

BEYOND DATA CENTERS II

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The Cost of Decommissioning and E-Waste: Who Pays?

When communities debate data centers, most of the attention understandably focuses on what happens while they are being constructed and operated: enormous buildings, electrical infrastructure, energy demand, water use, backup power systems, noise, traffic and changes to surrounding communities.

But there is another question that should be answered **before the first shovel hits the ground**:

What happens when a data center reaches the end of its useful life—and who pays to clean it up?

That question deserves serious attention in Fauquier County.

DATA CENTERS WILL NOT LAST FOREVER

The buildings may look permanent. The technology inside them is not.

Servers and other electronic equipment are replaced as technology evolves. The rapid expansion of artificial intelligence has added another dimension to this issue because AI requires substantial computing resources and can contribute to accelerated server turnover.[1]

Eventually, individual equipment becomes obsolete. Entire facilities can also become technologically outdated, economically uncompetitive, change ownership or cease operation.

When that happens, a community could be left with much more than an empty building.

Large data center campuses can contain servers and other electronic equipment, batteries, generators, fuel systems, cooling equipment, transformers, electrical infrastructure and potentially hazardous materials requiring proper handling.

All of that eventually has to be reused, recycled, removed, disposed of or otherwise managed.

And that costs money.

THE GROWING E-WASTE QUESTION

Electronic waste associated with artificial intelligence could become substantial.

A peer-reviewed 2024 study published in *Nature Computational Science* modeled the potential electronic-waste implications of generative artificial intelligence, particularly large language models.

The researchers estimated that generative-AI-related e-waste could reach a cumulative **1.2 million to 5.0 million metric tons during 2020–2030**, depending upon future AI-development scenarios.[1]

Importantly, the same study found that circular-economy strategies could potentially reduce this waste by **16% to 86%**.[1]

That is an important distinction.

The issue is not that every obsolete server will inevitably be dumped into a landfill. Electronic equipment contains components and materials that can potentially be reused, refurbished or recycled.

The public-policy question is whether communities have enforceable plans ensuring that this actually happens—and ensuring taxpayers don't inherit the financial liability.

Which brings us to the most important question:

WHO PAYS?

If a data center generates substantial private revenue during its operating life, local taxpayers should not eventually inherit an unfunded decommissioning obligation.

The principle Fauquier County should consider is simple:

The party creating the future decommissioning obligation should financially guarantee that obligation.

Fortunately, Fauquier would not be inventing this concept.

ROCKINGHAM COUNTY IS ALREADY DOING IT

Rockingham County, Virginia adopted data-center regulations in September 2025 containing specific decommissioning requirements.[2]

Its ordinance requires an applicant, owner or operator to submit a **decommissioning plan acceptable to the County before site-plan approval**.[2]

That plan must include:

- the anticipated life of the facility;
- an estimate of future decommissioning costs expressed in current dollars and prepared by a Virginia-licensed professional engineer;
- the method used to calculate the estimate;
- the manner in which the project will be decommissioned; and
- identification of the party responsible for decommissioning.[2]

Rockingham also addresses abandonment.

Under its ordinance, a data center that discontinues operations continuously for **six months** is deemed inactive and becomes subject to the decommissioning requirements.[2]

And Rockingham didn't stop with requiring a plan.

It requires financial security.

The ordinance requires the applicant or successor to secure the **gross decommissioning costs** through adequate surety in a form acceptable to the County Attorney. The ordinance specifically identifies mechanisms including cash, letters of credit, bonds or other qualifying guarantees.[2]

The decommissioning cost estimate must be updated at least **every five years**, with the financial assurance adjusted accordingly.[2]

The ordinance also establishes obligations for successors and property owners and provides a mechanism for County action if responsible parties default.[2]

That is a significant Virginia precedent.

HENRY COUNTY JUST ACTED TOO

On **August 25, 2026**, the Henry County Board of Supervisors announced adoption of new data-center regulations.[3]

According to Henry County's official announcement:

“The ordinance also establishes decommissioning requirements and requires financial assurance sufficient to cover the estimated cost of decommissioning.”

Henry County further states that the estimated cost must be reviewed **every three years** and the financial assurance adjusted as necessary.[3]

Virginia counties are therefore beginning to address not merely where data centers are built, but what happens when their useful lives end.

VIRGINIA ALREADY RECOGNIZES THIS PRINCIPLE FOR SOLAR FACILITIES

There is also an important precedent in Virginia state law.

Virginia Code §15.2-2241.2 establishes decommissioning and financial-assurance requirements for certain solar-energy facilities.[4]

The statute provides for financial assurance through mechanisms including certified funds, cash escrow, bonds, letters of credit and parent guarantees, based upon an estimate prepared by a professional engineer licensed in Virginia.[4]

The statute also requires the decommissioning cost estimate and corresponding financial instrument to be updated **every five years** to account for inflation, technological developments and other necessary changes.[4]

It contains another particularly important protection:

When project ownership changes, notice must be provided to the local government and a **new financial guarantee** must be provided by the new leaseholder or property owner.[4]

The solar statute does not itself establish identical requirements for data centers. But it demonstrates that decommissioning agreements and financial assurance are already established concepts in Virginia land-use policy.

WHAT DOES FAUQUIER'S DATA CENTER POLICY SAY?

Fauquier County adopted its **Data Center Development Policy on December 14, 2023**.[5]

The resolution adopting the policy states that it addresses issues including siting criteria, site design, building design, utilities and public involvement.[5]

The policy establishes expectations for data-center development and states that individual applications will be considered on a case-by-case basis.[5]

However, the adopted Fauquier Data Center Development Policy does **not contain the type of comprehensive decommissioning and financial-assurance provisions now found in Rockingham County's data-center ordinance**.[2][5]

That deserves reconsideration.

WHAT FAUQUIER SHOULD CONSIDER

Fauquier County should examine adoption of a comprehensive:

DATA CENTER DECOMMISSIONING AND TAXPAYER PROTECTION ORDINANCE

At minimum, such legislation should consider requiring:

1. A comprehensive decommissioning plan

Before final site-plan approval, developers should explain how buildings, electronic equipment and associated industrial infrastructure will eventually be removed, reused, recycled or properly disposed of.

2. An independent professional cost estimate

A Virginia-licensed professional engineer should calculate the anticipated cost of decommissioning the facility.

3. Financial assurance

The developer should provide an appropriate bond, letter of credit, escrow or other legally enforceable financial instrument sufficient to protect the County from an unfunded decommissioning obligation.

4. Periodic recalculation

The estimated cost and corresponding financial assurance should be updated periodically for inflation, changing technology and actual decommissioning costs.

5. Protection when ownership changes

Selling a facility should not make the decommissioning obligation disappear. Successor owners should assume appropriate responsibility and maintain required financial assurance.

6. Clear standards for inactivity and abandonment

The ordinance should establish when a facility is considered inactive and when decommissioning must commence.

7. Proper handling of hazardous materials

Batteries, fuels, electronic equipment and other regulated or hazardous materials should be removed and disposed of in accordance with applicable federal, state and local requirements.

8. County protection following default

If legally authorized and properly structured, Fauquier should have a mechanism allowing the County to use the financial assurance to complete required decommissioning when responsible parties fail to perform.

THIS IS NOT AN ANTI-BUSINESS PROPOSAL

Responsible businesses plan for future liabilities.

A developer asking a community to accept a massive industrial facility should be able to answer a straightforward question:

What is your plan when this facility eventually closes?

More importantly:

Who has guaranteed the money necessary to carry out that plan?

The answer should not be:

Future Fauquier taxpayers.

Data-center proposals are routinely evaluated based upon their anticipated economic benefits and tax revenue.

The entire lifecycle of these projects deserves consideration as well.

What happens in year 20?

Year 30?

Or year 40?

Who removes obsolete equipment?

Who removes batteries and backup-power systems?

Who dismantles cooling equipment?

Who removes generators, fuel systems and electrical infrastructure?

Who demolishes obsolete buildings?

Who restores the property?

And what happens if the limited-liability company that originally developed the project no longer exists?

Those questions should have enforceable answers **before construction begins**.

THE RULE SHOULD BE SIMPLE:

IF YOU BUILD IT, YOU PAY TO REMOVE IT.

Require a plan.

Require financial assurance.

Protect Fauquier taxpayers.

Because when the servers finally go dark, someone will still have to pay the bill.

REFERENCES

1. Wang, P., Zhang, L-Y., Tzachor, A., et al. “E-waste challenges of generative artificial intelligence.” *Nature Computational Science*, Vol. 4, pp. 818–823 (2024). The study estimates cumulative generative-AI-related e-waste of approximately 1.2–5.0 million metric tons during 2020–2030 under modeled scenarios and estimates potential reductions of 16–86% through circular-economy strategies.

2. Rockingham County, Virginia. Data Center Ordinance, adopted September 2025. Section addressing “Decommissioning.” Requires a decommissioning plan before site-plan approval; a Virginia-licensed professional engineer's cost estimate; removal of equipment/materials containing hazardous substances; financial surety covering gross decommissioning costs; five-year cost updates; and provisions addressing inactive facilities, successors, property owners and default.

3. Henry County, Virginia. “Henry County Board Adopts Data Center Regulations,” August 25, 2026. County announcement states that the ordinance establishes decommissioning requirements, requires financial assurance sufficient to cover estimated decommissioning costs and requires review of the estimate every three years.

4. Code of Virginia §15.2-2241.2. “Bonding provisions for decommissioning of solar energy equipment, facilities, or devices.” Establishes decommissioning agreements, professional-engineer cost estimates, financial assurance, five-year updates, property restoration requirements and new financial guarantees following ownership changes for covered solar facilities.

5. Fauquier County Board of Supervisors. Resolution RES-23-168, “A Resolution to Adopt a Data Center Development Policy,” adopted December 14, 2023. Establishes Fauquier County's Data Center Development Policy and identifies its principal areas of coverage.

Additional reading: ReImagine Appalachia, “Data Centers: Steps Communities Can Take to Avoid Stranded Assets,” August 20, 2026. Discussion of potential stranded infrastructure, electronic waste and community approaches to decommissioning and financial assurance.