data center demand is paired with 24/7 carbon-free energy goals, the mix shifts toward renewables, batteries, and, where feasible, nuclear power. The study effectively suggests that while data center build-out does not automatically advance the energy transition, it could still help to finance cleaner resource buildout in states that choose that path. In the paper's conclusion, EPRI highlights that supporting projected load growth will require accelerated collaboration across industry, policy makers and local communities, with the potential for data center deployment to align with consumer and policy maker goals.

The Union of Concerned Scientists' (UCS) "Connection Costs" policy brief focuses on another specific but important problem: how grid connection costs are allocated when very large data centers connect directly to the high-voltage transmission system rather than the lower-voltage distribution system.[44] In simple terms, the regulatory framework was built around a world in which most new customers were much smaller and connected through the distribution grid. But when 100–1,000 MW data centers connect at the transmission level, those costs can flow into a part of the rate system overseen by FERC and then be passed through retail rates approved by state commissions, making it much harder to trace and assign them to the customer that caused them. UCS argues that this split oversight between utilities, state PUCs, and FERC creates a regulatory gap and weakens cost-causation principles.

Using PJM planning filings, the brief identifies 130 local transmission projects in seven PJM states tied to data center connections in 2024 and estimates $4.356 billion in related costs. It further finds that 6 of the 130 projects were described as having no cost to other customers, meaning the remaining 124 projects in those seven states possibly fed into the broader transmission cost pool paid by consumers.

The brief carefully notes one limitation: if some of those projects were partly covered through special contracts, line-extension policies, or other customer contributions, those offsets were not transparently credited in the transmission cost development it reviewed. That does not invalidate the concern, but it does mean the brief is best read as evidence of a serious transparency and incentive problem rather than as a final audited measure of net consumer harm. Despite the limited focus of this study on interconnections in PJM, its broader point is valid: where utilities earn returns on transmission investment as they increase their rate base, and where costs can be shared across all ratepayers instead of being assigned to large new loads, the incentives are not naturally aligned with ratepayer protection. This merits a careful review both at the state and federal level to ensure higher levels of transparency and appropriate assignment of cost causation to new large loads.

UCS therefore recommends a more transparent and targeted cost-allocation framework. In particular, it argues that FERC and state PUCs should require utilities to track transmission-level connection costs caused by specific customers, create a separate rate category for customers with direct transmission connections, and ensure that transmission built for a single large load is paid for by that customer or customer class rather than being rolled into costs for all ratepayers. Simply creating a new large load tariff, the brief argues, is not enough unless those connection costs are first clearly separated from broader transmission charges.

UCS' "Data Center Power Play" report takes a wider national view.[45] Rather than focusing on a single cost-allocation loophole, it uses NREL's ReEDS least-cost power-sector model to test how different data center growth assumptions and policy environments affect generation mix, system costs, emissions, and health damages. The study illustrates a range of data center outcomes, ranging from heavier reliance on gas to an expanded buildout of low-carbon resources. While the framing adds useful perspective on different policy trajectories, the results should be interpreted as scenario analysis rather than exact prediction.[46] UCS itself highlights important assumptions and limitations: it assumes only half of announced projects are built, allows projects to take up to five years to reach full load, does not model potentially critical demand flexibility, and relies on a national least-cost model that cannot capture the local reliability, interconnection, and procurement realities that often determine what actually gets built. Despite those limitations, the study broadens the discussion beyond wholesale prices alone and offers complementary policy recommendations: ensure data centers pay their full incremental costs, improve long-term utility planning and transparency, and reform interconnection and transmission rules to reduce barriers for clean resources while avoiding rising emissions and cost shifts to other customers.

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[44] Jacobs, M. (2025). *Connection Costs: Loophole costs customers over $4 billion to connect data centers to power grid* (Policy brief). Union of Concerned Scientists. https://www.ucs.org/sites/default/files/2025-09/PJM%20Data%20Center%20Issue%20Brief%20-%20Sep%202025.pdf

[45] Clemmer, S., Chavez, M., Dotson, S., Gignac, J., Sattler, S., & Shaver, L. (2026). *Data Center Power Play: How clean energy can meet rising electricity demand while delivering climate and health benefits* (Report). Union of Concerned Scientists. https://www.ucsusa.org/resources/data-center-power-play

[46] Under its Current Policies case, the model relies more heavily on gas, while under Restored Tax Credits and a stronger Low-Carbon Policy case, more of the incremental demand is met with wind, solar, storage, and other low-carbon resources.