategic equity and evidenced customer cash	Exclude uncontracted value from secured debt
Shared reserves	Interest, delay, operating and contingency reserves	Fully committed cash or drawable support	Prevent reserve reuse across facilities

Each layer should have an identified use, evidence-backed capital source and leakage control.

5. Match capital provider to the risk it can control

The capital stack should match the useful life, volatility and controllability of each layer. Long-dated infrastructure or real-estate capital can support transferable property and power rights. Construction lenders can fund a monitored cost-to-complete programme. Equipment financiers can lend against identified hardware, delivery milestones, title and redeployment value. Private credit can bridge complex construction, customer or refinancing risks when documentation, pricing, covenants and control reflect those risks. Strategic equity can absorb model, technology and adoption uncertainty.

The structure should avoid forcing one provider to underwrite a risk it cannot observe or remedy. A mortgage lender cannot manage model performance. An equipment lender cannot create grid capacity. A model investor may not be positioned to fund ten-year network upgrades. Allocation becomes stronger when the relevant counterparty has information rights, consent rights and a practical remedy.

Tenor is a central discipline. Property and power may support longer maturities after completion and transferability are proven. Compute debt should amortise inside the conservative economic life of the equipment and its contracted use. Model-linked obligations should reflect customer duration, renewal probability and the cost of switching or retraining. A refinancing case should not assume that all four layers mature into the same valuation market at the same time.

6. Convert construction into accepted capacity

The independent monitor should integrate building, power, cooling, network and compute. A conventional construction percentage can overstate readiness when the shell is complete but the substation, cooling loop or network remains untested. Reporting should identify each system's design, procurement, installation, test and acceptance status.

The baseline schedule should show site works, utility works, long-lead equipment, shell, mechanical and electrical systems, cooling, network, compute delivery, commissioning, customer testing and service commencement. Critical-path ownership must be explicit. A vendor's expected ship date and a utility's target energisation date are not equivalent to enforceable completion commitments.

Change control should join technical, commercial and financing decisions. A new chip architecture can alter rack density, cooling, power distribution, network and customer economics. A cooling redesign can affect permitting and commissioning. A customer configuration change can alter equipment orders and acceptance. The lender should require cost, schedule, contract and collateral effects before approving material change.

Payment control can include direct payment, controlled project accounts, approved budgets, monitor certification, invoice and purchase-order matching, serial records and evidence of prior draw use. The process should remain fast enough to preserve procurement slots. Standard draw calendars and data formats reduce operational friction.

Completion needs several definitions: physical completion, energisation, integrated systems testing, equipment installation, substantial completion under a lease, customer acceptance and revenue service. The repayment model should use the milestone that produces contractually payable cash. Earlier construction milestones support progress but cannot substitute for acceptance.

7. Underwrite compute equipment as a changing asset

GPU servers and associated equipment have significant acquisition cost and potential resale value. Their credit value changes with architecture, performance, memory, interconnect, software support, warranty, export controls, physical condition, location, demand and ability to redeploy. Accounting depreciation does not establish liquidation value.

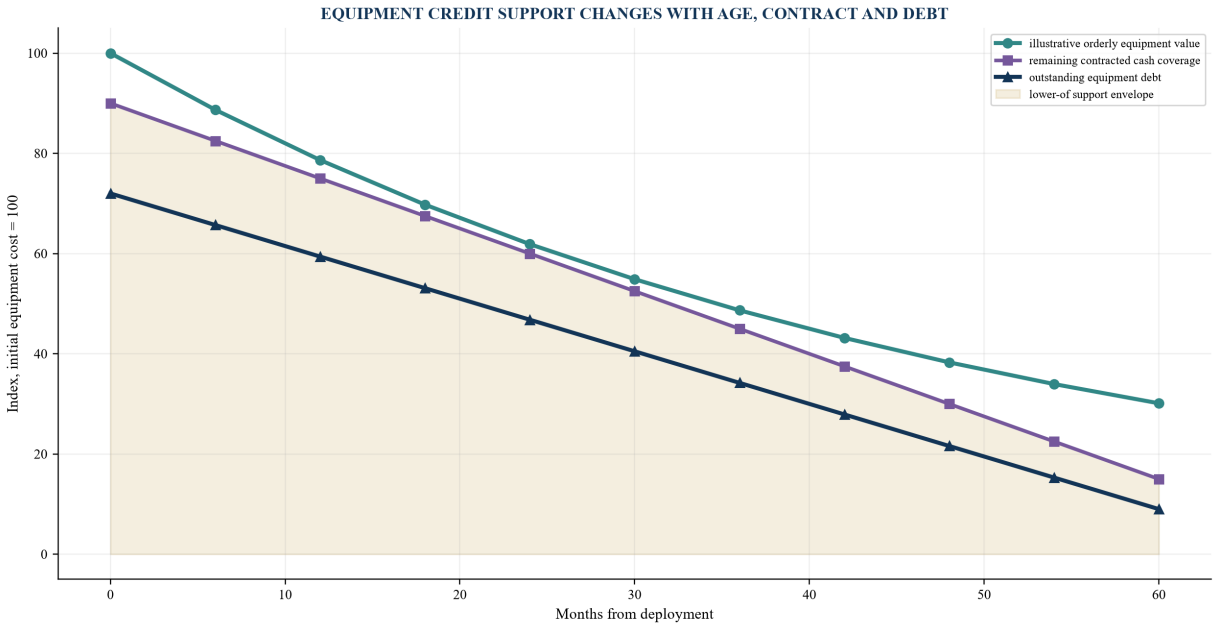
The equipment register should identify manufacturer, model, configuration, serial number, purchase price, delivery, title, lien, location, acceptance, warranty, maintenance, insurance, customer allocation, utilisation and software dependencies. It should reconcile purchase orders, invoices, shipping, installation and financing. Movement between sites requires lender control where collateral depends on location and possession.

Public filings show how market participants combine equipment and contract finance. CoreWeave stated that it primarily finances infrastructure development through asset-level debt supported by take-or-pay customer contracts and reported $5.2 billion of OEM and software financing arrangements at year-end 2025.[12] Its disclosures provide a public example rather than a universal financing template.

The collateral curve should be forward looking. Advance rates can decline with age, new product releases, contract expiry, utilisation weakness, loss of support or narrower buyer pools. Installed equipment with validated operation and contracted cash may have stronger going-concern value than unopened inventory. Equipment embedded in a site with no transfer or access rights may have weaker recovery despite physical value.

The downside plan should identify resale, redeployment and operation routes. It should address de-installation, packaging, transport, data sanitisation, software licences, export restrictions, warranty transfer, required specialists and time. A lender may prefer continued operation under a replacement manager when service cash exceeds liquidation proceeds.

Figure 3. Illustrative equipment collateral curve



Values, contract coverage and debt balances are illustrative management assumptions and do not represent market prices or an identified financing.

Table 4. Equipment collateral and control schedule

Attribute	Evidence	Value implication	Credit control
title and lien	invoices, payment, serial list and UCC search	determines enforceable ownership and priority	filing, bailee and access controls
configuration	model, memory, network and cooling specification	affects workload usefulness and buyer pool	approved equipment schedule
deployment state	delivered, installed, tested and accepted status	affects completion cost and cash generation	milestone-based advance
contract allocation	customer, term and committed capacity	links asset to revenue support	eligibility and concentration limits
age and roadmap	deployment date, support and product cycle	affects economic usefulness and resale	declining advance curve and reappraisal
location and access	site register, landlord and operator rights	affects repossession and continued operation	access agreement and movement covenant
disposition	brokers, operators, buyers and estimated time	affects net recovery and liquidity	annual route test and downside reserve

Advance rates require current appraisal, transaction documents and specialist disposition evidence.

8. Score offtake rather than headline contract value

A customer contract supports debt only through its enforceable and economic terms. The lender should identify customer entity, guarantor, credit quality, committed quantity, service location, deployment tranches, price, indexation, minimum payment, take-or-pay language, acceptance, service level, credits, termination, force majeure, change control, assignment, set-off, confidentiality and dispute process.

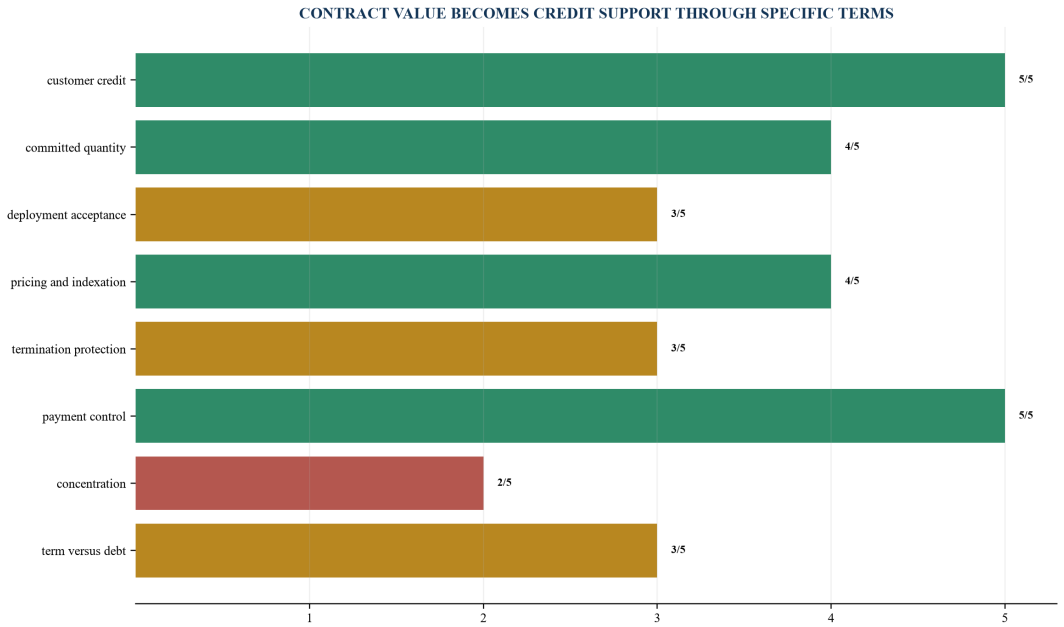
Remaining performance obligations or announced contract value can exceed lender cash. Revenue may depend on equipment deployment, availability, acceptance and service. Customer payments may be reduced by credits, disputes, taxes or permitted set-off. Contract duration may be shorter than equipment life or loan maturity. The model should build cash from contracted units and dates rather than divide a headline amount evenly.

Customer credit and contract quality are separate. An investment-grade counterparty can retain broad termination, volume or acceptance rights. A smaller customer can provide strong collateral through prepayment, deposit, parent support or committed minimums. The scorecard should show both dimensions and concentration.

Nebius disclosed a five-year dedicated GPU agreement with Microsoft whose obligations were linked to financing and deployment conditions, and stated an expectation of contract-secured debt financing.[15] Applied Digital disclosed long-duration leases for high-performance-computing capacity and material customer concentration.[16][17] These filings illustrate how contract, construction, financing and concentration interact.

The lender should test renewal and residual exposure. If a five-year customer contract finances equipment and infrastructure with a longer recovery period, the project needs amortisation, residual value or a replacement-customer strategy. A contract that ends shortly before debt maturity can create a refinancing cliff even after strong early cash flow.

Figure 4. Offtake scorecard



Scores are illustrative; the underwriting file should retain the underlying contract evidence and exceptions.

Table 5. Offtake underwriting schedule

Dimension	Stronger evidence	Principal weakness	Structural response
counterparty	creditworthy obligor and enforceable guarantee	thin special-purpose customer	deposit, guarantee or lower eligibility
quantity	committed minimum or take-or-pay capacity	discretionary or forecast usage	borrowing-base haircut
acceptance	objective tests and defined deemed acceptance	subjective or open-ended approval	independent test and long-stop remedy
price	fixed or transparent index with pass-through	repricing unrelated to project cost	coverage stress and reserve
termination	limited rights and funded termination payment	convenience termination without make-whole	amortisation and concentration cap
payment	short cycle into controlled account	broad set-off, credits or delayed dispute	reserve and cash control
assignment	finance-party assignment and step-in	consent blocks enforcement transfer	direct agreement before reliance
term	contract extends through debt repayment	material merchant tail	faster amortisation and replacement plan

Contract interpretation requires transaction-specific legal advice.

9. Build the borrowing base from eligible states

The facility can recognise collateral in stages. Eligible land and completed improvements may support one advance. Utility deposits can be recognised when refundable or transferable under verified terms. Equipment can enter at purchase, delivery, installation or acceptance with different haircuts. Receivables can enter after service delivery, invoice and absence of dispute.

The borrowing base should avoid double counting. Equipment value and contracted cash can support the same debt only if the model understands their dependency. A customer prepayment

may reduce receivables while funding equipment. A lease receivable may already embed equipment recovery. The base should calculate the lower of value, cost, eligible contract cash and policy limits where appropriate.

Concentration limits should apply to customer, site, utility, region, equipment generation, manufacturer and service provider. A portfolio with multiple buildings can still have one power node or customer. Correlated failure should drive limits and stress.

Advance rates should adjust with completion and evidence. Equipment ordered but not delivered may receive no advance or a limited deposit advance backed by refund and vendor credit. Delivered equipment may receive a cost-based advance. Installed and accepted equipment may receive a higher contract-supported amount. Older or uncontracted equipment may receive a declining percentage of appraised net orderly value.

The base should be recalculated at least monthly and after material events. Required inputs include costs, progress, megawatts, serial records, customer allocation, invoices, collections, disputes, utilisation, outages, contract changes, appraisal and debt. A qualified exception should show amount, cause, cure and deadline.

10. Model operating economics below gross revenue

AI-infrastructure operating cash depends on contracted price, delivered quantity, utilisation, power cost, demand charges, network, software, maintenance, staffing, lease cost, insurance, property tax and replacement capital. Gross contract value cannot be used as debt service without that bridge.

Power cost can include energy, capacity, transmission, demand, backup fuel, hedging and environmental attributes. Contract pass-through mechanisms may be partial or delayed. The model should test higher prices, demand peaks, curtailment and lower efficiency. Power usage effectiveness is relevant, yet the actual bill depends on tariff and operating profile.

Availability credits and outages can affect revenue precisely when repair cost rises. The facility should understand redundancy, maintenance, spare capacity, warranty, mean time to repair and customer service-level remedies. Business-interruption insurance requires policy-specific review and may not cover every contractual deduction.

Utilisation risk differs by contract. Dedicated take-or-pay capacity can provide predictable minimum revenue, subject to acceptance and service. On-demand revenue depends on workload demand and pricing. Reserved capacity can combine fixed and variable elements. The model should separate each pool and apply evidence-based stress.

Replacement capital must be explicit. Compute equipment can require upgrades before building or power infrastructure reaches the end of its life. Cash retained for refresh reduces debt capacity. Financing a refresh with new debt assumes future market access and collateral value; the base case should not rely entirely on that rollover.

11. Allocate technology and supply-chain risk

Model risk belongs in the financing analysis because the model-and-demand layer determines whether installed compute produces durable customer value. The assessment should cover performance, accuracy, reliability, security, privacy, intellectual-property rights, regulatory obligations, data provenance, bias, explainability where relevant, model drift, vendor dependence and the cost of retraining or migration. NIST's Generative AI Profile organises these issues through governance, mapping, measurement and management across the lifecycle.

The credit model should separate technical capability from commercial evidence. Benchmark performance does not establish customer adoption. A pilot does not establish production usage. Production usage does not establish positive contribution after compute, power, network, data, support and compliance costs. Each claimed benefit should have a baseline, counterfactual, accountable owner, measurement period and confidence rating.

Technology concentration should be measured across processors, memory, networking, cloud tools, orchestration, foundation models, data suppliers and critical software. Supply constraints can delay revenue even when property and power are ready. Portability should be tested through architecture, data rights, model weights, interfaces, documentation, replacement lead time and economic switching cost.

Model-linked cash flow should enter debt capacity only after contracted price, committed volume, acceptance, payment, termination, liability, service levels and renewal economics are understood. Where a customer, supplier, investor or guarantor appears in more than one role, its net exposure and incentives should be shown on one counterparty map.

12. Control cash and performance data

Revenue should flow through controlled accounts with a documented waterfall. The account map should identify customer receipts, taxes, operating expenses, power, required reserves, debt service, permitted distributions and sweep. Multi-site or multi-customer platforms need rules for allocation and cross-collateralisation.

Data quality is a credit control. The lender should receive meter data, available and critical load, installed equipment, utilisation, service availability, invoices, collections, credits, outages, maintenance, operating costs and contract changes. Definitions must reconcile technical and financial systems. A megawatt reported by development, utility, operations and billing teams can represent different states.

Independent verification should be risk based. Construction monitors can certify works. Engineers can review power and commissioning. Equipment auditors can reconcile serials and location. Accountants can test revenue and cost. Cyber and operational specialists can assess controls. The lender should own the scope, reliance and exception process.

Cybersecurity and physical security matter to collateral cash flow. The project needs identity and access controls, segmentation, monitoring, incident response, backup, supplier management and customer notification consistent with its obligations. A cyber event can interrupt service, trigger credits, create remediation cost or affect customer confidence. Technical specialists should assess the actual environment.

The reporting pack should distinguish observed evidence, professional opinion and management assumptions. Forecast overrides need explanation, owner and approval. Repeated late or inconsistent reporting can trigger enhanced monitoring before a financial covenant fails.

13. Use covenants that follow the project lifecycle

During development, covenants should focus on permits, power milestones, budget, contingency, sponsor equity, procurement, construction progress, equipment delivery, customer acceptance and liquidity. During operation, focus shifts to capacity, utilisation, revenue, customer concentration, coverage, equipment value, outages, reserves and refinancing.

Financial covenants can include loan-to-cost, loan-to-value, debt service coverage, fixed-charge coverage, minimum liquidity and leverage. Asset covenants can include eligible equipment coverage and serial reconciliation. Contract covenants can include minimum committed revenue and concentration. Power covenants can include energised capacity and service status.

A covenant ladder creates proportional response. Watch thresholds increase information and meetings. Control thresholds trap cash, restrict distributions or require appraisal. Draw-stop thresholds prevent exposure growth. Cure thresholds require equity, prepayment, additional collateral or contract action. Default thresholds preserve enforcement rights.

The remedy should match the risk. A utility delay can require programme and liquidity protection. A customer downgrade can reduce eligible contract cash and increase amortisation. Equipment-value decline can require additional collateral or debt reduction. An outage can require repair, customer communication and insurance action.

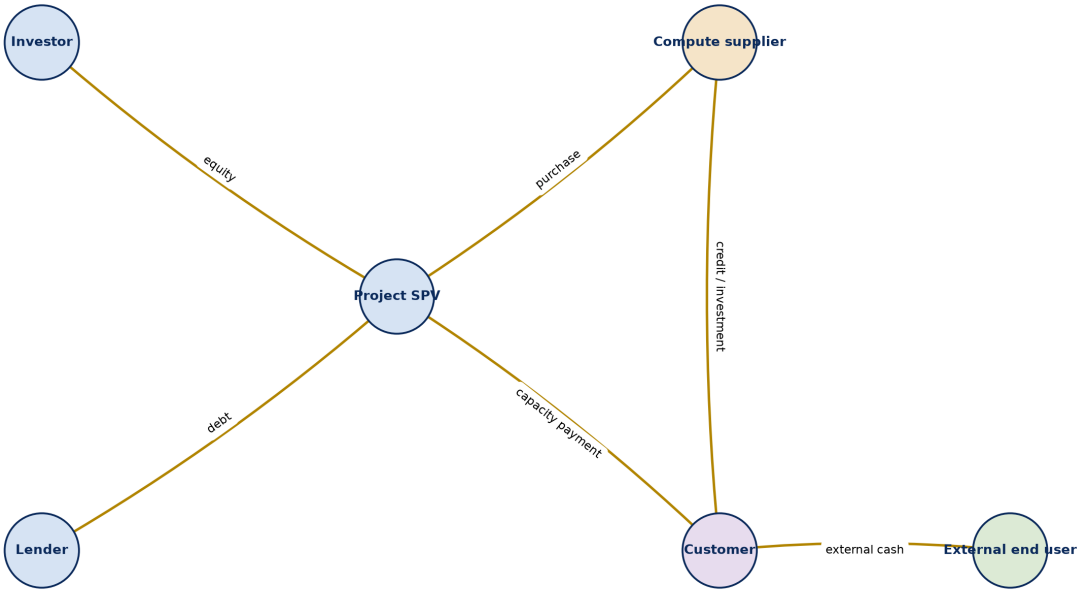
14. Run a circularity test before sizing debt

Circular finance can arise when the same participants provide capital, purchase equipment, lease capacity, guarantee obligations and commit customer demand. These relationships may be commercially rational. They also create a risk that consolidated revenue, equity support or collateral is counted more than once, or that demand depends on financing provided by the seller or an affiliate.

The circularity test should trace every material flow to its external economic source. For each equity contribution, identify the contributor's funding and repayment obligations. For each customer contract, identify whether the customer receives investment, credit, rebates, guarantees or reciprocal purchases from the project group or a major supplier. For each guarantee, identify the guarantor's other commitments and the assets supporting them. For each intercompany receivable, identify the external payer and termination conditions.

Four controls are essential. First, consolidate related counterparties and reciprocal obligations. Second, eliminate internal revenue and receivables before sizing debt. Third, apply the most restrictive treatment where one contract supports several borrowing bases. Fourth, stress the simultaneous withdrawal of linked finance and demand rather than treating each event as independent.

Figure 5. Circularity test and external-cash boundary



Internal equity, leases, guarantees, purchases and receivables should be eliminated before external debt-service capacity is measured.

15. Plan downside operation and disposition

Downside analysis should begin with severability. The project may face a delayed interconnection, construction overrun, equipment delivery failure, processor obsolescence, customer termination, model underperformance, cyber event, regulatory restriction or refinancing gap. The analysis should show which layers remain operational, which contracts survive, who controls critical assets and what cash is required to preserve value.

The first priority is safe continuity. Utilities, cooling, security, insurance, critical staff, software licences and customer communications may require protective funding. The second priority is preservation of transferable rights, including site leases, permits, grid rights, warranties, licences, data rights and equipment title. The third priority is a controlled cure, replacement, re-tenanting, redeployment, refinancing or sale.

Recovery should be estimated separately by layer. Property value depends on permitted use, power, marketability and conversion cost. Power value depends on enforceability, availability, transfer and curtailment. Compute value depends on serials, configuration, age, condition, software, location, demand and removal cost. Model-linked value depends on rights, data, performance, customers, staff, compliance and transferability. Consolidated enterprise value should be treated as a separate case rather than added mechanically to layer recoveries.

An illustrative downside waterfall should deduct unpaid taxes, employee and critical operating claims, cure costs, removal costs, senior secured claims, intercreditor obligations and professional costs before junior recovery. Timing matters because equipment value and customer confidence can decline rapidly. The workout plan should name the party with authority to operate, fund, move or sell each layer.

16. Run a ten-day financing diagnostic

Days one and two establish entities, assets, site rights, project scope, existing capital and requested use of proceeds. Days three and four map power, permits, utility works, construction and long-lead procurement. Days five and six rebuild sources and uses, monthly liquidity, equipment schedule and intercreditor priority. Days seven and eight test customer contracts, operating economics, borrowing base and downside. Days nine and ten present structure, terms, conditions, covenants and refinance.

The minimum evidence pack includes corporate records, property and lease documents, permits, utility agreements, studies, power schedule, construction contracts, monitor reports, procurement and equipment registers, customer contracts, operating plan, financial model, existing debt, security, insurance, tax and disputes. Missing evidence remains a visible condition rather than an optimistic assumption.

The output should include a one-page decision summary, dependency map, sources-and-uses test, critical path, power-to-revenue chain, collateral curve, offtake scorecard, borrowing base, covenant ladder, security map and refinancing waterfall. Each exception should show amount, date, owner and remedy.

Green items have current evidence and acceptable control. Amber items require a condition, reserve, haircut, covenant, adviser conclusion or funded action. Red items prevent reliance or funding. The committee should see how each amber and red item changes availability, timing and recovery.

The diagnostic supports proceed, proceed after specified evidence, restructure or decline. A rapid decision can preserve project and lender resources. A conditional proceed should state what must be true before term sheet, credit approval, closing and each draw.

17. Use a 100-day execution plan

Days one to twenty establish owners, definitions, data room, opening budget, project schedule, asset register and contract register. The team resolves differences between development, utility, technical, commercial and finance data. Advisers receive a controlled evidence set.

Days twenty-one to forty-five complete property, power, technical, equipment, customer, tax, insurance and legal diligence. The lender tests source commitment, liquidity, collateral, coverage and downside. Material assumptions receive an evidence owner and date.

Days forty-six to seventy align terms and documents. Facility amount, draws, equity, interest, reserves, accounts, security, intercreditor, covenants, reporting, defaults, cures, protective advances and transfer rights must agree with the credit model. Direct agreements and consents remain on a dated critical path.

Days seventy-one to ninety rehearse operation. The team tests a draw, utility payment, equipment advance, serial reconciliation, customer invoice, controlled-account sweep and monthly reporting pack. Exceptions are corrected before material utilisation.

Days ninety-one to one hundred transfer governance into the operating phase. Weekly liquidity and critical-path reviews continue during construction. Monthly reporting updates power, progress, equipment, customers, cash, collateral and covenants. Quarterly review refreshes

appraisal, technology, concentration, downside and refinance milestones.

18. Conclusion

An AI factory is a connected operating system whose layers have different useful lives, counterparties, evidence and failure modes. Financing becomes more reliable when real estate, power, compute and model-linked demand are first underwritten separately and then recombined through enforceable contracts and controlled cash.

The four-layer method creates that discipline. The asset map identifies ownership and dependency. The risk-allocation matrix places risk with the party able to observe and manage it. The capital stack matches tenor and security to the relevant layer. The circularity test removes internal or reciprocally financed support before debt capacity is measured. The downside waterfall tests whether value can be preserved when one or more layers underperform.

The central financing question is direct: after eliminating internal flows, funding every remaining cost and applying conservative useful-life, contract and recovery assumptions, how much external controlled cash can repay each capital provider? A project that answers this question with current evidence can present a clearer bankability case to infrastructure investors, lenders, private-credit funds, equipment financiers and strategic capital.

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About the Author

Authored by Chennakeshav Adya
Independent Researcher

Chennakeshav (CK) is a corporate finance and investment banking executive with 25+ years of global experience in deal origination, structuring and execution across M&A, growth capital and corporate strategy. He has led value-creation mandates for founders, corporates and funds, bridging the boardroom view to hands-on execution and close.

His career spans Morgan Stanley, HSBC, Lloyds Banking Group, EWEC, ADQ portfolio companies and Emirates Growth Fund, across TMT, real estate, fintech, deeptech, cleantech, infrastructure and energy. He has partnered with C-suite leaders, private equity and venture funds, sovereign wealth funds and family offices to finance complex fund raises and scale-up ventures, and has led M&A due diligence, post-merger integration and business-transformation initiatives to create value.

At Matchpoint Partners he is Managing Partner, leading the firm's corporate finance, M&A and capital-raising practice. He holds an MBA from London Business School, an engineering degree from VTU and a Master of Laws (LLM, in progress) from UCL London.

An active start-up mentor, CK mentors at Techstars, DIFC FinTech Hive, Startup Grind, Founder Institute and IN5, serves as Entrepreneur Mentor in Residence (EMiR) at London Business School, and judges the Entrepreneurship World Cup.