

Now & Next

Real Estate Alert

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Energy-first strategies for data center real estate development

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We explore an energy-first strategy for navigating real estate, siting, and land-use gating issues in US data center development projects.



What's the impact?

- Artificial intelligence (AI) and cloud growth is driving unprecedented demand for US data centers—outpacing grid capacity nationwide.
- Demand has shifted US data center development into an energy-first model, with power access driving site selection and feasibility.
- Success in US data center real estate development now requires legal strategies that prioritize energy infrastructure, site control, and risk-focused contracts from project inception.

The US data center market shifted to an energy-first paradigm. Power availability, deliverability, and firmness—not land price, tax incentives, or fiber access—drive site viability, financing, and entitlements. Grid constraints and rising environmental scrutiny have reshaped development timelines. Successful real estate strategies start with a credible power thesis, evidenced by interconnection progress, firm service commitments, aligned milestones, and insurable

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operational easements. This alert provides a practical, deal-focused framework for structuring data center real estate development around “speed-to-power.”

Market context and energy-first imperative

AI and cloud computing are accelerating multi-hundred-megawatt (MW) campus plans. Primary hubs face power scarcity, policy headwinds, and moratoria, pushing new development into secondary markets and adaptive reuse of energy and/or industrial assets with existing interconnections and rights-of-way. Across RTOs, large-load interconnections confront multi-year studies and network upgrades. Utilities increasingly require substantial credit support to shield ratepayers from stranded costs. In this environment, sponsors must invert traditional sequencing: start with the grid map and achievable interconnection paths, then back-solve for siting, zoning, land-use, title security, entitlements, and capital.

Power, interconnection, and grid access: The primary gating factor

INTERCONNECTION REALITIES AND QUEUE STRATEGY

Developers should secure load study positions early and treat queue status as a core asset. Land acquisition, option, and ground lease documents should condition closing or rent commencement on defined power milestones (e.g., feasibility study outcomes, Interconnection Agreement (IA) execution, utility notice to proceed (NTP) for substation, in-service dates), with outside dates, utility-driven extension mechanics, and termination rights tailored to grid dependencies. Preserve assignment rights and milestone flexibility to support M&A and financing transactions.

FIRMNESS, CURTAILMENT, AND LIQUIDATED DAMAGES ALIGNMENT

Document firmness of service and limits on economic curtailment and define outage remedies, compensation, and backup service constructs. Align IA and Power Purchase Agreement (PPA) liquidated damages provisions with liquidated damages provisions in the Engineering, Procurement, and Construction (EPC) contract and downstream Service Level Agreements (SLAs) to avoid unhedged exposure if utility schedules slip. Allocate upgrade costs and change-in-law risks explicitly, address tariff volatility and mandatory curtailment programs, where applicable.

CO-LOCATION, “BEHIND-THE-METER,” AND MICROGRIDS

Co-locating generation (renewables plus storage, fast-start thermal, or emerging nuclear options) can compress schedule risk but adds siting, permitting, and easement complexities. Reserve substation pads and generation envelopes; integrate air, water, and hazardous materials

permits; confirm zoning for fuel storage and generation; and record separate, insurable easements for generation and load. Evaluate joint interconnection requests and demand flexibility structures where regional rules offer expedited pathways.

FEDERAL INITIATIVES

The Department of Energy (DOE) has directed Federal Energy Regulatory Commission (FERC) to propose standardized, accelerated pathways for large-load interconnections, including joint load+generation requests and expedited studies for curtailable or flexible loads. Sponsors should structure projects to leverage these pathways and track Regional Transmission Organization (RTO) implementation for cluster studies, queue transfers, and demand response applicable to large loads.

Site selection and energy-centric real estate due diligence

ELECTRICAL FEASIBILITY AND REDUNDANCY

Commission independent Electrical Power Reports (EPRs) confirming substation headroom, feasible upgrade scopes, realistic lead times, and redundancy (e.g., dual feeds, etc.). Prioritize parcels adjacent to transmission and distribution corridors with demonstrable capacity and clear rights-of-way (ROWs). Bank adjacent land for phasing and record insurable corridors for redundant power and fiber routes.

ALTERNATIVE SITING AND LEGACY INFRASTRUCTURE

Adaptive reuse of retired industrial and/or energy facilities can compress timelines by leveraging existing interconnections and related infrastructure, water intake/discharge, and robust ROW. Consider co-siting with municipal water treatment facilities for reclaimed water; assess proximity to high-capacity natural gas pipelines, if onsite thermal generation is contemplated.

WATER SUFFICIENCY AND COOLING STRATEGY

Validate withdrawal rights, supply reliability, and discharge permits for peak and annual loads. In water-constrained jurisdictions, model air-cooled, direct-to-chip liquid cooling, or hybrid systems; secure reclaimed [water sources](#) and closed-loop designs where policy trends point to consumption caps.

ENVIRONMENTAL AND SITING CONSTRAINTS

Map wetlands, floodplains, sensitive habitats, and cultural resources. Diesel backup fleets trigger Clean Air Act permitting; plan for Tier 4 controls and refueling logistics. Integrate acoustic

modeling, enclosures, and setbacks early to satisfy objective noise standards. Confirm geotechnical suitability and oversize load access for heavy equipment.

FIBER ACCESS AND LATENCY

Secure primary and diverse fiber routes with recorded, insurable easements; future-proof duct banks for capacity growth and relocation rights; synchronize telecom rights with reciprocal easement agreements (REAs) and utility easements.

Land use, zoning, and community license to operate

USE CLASSIFICATION, OVERLAYS, AND APPROVALS

Verify whether data centers are permitted by right or require a conditional use permit (CUP), variance or special exception, as applicable. Expect overlays addressing height, setbacks, design screening, generator testing windows, water use, and fuel storage. Synchronize zoning and utility timelines to avoid rework when substation or generation designs evolve.

MORATORIA AND REGULATORY RISK

Diligence local moratorium trends and rehearing risks. Build timing flexibility and utility-contingent extensions into site control and purchase and sale agreement (PSA) / ground lease structures; preserve administrative appeal rights and litigation posture for exclusionary zoning.

COMMUNITY ENGAGEMENT AND BENEFITS

Engage early with a credible economic and infrastructure narrative. Memorialize measurable mitigations—acoustic, visual, traffic, heat plume—and water stewardship. Consider development agreements in new markets to secure predictable approvals, infrastructure commitments, and reporting frameworks. Illustrate positive economic impact of the project (i.e., job creation).

ENVIRONMENTAL REVIEW AND FEDERAL NEXUS

Coordinate National Environmental Protection Agency (NEPA) where federal permits, funding, or federal lands are implicated. Pursue categorical exclusions where available; sequence air/water permits with land-use approvals; ensure generator and cooling configurations are ready for entitlements before final submissions.

Site control structures: Fee simple, ground leases, and options

FEE SIMPLE OWNERSHIP

Preferred for multi-phase campuses and bespoke infrastructure due to control, lender preference, and ease of recording operational rights. PSAs should condition closing on interconnection progress, power delivery milestones, essential permits, title cures, and executed operational easements, with robust pre-closing access for early works.

LONG-TERM GROUND LEASES (30–99 YEARS)

Conserve capital and unlock strategic/public sites but demand specialized protections to support leasehold financing and operational primacy. Non-negotiables: landlord waiver of rights to improvements/fixtures; robust subordination, non-disturbance agreements (SNDAs); extended lender cure and standstill; waiver of immaterial non-monetary defaults; self-help and operational continuity rights; recorded memoranda; pre-consent for substation pads, fuel storage, cooling infrastructure; reserved expansion envelopes and utility corridors.

OPTIONS AND DEVELOPMENT/SITE CONTROL AGREEMENTS

Use options to secure queue positions and entitlements while de-risking power. Hard-wire power milestones (queue status, study outcomes, IA execution), zoning and permit gates, and public vacation/relocation of conflicting easements as conditions precedent. Structure escalating deposits and extension fees keyed to grid progress; preserve broad assignment rights for JV and financing; align tenors to realistic interconnection schedules.

Real estate due diligence: Title, survey, easements, and curative work

ALTA/NSPS SURVEYS AND ENGINEERING OVERLAYS

Order certified surveys at intake: overlay site plans, substation/generation envelopes, utility corridors, duct banks, noise buffers, and security setbacks. Validate turning radii and staging for heavy equipment.

TITLE INSURANCE STRATEGY FOR OPERATIONAL RIGHTS

Pursue removal of high-risk Schedule B exceptions and obtain affirmative coverage for operational power and fiber easements, not just the fee parcel. Pre-clear easement forms with underwriters to enable exception removals rather than relying solely on endorsements.

UTILITY AND TELECOM EASEMENTS; CONFLICTS AND VACATIONS

Identify conflicts with existing easements early: plan for summary or general vacations and public hearings as required. Record comprehensive easements for construction, operation, upgrades, redundancy, relocation, and future capacity, with cross-default and priority language synchronized with REAs and financing.

CC&RS AND PRIVATE RESTRICTIONS

Scrub restrictions impacting noise, height, screening, hours, fuel storage, and 24/7 logistics. Negotiate amendments or waivers contemporaneously with entitlements to avoid redesigning.

ACCESS INTEGRITY AND SECURITY PROTOCOLS

Perfect legal ingress/egress for construction and 24/7 operations. In leases and REAs, define landlord access limits and emergency protocols that preserve operational security while satisfying legal duties.

Contract structure: Synchronizing energy, construction, and property

PSAS AND OPTIONS

Condition closing/exercise on interconnection progress (queue, studies, executable IA), milestone power delivery, critical permits, title cures, and recorded operational easements. Provide early works access and milestone-based extensions or walk rights for grid-driven delays.

GROUND LEASES

Reserve and pre-consent critical infrastructure footprints: limit discretionary landlord approvals for utility works, embed expansion rights, right of first offer (ROFO) / right of first refusal (ROFR) on adjacent lands, exclusivity, and strict limits on landlord/third-party access.

EPC AND LONG-LEAD PROCUREMENT

Align EPC milestones and liquidated damages (LDs) with utility Commercial Operations Date (COD): incorporate Owner Furnished Contractor Installed (OFICI) strategies and contingencies for temporary power and storage bridging; allocate supply chain and force majeure risks explicitly.

IA/PPA AND TARIFFS

Paper firmness, curtailment, backup service, upgrade cost allocation, outage remedies, and change-in-law/tariff resets. Integrate onsite or contracted renewable supply, shape/volume

hedges, and storage where Environmental, Social, and Governance (ESG) or cost volatility drives the business case.

REAS AND OPERATIONAL EASEMENTS

Record early: future-proof construction, operation, upgrade, redundancy, and relocation rights for power and fiber. Coordinate with title to maximize affirmative coverage and exception removal.

Environmental, water, and ESG

WATER RIGHTS AND COOLING

Secure durable supply (including reclaimed), discharge pathways, and permits matched to technology choice. Model consumption/waste heat: design closed loop or hybrid systems in constrained basins, encode commitments in entitlement conditions and development agreements where appropriate.

AIR PERMITTING AND BACKUP GENERATION

Coordinate federal/state/local air permits: plan Tier 4 or alternative fuels, evaluate battery energy storage system (BESS) as a bridging resource and address fire/life safety. Sequence permitting with equipment procurement to avoid re-submittals.

NOISE, VIBRATION, VISUAL MITIGATION

Engineer acoustic enclosures and objective compliance verification; integrate visual screening and heat plume modeling; memorialize enforceable conditions with measurable standards and reporting.

ESG REPORTING AND CLAIMS GOVERNANCE

Calibrate disclosures tied to green financing against verifiable power sourcing and efficiency metrics (Power Usage Effectiveness (PUE), Water Usage Effectiveness (WUE), hourly carbon intensity). Address "*greenhushing*" risk by aligning public commitments with contractually controllable outcomes.

Incentives, tax, and capital structuring

State/local incentives—sales/use exemptions for IT equipment and materials, property tax abatements, infrastructure grants—are additive where the power thesis is strong. Diligence investment thresholds, job covenants, claw backs, and audit regimes. For co-located generation

and storage, evaluate federal credits and bonus adders; structure tax equity, sale-leasebacks, or joint ventures without compromising site control or security perimeters. Anchor leases should reflect staged power ramp rights tied to utility commitments and onsite contingencies.

Federal policy: FERC/DOE and regional implementation

[DOE's October 23, 2025, directive](#) to FERC targets standardized, accelerated interconnection for large loads, enabling joint load+generation filings and expedited studies for flexible or curtailable loads, with timelines extending into 2026. Practically, sponsors should: align project scopes to co-location pathways; incorporate demand flexibility where it unlocks queue priority; update conditions precedent and outside dates in PSAs/leases; and monitor RTO reforms to cluster study protocols, queue transferability, mandatory curtailment, and demand response programs applicable to large customers.

Key observations

FOR INVESTORS

Investors should underwrite energy like infrastructure sponsors. Queue position, IA status, upgrade scope and cost allocation, and curtailment exposure are core value drivers. Pay premiums for sites with legacy interconnection, recorded operational easements, and water/fiber ROW at retired industrial or energy facilities. Incentives enhance returns only where power is firm. Value optionality: recorded expansion corridors, ROFO/ROFR on adjacencies, and modular phasing rights improve internal rate of return (IRR) and exit flexibility.

FOR DEVELOPERS

Invert sequencing: secure queue positions before or concurrent with letters of intent (LOIs); condition site control on interconnection milestones. Over-diligence title and survey for utility conflicts; prioritize exception removals and pre-clear easement forms. Standardize entitlement playbooks with measurable water/noise mitigations and community benefit packages; prepare for moratoria and rehearings. Diversify power with grid service, onsite generation, storage, and demand flexibility; align IA/PPA/EPC LDs and contingency scopes for resilience.

FOR LAWYERS

Operate as infrastructure strategists. Lead with energy regulatory counsel and synchronize IA/PPA, EPC, leases, PSAs, REAs, and financing documents around shared power milestones. Use title insurance as an operational tool by obtaining affirmative coverage on power/fiber easements and removing problematic exceptions. For ground leases, make SNDAs, landlord waivers of fixture/improvement rights, extended lender cures, recorded memoranda, and

operational continuity rights non-negotiable. Preserve administrative appeal strategies for CUP denials, moratoria, and exclusionary zoning claims. Update forms to track DOE/FERC and RTO policy shifts, and sequence NEPA/state reviews efficiently.

Looking ahead

Data center development is now a vertically integrated energy infrastructure endeavor wrapped in a land deal. The decisive factor is "speed-to-power": sponsors that internalize an energy-first approach—queue strategy and milestone-based site control, title-insured operational easements, performance-based entitlements, and synchronized IA/PPA/EPC contracts—will compress timelines and enhance bankability. With federal initiatives aimed at accelerating large-load interconnections and market participants co-locating generation to bypass bottlenecks, winning projects will unify power, property, and permitting into one coherent development thesis.

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