

Power-Constrained Growth: Valuing Data Centres and AI Infrastructure when Grid Access Is the Bottleneck

An Evidence-Led Framework for Converting Power Rights and Energisation Timing into Transaction Value

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Abstract

Electricity has become a binding development constraint for many data-centre and artificial-intelligence infrastructure projects. Requested load, queue position, conditional connection offers, contracted capacity, firm delivered power, energised infrastructure and saleable IT load represent different economic assets. This paper develops an evidence-led valuation framework that treats power rights, energisation timing and curtailment as core cash-flow variables. It reconciles grid agreements, milestone credibility, connection securities, resilient capacity, tenant deployment, delivered electricity tariffs, cost pass-through, onsite generation, storage, renewable procurement, reinforcement capital, long-lead equipment, water, cooling, efficiency, density and technical obsolescence. It then translates usable megawatts into revenue and cash flow, reconciles income, market, cost and option approaches, and integrates financing, delay, utilisation and stranded-capacity scenarios. Five figures, five tables, eight frequently asked questions and twenty-six primary or authoritative references support transaction-specific review. Quantified figures are illustrative evidence indices rather than forecasts. The framework does not determine grid access, engineering fitness, reliability compliance, tariff treatment, environmental approval, accounting recognition, tax treatment or transaction value and does not replace authorised grid, engineering, legal, environmental, accounting, tax, valuation or investment advice.

JEL Classification: G34, G31, L94, L86, Q41

Keywords: data centre valuation, AI infrastructure, grid access, contracted power, energisation, curtailment, electricity, M&A

1. Define the valuation unit

Specify enterprise, site, building, commissioned megawatt, contracted megawatt and equity value.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a valuation scope memorandum.

The principal failure occurs when headline capacity mixes land options, queued power and energised infrastructure. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for define the valuation unit should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

2. Inventory the physical campus

Map land, buildings, substations, generation, cooling, fibre, security and IT halls.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a campus asset register.

The principal failure occurs when site acreage substitutes for deliverable computing capacity. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for inventory the physical campus should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

3. Map power rights

Reconcile connection agreements, capacity reservations, PPAs, licences, easements and termination rights.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a power-rights register.

The principal failure occurs when requested or studied load is described as controlled power. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for map power rights should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

4. Validate the grid offer

Review network studies, firm capacity, voltage, fault level, reinforcement, securities and conditions.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a grid-offer diligence paper.

The principal failure occurs when a preliminary connection position is treated as unconditional supply. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for validate the grid offer should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

5. Test queue credibility

Assess milestones, commitment fees, land control, equipment orders, end users and financial capability.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a queue-readiness scorecard.

The principal failure occurs when speculative queue position receives option value without progression evidence. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for test queue credibility should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

6. Separate requested, contracted and firm capacity

Classify power by legal status, deliverability, curtailment and commissioning stage.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a capacity-quality bridge.

The principal failure occurs when all announced megawatts receive the same value. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for separate requested, contracted and firm capacity should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

7. Build the energisation critical path

Link studies, permits, equipment, civil works, testing and network outages to dates.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is an energisation schedule.

The principal failure occurs when management's energisation date ignores external dependencies. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for build the energisation critical path should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

8. Phase the load ramp

Translate hall delivery, customer deployment, server installation and utilisation into hourly demand.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a load-ramp model.

The principal failure occurs when full contracted load starts on the connection date. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

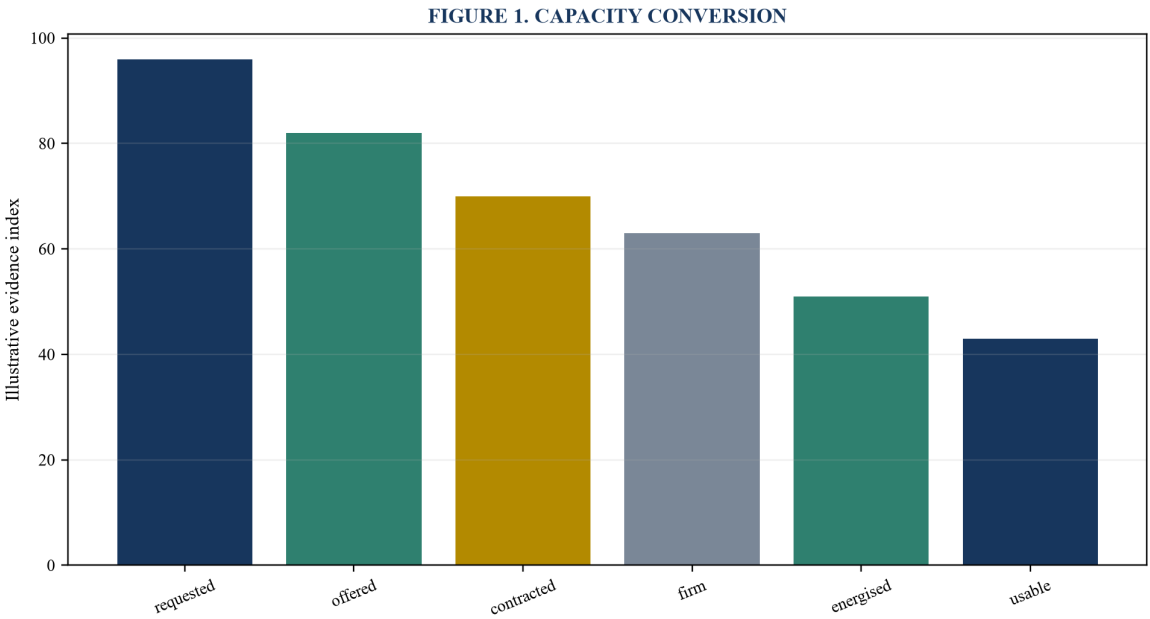
The decision pack for phase the load ramp should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

Table 1. Capacity quality

Stage	Evidence	Valuation treatment
requested	application	no firm value
offered	conditional agreement	probability weight
contracted	executed rights	milestone risk
energised	metered delivery	operating value

Illustrative analytical design; company-specific evidence and professional advice govern.

Figure 1. Capacity conversion



Values are illustrative evidence indices and require company-specific support.

9. Design resilience topology

Map utility feeds, substations, transformers, generators, storage and redundancy level.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a resilient-capacity map.

The principal failure occurs when nameplate capacity ignores concurrent maintainability and single points of failure. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for design resilience topology should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

10. Measure usable IT capacity

Deduct electrical losses, cooling, reserve, redundancy and operating constraints from gross supply.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is an electrical-to-IT capacity bridge.

The principal failure occurs when grid MW is equated to saleable IT load. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for measure usable it capacity should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

11. Reconcile tenant contracts

Map reservations, take-or-pay, ramp rights, power pass-throughs, termination and expansion options.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a tenant contract register.

The principal failure occurs when pipeline demand is capitalised as contracted revenue. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for reconcile tenant contracts should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

12. Underwrite tenant credit

Assess obligor, guarantor, concentration, deposits, parent support and replacement demand.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a tenant-credit matrix.

The principal failure occurs when hyperscaler branding masks contractual counterparty risk. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for underwrite tenant credit should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

13. Build the revenue ramp

Translate energised and occupied IT load into recurring and installation revenue.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a revenue-by-megawatt model.

The principal failure occurs when bookings convert to revenue without deployment or acceptance gates. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for build the revenue ramp should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

14. Model curtailment

Scenario-weight network constraints, emergency interruption, demand response and contractual remedies.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a curtailment cash-flow schedule.

The principal failure occurs when firmness is assumed despite interruptible or conditional service. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for model curtailment should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

15. Test availability economics

Connect outage probability, redundancy, service credits and churn to cash flow.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is an availability value-at-risk model.

The principal failure occurs when tier claims replace measured availability and contractual liability. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for test availability economics should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

16. Map electricity tariffs

Reconcile energy, capacity, demand, transmission, distribution, balancing, taxes and escalation.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a delivered-power tariff model.

The principal failure occurs when one commodity price represents the delivered electricity bill. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for map electricity tariffs should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

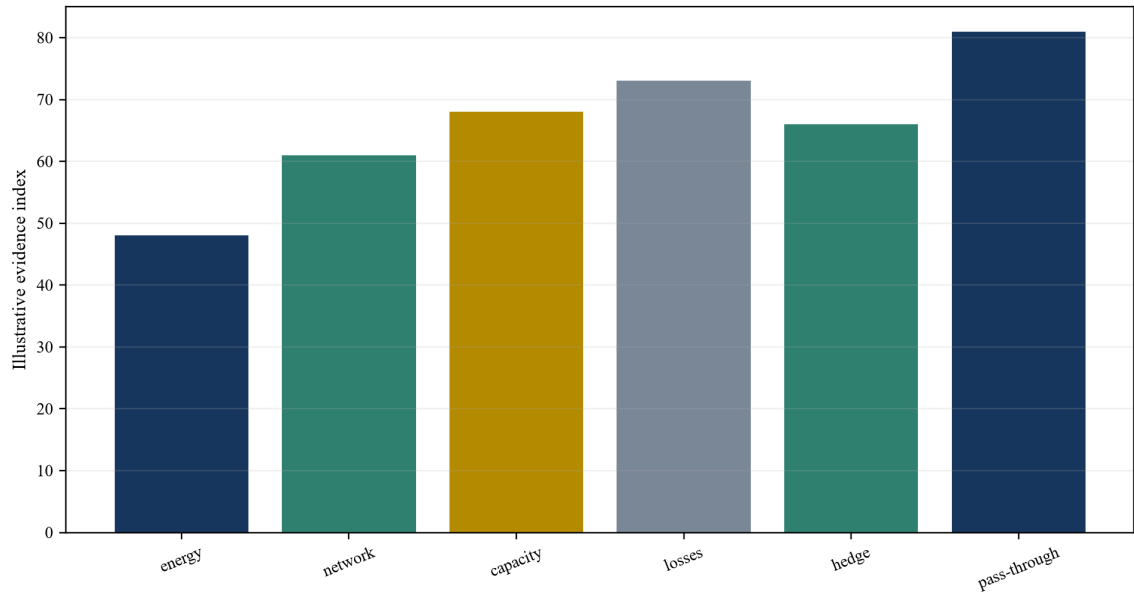
Table 2. Power-cost stack

Component	Evidence	Cash-flow use
energy	tariff or PPA	variable cost
network	published charges	delivered cost
capacity	reservation terms	fixed cost
hedging	executed contracts	risk range

Illustrative analytical design; company-specific evidence and professional advice govern.

Figure 2. Delivered-power economics

FIGURE 2. DELIVERED-POWER ECONOMICS



Values are illustrative evidence indices and require company-specific support.

17. Test cost pass-through

Review indexation, caps, floors, timing, losses, hedging and tenant dispute mechanisms.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a pass-through effectiveness bridge.

The principal failure occurs when power cost is assumed fully and immediately recoverable. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for test cost pass-through should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

18. Price connection securities

Map deposits, commitment fees, letters of credit, milestone payments and forfeiture.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a connection-security schedule.

The principal failure occurs when queue retention cash is omitted from invested capital. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for price connection securities should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

19. Assess onsite generation

Evaluate gas, diesel, fuel cells, renewables, nuclear options, permits, emissions and dispatch.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is an onsite-power feasibility case.

The principal failure occurs when behind-the-meter supply is assumed available without fuel and permitting evidence. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for assess onsite generation should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

20. Model fuel and supply risk

Forecast fuel capacity, transportation, pricing, interruption, storage and emissions cost.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a fuel-security scenario.

The principal failure occurs when dispatchable generation has unlimited reliable fuel. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for model fuel and supply risk should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

21. Value storage and flexibility

Measure battery duration, degradation, cycling, market access and load-shifting value.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a flexibility cash-flow model.

The principal failure occurs when battery nameplate receives value without operational duty cycles. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for value storage and flexibility should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

22. Reconcile renewable procurement

Test additionality, shape, location, certificates, congestion and firming obligations.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a clean-power quality bridge.

The principal failure occurs when annual renewable volume is treated as hourly matched supply. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for reconcile renewable procurement should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

23. Estimate grid-reinforcement capital

Allocate substations, lines, protection, reactive power, civil works and network charges.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a grid-capex estimate.

The principal failure occurs when connection capex stops at the site boundary. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for estimate grid-reinforcement capital should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

24. Map equipment lead times

Verify transformers, switchgear, turbines, generators, chillers and control-system production slots.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a long-lead equipment register.

The principal failure occurs when standard procurement periods support an accelerated schedule. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for map equipment lead times should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

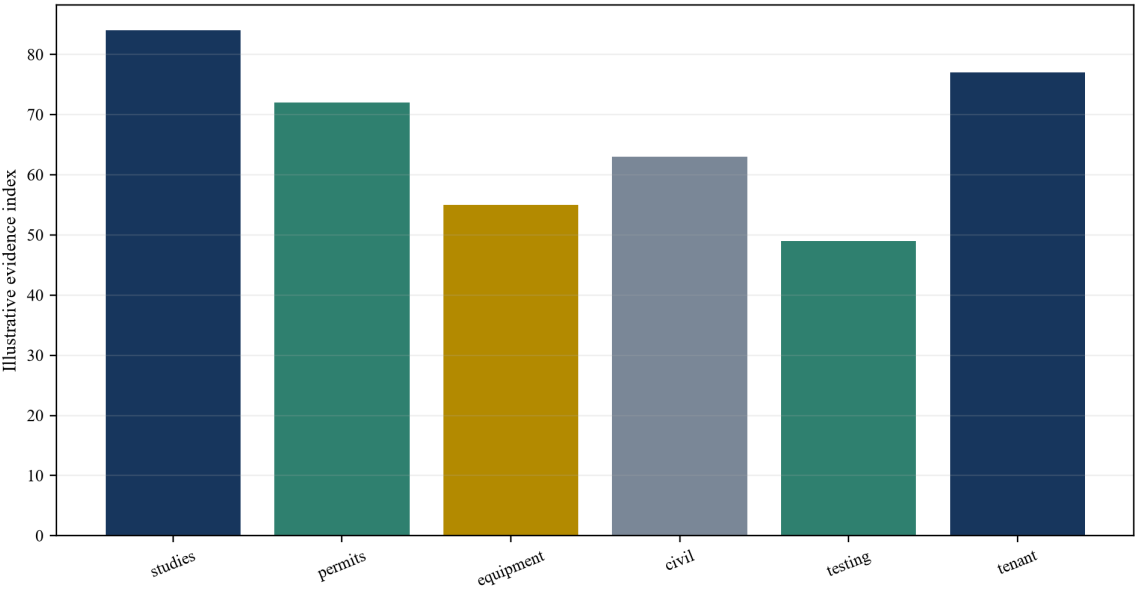
Table 3. Critical-path controls

Dependency	Evidence	Failure effect
grid works	network programme	delay
transformers	purchase orders	late energisation
permits	issued approvals	construction stop
tenant	binding contract	slow ramp

Illustrative analytical design; company-specific evidence and professional advice govern.

Figure 3. Energisation readiness

FIGURE 3. ENERGISATION READINESS



Values are illustrative evidence indices and require company-specific support.

25. Secure land and permits

Review title, zoning, environmental, aviation, noise, emissions, hazardous materials and community conditions.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a site-permit dependency map.

The principal failure occurs when power rights are valued independently of buildable land. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for secure land and permits should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

26. Underwrite water and cooling

Model water rights, drought, discharge, cooling technology, climate and heat-reuse obligations.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a cooling-and-water balance.

The principal failure occurs when cooling capacity and water availability remain outside valuation. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for underwrite water and cooling should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

27. Measure efficiency

Use metered PUE, water usage effectiveness, load factor and temperature performance by phase.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is an operating-efficiency curve.

The principal failure occurs when design efficiency is applied from day one at partial load. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for measure efficiency should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

28. Model compute density

Translate rack density, liquid cooling, electrical distribution and floor loading into saleable configurations.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a density-readiness assessment.

The principal failure occurs when legacy hall design supports future AI racks without retrofit. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for model compute density should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

29. Price retrofit and obsolescence

Forecast electrical, cooling, network and control upgrades against customer hardware cycles.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a retrofit reserve.

The principal failure occurs when building life substitutes for technical economic life. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for price retrofit and obsolescence should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

30. Calculate revenue per energised megawatt

Reconcile price, occupancy, density, ancillary services and contract duration.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a unit-revenue schedule.

The principal failure occurs when revenue per MW ignores unoccupied or unavailable capacity. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for calculate revenue per energised megawatt should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

31. Calculate cash flow per usable megawatt

Deduct delivered power, operations, maintenance, leases, taxes and recurring capex.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a unit cash-flow model.

The principal failure occurs when EBITDA per announced MW overstates economic yield. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for calculate cash flow per usable megawatt should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

32. Select valuation approaches

Reconcile DCF, comparable transactions, replacement cost and residual land or power option value.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a valuation-method reconciliation.

The principal failure occurs when one cap rate or EV-per-MW headline determines value. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for select valuation approaches should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

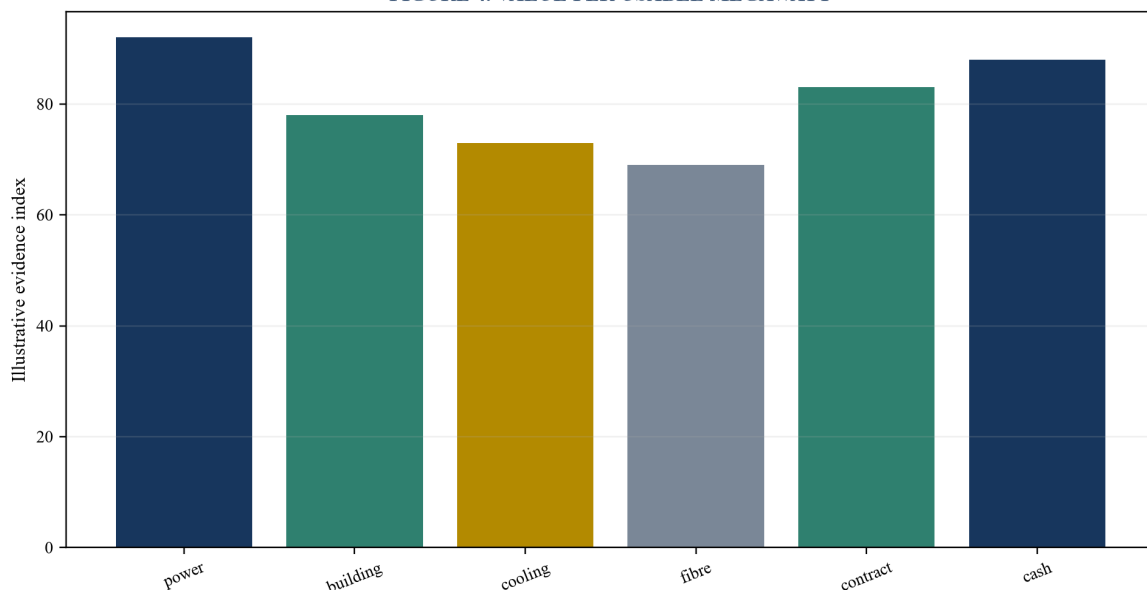
Table 4. Valuation evidence

Approach	Primary unit	Control
income	usable MW cash flow	ramp scenarios
market	energised comparable	rights adjustment
cost	current replacement	obsolescence
option	future phase	probability and time

Illustrative analytical design; company-specific evidence and professional advice govern.

Figure 4. Value per usable megawatt

FIGURE 4. VALUE PER USABLE MEGAWATT



Values are illustrative evidence indices and require company-specific support.

33. Value expansion options

Probability-weight future power, land, permits, customer demand, capex and time to energise.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is an expansion option model.

The principal failure occurs when uncommitted phases receive completed-asset value. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for value expansion options should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

34. Identify stranded-capacity risk

Test obsolete designs, failed milestones, unavailable equipment, weak demand and uneconomic tariffs.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a stranded-capacity scenario.

The principal failure occurs when queue position retains value after the development path closes. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for identify stranded-capacity risk should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

35. Model financing and refinancing

Link construction draws, completion tests, lease-up, DSCR, covenants and takeout debt to milestones.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a financing critical-path model.

The principal failure occurs when debt remains available through energisation delay and cost overrun. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for model financing and refinancing should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

36. Run integrated scenarios

Combine energisation, load ramp, tariff, curtailment, tenant, capex and efficiency outcomes.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is an integrated value matrix.

The principal failure occurs when single-variable sensitivities miss correlated power and commercial stress. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for run integrated scenarios should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

37. Run reverse stress tests

Identify delay, utilisation, tariff, curtailment and capex thresholds that eliminate equity value.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a reverse-stress dashboard.

The principal failure occurs when downside stops before contracted power becomes uneconomic. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for run reverse stress tests should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

38. Separate market and buyer value

Distinguish standalone cash flow from buyer-specific network, procurement, customer and compute synergies.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a standalone-to-synergy bridge.

The principal failure occurs when strategic scarcity premium is presented as universal fair value. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for separate market and buyer value should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

39. Build the valuation record

Document agreements, studies, measurements, assumptions, model versions, specialists and approvals.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a valuation committee file.

The principal failure occurs when power-adjusted value cannot be reproduced. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for build the valuation record should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

40. Close through evidence gates

Require firm rights, credible energisation, usable capacity, tenant evidence, resilient operations and reconciled value ranges.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a power-constrained valuation close certificate.

The principal failure occurs when transaction momentum overrides the power critical path. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for close through evidence gates should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

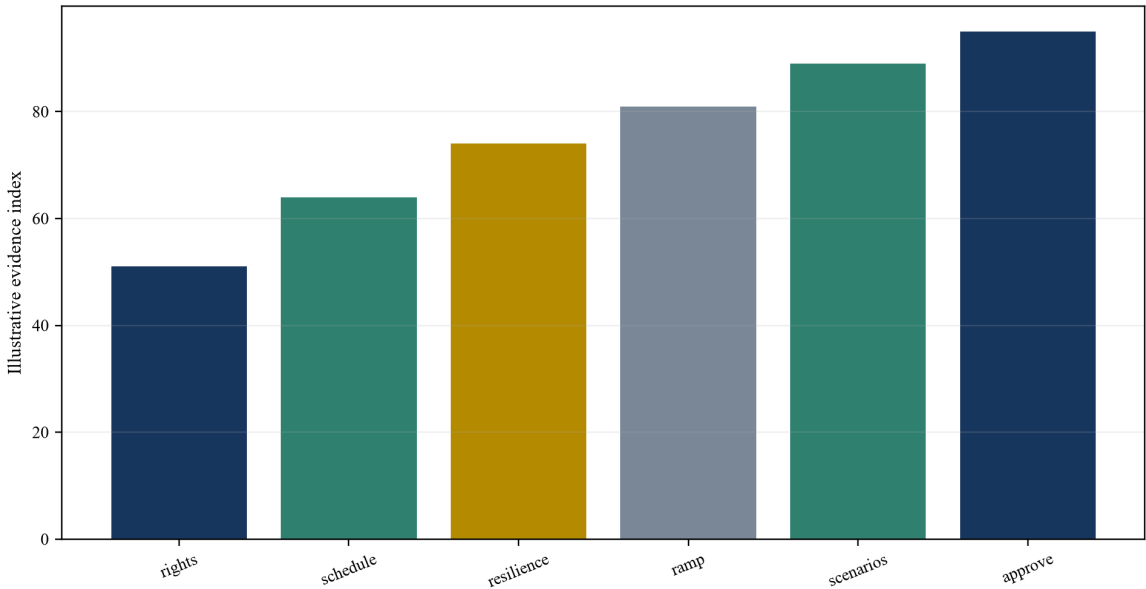
Table 5. Closing gates

Gate	Minimum evidence	Owner
power	firm enforceable rights	legal and grid
schedule	integrated critical path	development
cash flow	contracted ramp	finance
value	approved range	board

Illustrative analytical design; company-specific evidence and professional advice govern.

Figure 5. Transaction readiness

FIGURE 5. TRANSACTION READINESS



Values are illustrative evidence indices and require company-specific support.

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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.

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