

Interconnection Risk in 2026: How Grid Congestion, AI Load Growth, and Queue Delays Are Impacting Renewable Energy Development

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For years, permitting and local opposition were viewed as the primary development risks for renewable energy projects. Today, that mantle has shifted. Across U.S. power markets, interconnection has become a more consequential—and least predictable—constraint on project viability.

Lengthening queue timelines are now often measured in years, not months. That, in conjunction with escalating network upgrade costs, and increasing withdrawal penalties are forcing developers, investors, and lenders to fundamentally rethink how interconnection risk is underwritten and allocated.

PJM Interconnection, the largest power grid operator in the U.S. covering thirteen states and Washington D.C., reopened its interconnection queue in 2026 after pausing new applications for several years due to backlog pressures. Industry groups noted that the freeze had effectively stalled large volumes of new generation development. PJM's backlog exceeded 300 GW of projects during the queue reform process. PJM's recent reopening of its interconnection queue following a multi-year pause underscores the extent to which queue congestion has become a gating issue for new generation development. It is not just PJM, as MISO (a grid operator across 15 states in the Midwest and South), several months ago, announced further delays in its queue for the cycles of projects that entered in 2022, 2023 and 2025.

Further, the explosive growth of AI-driven data centers is compounding existing interconnection pressures and forcing grid operators to reconsider longstanding assumptions around load growth, transmission planning, and co-location structures. In June 2026 FERC is expected to act on the Advance Notice of Proposed Rulemaking proceeding initiated by the Secretary of Energy to ensure the “timely, orderly and equitable integration of significant electrical loads – such as the increasing demand from data centers – into the nation’s transmission infrastructure.”¹ FERC also has directed PJM to “implement transparent rules to accommodate substantial loads” affiliated with data centers.

Interconnection risk is no longer simply a renewable energy problem—it is becoming a systemic infrastructure constraint driven by electrification, AI-related load growth, transmission limitations, and the pace of generation retirement.

Below are notable issues related to interconnection risk, and how they play out in project finance and economics.

1. Queue Timelines Are No Longer Bankable Assumptions

In many regions, projects entering the interconnection queue face multi-year study processes with uncertain outcomes. Even with recent reforms, including first-ready/first-served frameworks, timelines remain highly variable.

The result: projected commercial operation dates (CODs) are increasingly viewed as soft targets rather than financeable milestones.

¹ <https://www.ferc.gov/news-events/news/ferc-act-large-load-interconnection-docket-june-2026>

- Developers should expect:
- Greater skepticism from lenders around COD assumptions
- Increased use of long-stop dates in offtake agreements
- Pricing adjustments tied to interconnection uncertainty

2. Network Upgrade Costs Are Driving Project Attrition

One of the most significant drivers of queue withdrawals is the magnitude of required network upgrades. Projects initially modeled as economically viable can quickly become infeasible when assigned substantial upgrade costs.

Key implications of this include:

- Late-stage cost surprises are now common
- Co-located storage is increasingly used to mitigate upgrade exposure
- Portfolio approaches to development are becoming more prevalent to absorb attrition risk
- From a legal perspective, careful structuring of cost-sharing and withdrawal provisions in joint development arrangements is critical.

3. Offtake Agreements Are Evolving to Address Delay Risk

Power purchase agreements (PPAs) and other offtake structures are adapting to reflect interconnection uncertainty.

This manifests in:

- Expanded force majeure definitions (and, in some cases, explicit exclusions)
- More aggressive termination rights tied to interconnection milestones
- Liquidated damages regimes linked to delayed COD
- Sellers who underestimate these provisions risk signing contracts that become economically punitive if interconnection timelines slip.

4. M&A and Project Finance Diligence Is Shifting

Interconnection status is now a primary diligence focus in acquisitions and financings—often on par with site control and permitting.

Buyers and lenders are performing diligence into:

- Queue position and study phase
- Assigned and potential upgrade costs
- Withdrawal penalties and security postings
- Deliverability assumptions in congested zones
- Projects without a clear and defensible interconnection pathway are seeing valuation discounts—or failing to transact altogether.

5. Contractual Risk Allocation Is Becoming More Sophisticated

As uncertainty grows, so does the complexity of risk allocation.

Key negotiation trends include:

- Milestone-based purchase price adjustments in M&A deals
- Earnouts tied to interconnection progress
- Targeted indemnities around interconnection representations
- Shared-risk structures between developers and capital partners
- Developers who treat interconnection as a purely technical issue, rather than a legal and commercial one, are at a disadvantage.

6. Interconnection is Expensive, and Financing can be Complicated

Utilities often charge several million dollars, per project, for various studies and engineering costs associated with interconnecting a project to the grid. Many developers do not have the available cash to deposit with the utility, so they turn to lenders to finance. There are a subset of lenders with will finance these. Difficulties can arise as utilities often handle the interconnection deposits differently, including what type of account the deposit is in, how it is drawn down and when, and to what extent the developer or lender have visibility into this. This can make the financing terms tricky and highly negotiable on a deal-by-deal basis.

Conclusion

Interconnection is no longer a back-office engineering process—it is a central driver of project economics and deal execution. In today's environment, success depends on integrating interconnection strategy into every stage of development, from site selection to contract negotiation.

For developers, that means underwriting risk conservatively and structuring flexibility into agreements. For investors and lenders, it requires deeper diligence and more nuanced risk allocation.

As grid constraints continue to shape the pace of the energy transition, those who can effectively navigate interconnection risk will have a decisive advantage.