

Title of the Policy Proposal:

Limiting Data Center Environmental Impacts

Subject Area of the Proposal:

Energy, Air Quality, Water Resources, and Land Use

For State or Federal Consideration:

State

Budgetary or Authorizing: (Does the Proposal Seek Funding or Legal Authorities?)

Authorizing

Short Description of the Proposal:

Support state measures that reduce or internalize the environmental impacts of rapid data center growth while preserving grid reliability and grid greening. The 2026 session and the 2026–2028 budget (signed June 30, 2026) laid a foundation — a Tier 4 floor for new backup generators, expanded water-use reporting, sound-profile site assessments for 100 MW+ facilities, a new electricity consumption tax, and directives for DEQ to designate Cooling Water Scarcity Areas and adopt statewide noise rules. The 2027 position should build on that foundation. Priority areas: clean power supply and fair cost allocation, limits on routine fossil-fueled on-site generation, cleaner backup power, transparent and water-efficient cooling, stronger local siting and noise authority, and conditioning state incentives on measurable performance. A narrowly tailored, time-limited pause on new approvals in demonstrably constrained grid or water areas could also be considered.

Has this Proposal been Introduced as Legislation in a Previous Session?

Yes. The 2026 General Assembly considered roughly 61 data center bills and enacted about 15; the budget added more. Several elements proposed here were introduced in stronger form in 2026 and were narrowed, carried over, or dropped in conference.

If So, Please Provide Applicable Bill Numbers and Years it Was Introduced:**HB 507 (2026, enacted; air permit applications filed on or after July 1, 2026)**

- Requires DEQ air permits for new data centers to set each engine-generator emission limit at or below a Tier 4-equivalent level and authorizes stricter limits. As introduced, the bill also required battery-first backup and capped diesel operation at ~500 hours/year; only the Tier 4 provision passed. DEQ guidance now designates Tier 4 as presumptive BACT for emergency and non-emergency units.

HB 496 / SB 553 (2026, enacted; Chapters 623 and 896; amends § 62.1-44.38)

- Water users that supply data centers with DEQ air permits must separately report monthly potable and reclaimed water volumes, beginning January 1, 2027. The introduced facility-level water-use estimate requirement was removed.

HB 153 / SB 94 (2026, enacted; Chapters 567 and 568; now Code of Virginia § 15.2-2209.4)

- For new high-energy-use facilities expected to require 100 MW or more, requires a sound-profile site assessment for homes and schools within 500 feet before a rezoning, special exception, or special use permit; localities may also require water and other natural-resource assessments.

SB 417 (2026, carried over)

- Would condition Cloud Computing Cluster Infrastructure Grant Fund payments on reclaimed water for water-dependent cooling, from 60% (2027) to 100% (July 1, 2031).

2026–2028 Appropriation Act (signed June 30, 2026)

- Preserves the sales and use tax exemption; creates a \$0.011/kWh data center electricity consumption tax effective July 1, 2026; directs DEQ to define Cooling Water Scarcity Areas; requires new data centers in the Eastern Virginia Groundwater Management Area (permit applications after Jan. 1, 2027) to minimize cooling water use, with a DEQ retrofit plan due Oct. 15, 2026; directs DEQ noise regulations by end of 2029 (standard effective 2030); requires a first SCC data center report by Oct. 1, 2026; and directs the Joint Subcommittee on Tax Policy to report by Dec. 15, 2026 on the exemption, other states' moratoria, water, and generators. The House proposal to condition the exemption on environmental standards was dropped. SB 336 and HB 1502 generator studies continue.

Relevant Background (e.g. -- what's the policy problem or status quo that this policy would fix or improve?):

Virginia is the center of the largest data center market in the world. JLARC (Report 598, 2024) found that unconstrained electricity demand could double within roughly 10 years, with data centers the main driver, and that absent clean-energy constraints, substantial new natural-gas generation would be needed. This creates climate, affordability, and infrastructure risks if load arrives faster than clean generation, storage, and transmission. Cost allocation has moved since: the SCC approved a large-load GS-5 rate class (2025) and on August 5, 2026 ordered Dominion to file a tariff directly assigning transmission costs to large-load customers, while acknowledging the tariff may not capture all reliability-driven costs — a gap the General Assembly could address.

Backup power is a separate local air-quality issue. Nearly all existing facilities use Tier 2 diesel generators; JLARC found their regional contribution comparatively small (under 4% of Northern Virginia NO_x and 0.1% or less of CO and PM) because use is limited to emergencies and maintenance. But more than 9,000 generators are now permitted in the region, DEQ expects most future units to be permitted as non-emergency, DOE authorized generator operation during the January 2026 cold snap, and VCU modeling shows localized concentrations near clustered facilities can be significant.

Water impacts vary sharply by cooling design. JLARC estimated 2.1 billion gallons in 2023 (up 86% since 2019) — under 0.5% of statewide withdrawals by industry's framing, 1.4% by a 2026 Taxpayers Protection Alliance estimate. Most facilities use office-building volumes, but eleven buildings exceeded 50 million gallons and one used ~243 million. Constraints are most acute in the Eastern Virginia Groundwater Management Area, where the aquifer is already declining. Noise remains a land-use concern because low-frequency equipment noise is continuous and poorly addressed by conventional ordinances; DEQ's mandated standard will not take effect until 2030.

Has Your Commission's/Board's Liaison from the City Attorney's Office Determined Whether There's a Need for the Authority or Code Change You're Requesting (for example, does the City already have the authority to take that action without seeking a legal change)?

Not yet. Several elements clearly require state action because they concern DEQ air permitting, SCC regulation, statewide tax incentives, or statewide water standards. § 15.2-2209.4 expanded local site-assessment authority but does not alter zoning authority or reach by-right development. State clarification is likely needed for mandatory water-efficiency standards outside designated scarcity areas, low-frequency noise controls ahead of 2030, limits on by-right siting, water-use estimates before approval, and temporary development pauses.

Related Federal or State Statutes (is there any precedent anywhere else -- another state or on the federal level -- that you're aware of?):

- **Clean power / grid:** Condition new large-load service or tax preferences on demonstrably additional zero-carbon generation, storage, or demand response. Build on the SCC's August 2026 order and GS-5 class by codifying cost-causation principles for reliability-driven upgrades the tariff may miss; pair with authority to delay interconnection where generation or transmission is not ready.
- **On-site and backup generation:** Preserve the Tier 4 floor; revisit the battery-first and run-hour cap provisions dropped from HB 507; evaluate campus-wide fleets cumulatively; restrict routine fossil generation serving normal load; align with the pending SB 336 / HB 1502 studies.
- **Water:** Build on HB 496 / SB 553 and the SCC report with public facility-level reporting where lawful; extend the budget's GWMA cooling standards and Scarcity Area criteria to other constrained basins; require water-use estimates before approval (as JLARC recommended); prioritize closed-loop, air-cooled, and reclaimed-water systems; support SB 417.
- **Siting / noise:** Allow special-use review rather than by-right development for high-energy-use facilities; set setbacks and low-frequency standards; accelerate or shape DEQ's noise rulemaking; require cumulative impact assessments beyond the 500-foot sound-profile requirement.
- **Incentives / pacing:** The 2026 attempt to condition the exemption on environmental standards failed in conference; the Tax Policy subcommittee reports Dec. 15, 2026 on the exemption and other states' moratoria. Calibrate the 2027 ask to that report. Reserve a targeted, temporary moratorium for areas where documented grid, air, or water constraints prevent adequate review.

Any Relevant Research or Analysis:

JLARC, *Data Centers in Virginia*, Report 598 (Dec. 2024) · DEQ, Issued Air Permits for Data Centers and 2026 Tier 4 BACT guidance · VCU ISEE, *Modeling Localized Air Pollution Impacts from Data Centers in Northern Virginia* (2026) · Code of Virginia § 15.2-2209.4 and § 62.1-44.38 (as amended 2026) · HB 507, HB 496/SB 553, HB 153/SB 94, SB 417 (2026) · 2026–2028 Appropriation Act data center provisions · SCC Final Order, Dominion Rider T1 (Aug. 5, 2026) · Forthcoming: SCC report (Oct. 1), DEQ GWMA retrofit plan (Oct. 15), Tax Policy report (Dec. 15).

Any Relevant Cost Estimates or Cost Savings Estimates:

No single statewide estimate is available because costs depend on the chosen standards. Cleaner generation, storage, reclaimed-water infrastructure, or efficient cooling may raise project costs, while customer-specific rates and incentive conditions reduce cost-shifting to other customers. JLARC estimated a typical Dominion residential customer could otherwise see generation- and transmission-related costs rise about \$14–\$37 per month (real dollars) by 2040. The exemption is now estimated at \$1.6–\$1.9 billion per year versus roughly \$600 million maximum from the new consumption tax.

Pros and Cons of the Proposal:

Potential benefits: lower greenhouse-gas and local pollutant emissions; reduced withdrawals in constrained areas; improved transparency; stronger local tools for noise and siting; reduced cost-shifting to ratepayers.

Potential tradeoffs: higher compliance and capital costs; data center development delays; administrative burden for DEQ, SCC, utilities, and localities; risk that rigid technology mandates become outdated or shift projects elsewhere; and the 2026 conference rejected both repeal of and environmental conditions on the exemption, signaling a preference for incremental steps.

Possible Supporting Organizations (stakeholder allies):

Environmental and clean-energy organizations (incl. Virginia Sierra Club and Virginia League of Conservation Voters) – the VA League of Conservation's #1 priority is its "pause to protect" platform;

Water-resource and watershed organizations; localities experiencing data center growth;

Ratepayer and consumer advocates; community groups near proposed facilities;

The Spanberger Administration on cost allocation;

Senate Finance leadership on the exemption.

Alexandria Public Health Advisory Commission

Possible Opposing Organizations (stakeholder opponents):

Data center developers and operators; the Data Center Coalition and other trade associations; affected utilities or generation developers; building trades supporting data centers; localities prioritizing data-center tax-base growth.