

ITEMS FOR CONSIDERATION
IN PREPARATION OF THE FAIRFAX COUNTY LEGISLATIVE PROGRAM
2025 VIRGINIA GENERAL ASSEMBLY

October 29, 2024

INDEX

ITEMS FOR INITIAL CONSIDERATION

ENVIROMENT – ENERGY AND WATER USE BY DATA CENTERS	2
ENVIROMENT – SOLAR ENERGY	6

ENVIROMENT – ENERGY AND WATER USE BY DATA CENTERS

SOURCE:

Environmental Quality Advisory Council (EQAC)
August 2024

PROPOSAL:

Support legislation to require reporting of energy, highlighting renewable energy, and water utilization by data centers. Counties should collect this information and make it available on a website so that the public can see energy, especially renewable energy, and water utilization.

BACKGROUND:

Overview of Data Centers

A data center is a facility built to house computer servers and network connections. It contains optimal cooling and other systems to support servers, it is a secure environment, and it is built for 99.9 percent reliability. In recent years, there has been dramatic growth in the data center industry in Virginia, particularly in Northern Virginia, as technology is embedded into personal lives as well as business use, especially given the explosive growth of artificial intelligence.

Data centers can be developed as stand-alone buildings or as part of a complex that may include other uses. The growth of digital data has expanded exponentially in recent years, resulting in a rapid increase in data center facilities that is anticipated to continue. This growth is needed to support the increased online population as well as business applications in all sectors, including finance, entertainment, healthcare, and education. Major factors contributing to data center growth in Northern Virginia include the long history of a robust fiber optic network in the area and reliable electric power.

Data centers provide significant benefits to localities, including job creation with good wages, few impacts to transportation systems or schools, and positive tax revenues. They also provide significant benefits to individual businesses, including the scale of cloud computing services that allows them to share in the use of data center resources. Data centers are designed with optimal cooling and other systems to support computer servers and for 99.9 percent reliability. Data centers can provide better computer processing, storage, data security, and energy efficiency than if each individual business were to manage its own servers. However, data centers are industrial uses that may affect surrounding uses (through noise and visual impacts), or affect energy demand and associated greenhouse gas emissions, air quality, and water supplies.

Energy and Water Utilization

Data centers consume significant amounts of both energy and water. Evaporative cooling is one way to meet data center cooling needs, but depending on the type of system, it may require vast amounts of water. Data center operations also rely on large amounts of electricity from the electrical grid.

Although there is not a consistent correlation between square footage and energy demand (expressed in megawatts, MW), a data center of about 400,000 square feet would likely have a capacity of 48 to 60 MW. Also, with the advent of more powerful computer chips, future data centers may need even more energy. For comparison, the energy demand for 250 homes is approximately one MW, the Fairfax County Government Center uses about two MW, a typical hospital uses three to four MW, and the Noman Cole wastewater treatment facility uses five to six MW.

The large energy and water demand of data centers poses several concerns, including:

- The availability and reliability of energy for existing and planned development;
- The potential need for clearing and construction of new major transmission lines and substations and related costs relayed to ratepayers;
- Potential water quality and air quality impacts of large numbers of diesel backup generators; and,
- Increases in greenhouse gas (GHG) emissions.

2024 General Assembly (GA)

Energy demand and transmission are regulated by the state. The 2024 GA considered a number of bills addressing regulatory guidelines for data centers, including placement, responsibility for increased energy and water costs, and publication of energy and water usage. **HB 910** (Srinivasan) would have required data centers to report energy usage quarterly to the Virginia Department of Energy (DOE), which would aggregate and de-identify the information and post it publicly. It would also have required the Secretary of Energy to convene a work group to estimate projected energy needs for the industry. **HB 116** (Sullivan) would have offered a sales and use tax exemption on data center purchases for data centers who meet certain energy efficiency standards. Other legislation would have required utility undergrounding around data center development, and limiting data center siting around schools, federal and state parks, and historical sites.

The GA ultimately decided to study the issue further, directing the Joint Legislative Audit and Review Commission (JLARC) to study this topic. JLARC will include, among other items, an assessment of the impacts of the data center industry on energy demand in Virginia, including the state's ability to transition from fossil fuels to renewable energy sources. The study will also review how zoning and regulatory restrictions can affect data center development. JLARC has been meeting with stakeholders in recent months, including Fairfax County and a number of local government groups, and is scheduled to present their report and recommendations in December, in advance of the 2025 GA. The Virginia State Corporation Commission (SCC) is also addressing the challenges of the growing data center industry in Virginia, including impacts on the electric grid. The SCC will convene a technical conference on data centers in December to discuss issues related to servicing the new electrical load, including topics such as minimum bills for data centers, contract term lengths, and how to assign transmission and generation costs.

Fairfax County Community-Wide Energy and Climate Action Plan (CECAP)

For decades, Fairfax County has pursued initiatives to combat climate change and increase energy efficiency. The County is currently accelerating and increasing local efforts to address the causes of climate change through the implementation of a Carbon Neutral Counties Declaration, as well as by

implementing goals, strategies, and actions included in the Community-wide Energy and Climate Action Plan (CECAP), accepted in 2021. The County's Legislative Program includes support for providing localities more flexibility to increase energy efficiency, improve resilience to climate change impacts, and other innovative local approaches that increase sustainability throughout the Commonwealth.

STAFF RECOMMENDATION:

The draft 2025 Legislative Program includes language in support of granting localities flexibility to increase and encourage energy efficiency, as well as support for combatting climate change through efficiency, conservation, renewable energy, education, and other measures. Recommend supporting requirements for data centers to publicly report energy and water utilization to the state, as this could provide helpful information if it is gathered and shared in a comprehensive manner, which is likely to be done most effectively at the state level, through DOE or State Corporation Commission (SCC). Those entities are also best positioned to enforce such requirements. Direct staff to add language to the Local Authority position in the draft Legislative Program in support of additional local authority related to data center issues – potential draft language is included below. Also, direct staff to continue to monitor the JLARC and SCC studies, as well as the introduction of specific legislation in 2025 in order to bring related items to Legislative Committee for consideration by the Board of Supervisors.

Draft Language on Data Centers in Local Authority Position (new language is in yellow):

Local Flexibility

- The state should provide localities with increased flexibility to explore initiatives that promote clean air, energy efficiency, conservation, new investment in green construction, tree preservation, reduced waste, recycling management, and other critical measures that could spur the development of innovative approaches to address the impact of global climate change on health and the environment, and increase sustainability throughout the Commonwealth.
- The state should modernize state building codes by adopting the International Green Construction Code (IgCC), the full provisions of the International Energy Conservation Code (IECC), and the energy provisions of the International Residential Code (IRC) without weakening amendments. Additionally, the state should provide localities more flexibility to increase energy efficiency and improve resilience to climate change impacts by adopting stronger local standards and implementing energy efficiency and utilization disclosure/benchmarking.
- Localities should be granted additional authority to increase their own minimum tree canopy, tree coverage percentages, and overall tree preservation during the zoning and development process to assist in reducing urban heat island impacts on residents, achieving environmental goals, increasing flood resiliency, and meeting water quality permit requirements.
- Localities should be granted additional authority to manage solid waste collection. Onerous requirements should be removed from state law to address community needs comprehensively and in a timely manner, ensure good public sanitation, protect the environment, and enhance quality of life. Additionally, consumer protection laws should be strengthened to provide additional remedies to residents when ongoing issues are not resolved in this critical area.
- Localities should be granted additional authority to address the environmental and community impacts of data centers.

INITIAL CONSIDERATION

October 29, 2024

- Localities should be granted additional authority to allow for increased opportunities for members of public bodies to participate in and attend public meetings remotely while ensuring that public service is available to individuals with a wide array of backgrounds and maintaining the transparency required for the conduct of public business.
- The state should empower localities to solve their own problems – providing increased authority for services that have no compelling priority or impact for the Commonwealth, and eliminating the need for localities to seek permission for ministerial matters each year.
- Requiring that all bills with a local fiscal impact be filed by the first day of the GA session would allow localities the maximum time possible to highlight potential impacts as new legislation is considered. (*Updates and reaffirms previous position.*)

ENVIROMENT – SOLAR ENERGY

SOURCE:

Environmental Quality Advisory Council (EQAC)
August 2024

PROPOSAL:

Proposal A: Provide localities the ability to require solar energy on buildings and parking lots for either by right or special exception projects. The solar energy generated should first benefit the facility upon which it is sited. If there is excess solar energy, it could be sold back at the retail price to the electric utility serving that jurisdiction.

Proposal B: EQAC favors legislation that would fairly allocate the costs of interconnection of mid-sized private solar energy generation to a utility's electric grid. EQAC considers a net metering practice which assesses all such interconnection costs to an individual solar project to be both unfair and contrary to the public interest.

BACKGROUND:

Growing electrical demands continue to create challenges for public electric utilities' abilities to deliver energy to all customers and the ability of aging electrical infrastructure to carry the electricity needed to serve customers. In the past decade, this reality, along with the climate change conversation, has been shining a brighter light on solar energy. Cleaner and greener renewable energy can be used to power homes and businesses, reducing the strain on the electric grid, improving energy efficiency, and decreasing the carbon footprint.

Fairfax County Community-Wide Energy and Climate Action Plan (CECAP) and Resilient Fairfax

For decades, Fairfax County has pursued initiatives to combat climate change and increase energy efficiency. The County is currently accelerating and increasing local efforts to address the causes of climate change through the implementation of a Carbon Neutral Counties Declaration, as well as by implementing goals, strategies, and actions included in the Community-wide Energy and Climate Action Plan (CECAP), accepted in 2021. Complementing CECAP is Resilient Fairfax, the County's Climate Adaptation and Resilience Plan to address the impacts of climate change. Accepted in 2022, the County is implementing the strategies identified in Resilient Fairfax to reduce climate risks to County residents, businesses, infrastructure, and systems. The County's legislative program includes support for providing localities more flexibility to increase energy efficiency, improve resilience to climate change impacts, and other innovative local approaches that increase sustainability throughout the Commonwealth.

Fairfax County is committed to encouraging the use of renewable energy resources, including increased solar on residential and commercial buildings, as it can be an important resource to help the County meet its climate-related goals. More than 50 percent of the County's greenhouse gas emissions are associated with energy and natural gas use in buildings, often referred to as

“stationary emissions.” As a result, the County’s Comprehensive Plan encourages the design and construction of new buildings and associated landscapes to use energy and water resources efficiently and to minimize short- and long-term negative impacts on the environment and building occupants. As part of that effort, the County encourages the use of renewable energy resources such as solar. Additionally, the County’s Zoning Ordinance (ZO) is intentionally permissive as it relates to solar technology. Solar energy is permitted in all zoning districts, roof-mounted solar is allowed to exceed the maximum building height limitation in a zoning district by five feet (to help allow for retrofitting of existing buildings); and the County has successfully collaborated with individuals and commercial entities to allow roof-mounted solar, accessory ground-mounted solar, and solar canopies in privately-owned parking lots as well as County-owned property. Solar canopies are also allowed to be used as required shade for certain parking structures, as well as in association with electric vehicle (EV) charging spaces.

Solar Installations on Buildings

While **Proposal A** seeks to give localities the authority to require solar installations on buildings and parking lots, such a change would need to be carefully considered in light of potential challenges or negative consequences associated with adopting such a requirement. The cost to implement solar on all roofs and parking lots in the County could be prohibitive, especially for new residential dwellings or community-serving uses. This concern is heightened by Dominion Energy’s current requirement that solar exceeding 250-kilowatt (kW) install dark fiber, increasing cost considerations. Such a requirement could apply to County facilities as well, and though the County is strongly committed to increasing solar installations on County buildings when possible, some buildings or roofs are not well suited to such retrofitting. Additionally, individual sites could have specific challenges that would need to be addressed – for example, if a particular site does not receive sufficient sunlight, a mandatory solar requirement could lead to unintended consequences, including the potential removal of trees on the site to improve solar access. That would run counter to the County’s commitment to increasing the tree canopy. As a result, a mandatory requirement would likely not be appropriate, as it could be poorly suited to many projects. Rather, any authority granted to localities would need to be both local option and flexible, allowing for exceptions or accommodations for certain situations.

Solar Interconnection Issues

Proposal B seeks to address issues arising from changes to equipment requirements for solar interconnection by Dominion Energy. In 2022, Dominion Energy imposed certain equipment requirements that solar installers had to meet to connect mid-sized solar projects (i.e., those between 250 kW and 1 megawatt (MW) to the utility’s electric grid. Dominion has cited both safety and reliability needs in imposing these requirements, which require the installer to bear 100 percent of such costs, including costs on the utility’s “side” of the meter. The consequence of Dominion’s requirements is that equipment provided between the site of the solar installation and the utility’s substation adds costs that threaten the economic viability of such solar installations. This has presented challenges for some of Fairfax County’s solar installations on public buildings, including schools and community centers. The need for this equipment, as well as Dominion’s authority to require it, is currently being challenged before the Virginia State Corporation Commission (SCC).

Recent General Assembly Actions

In 2024, the General Assembly (GA) considered at least 15 bills addressing renewable energy, six of which passed and were signed by the Governor into law. **HB 106** (Sullivan)/**SB 253** (Surovell) and **HB 108** (Sullivan)/**SB 255** (Surovell) amended the shared solar program provisions that are applicable to Dominion Energy and American Electric Power, respectively. **HB 108/SB 255** requires the SCC to establish a minimum bill that includes the costs of all utility infrastructure and services used to provide electric service as well as the administrative costs of the shared solar program. **HB 106/SB 253** requires the SCC to approve additional capacity if certain thresholds are met. All four bills require the Virginia Department of Energy (DOE) to convene a stakeholder work group to determine the amounts and forms of certain project incentives, with a report to the Chairmen of the House Committee on Labor and Commerce and the Senate Committee on Commerce and Labor by November 30, 2024. Additionally, **HB 199** (Krizek) and **SB 25** (Hackworth) remove the prohibition on the allocation of funds to the Virginia Brownfield and Coal Mine Renewable Energy Grant Fund and Program, unless federal funds are available in an amount that would cover the entire cost of that allocation. The GA has not expressed an interest in the type of legislation envisioned in **Proposal A**, and if such legislation were to pass it is likely that the Governor would veto it.

Legislation related to **Proposal B** was considered by the 2024 GA. **HB 117** (Sullivan) and **SB 346** (Subramanyam) would have required that, for the purposes of net energy metering, an eligible customer-generator would bear all reasonable costs of equipment required *at the eligible customer-generator's premises* for the interconnection to the supplier's electric distribution system, including commercially reasonable costs of additional controls, tests, or liability insurance, and required the utility to bear the costs interconnection for devices *not on the eligible customer-generator's premises*. The bills also would have allowed enhanced cost recovery by Phase I and Phase II Utilities for electric distribution grid transformation projects that support the interconnection of generating facilities using energy derived from sunlight that are owned or contracted by eligible customer-generators, subject to the SCC finding those costs to be reasonable and prudent in accordance with existing law; in other words, if the utility bore the costs of dark fiber for interconnection, it could earn an enhanced rate of cost recovery. The County supported both **HB 117** and **SB 346**, but neither bill was successful. The County also weighed in on this issue with a letter from the Board of Supervisors to the SCC in May 2024.

STAFF RECOMMENDATION:

The draft 2025 Legislative Program includes language in support of granting localities flexibility to increase and encourage energy efficiency and renewable energy. The Legislative Program also includes language supporting a number of solar programs, and the County supported legislation to address solar interconnection issues in the 2024 GA. Direct staff to continue to support legislation to address solar interconnection issues, as well as to continue to monitor SCC review of these issues. Also, direct staff to monitor for the introduction of specific legislation related to both Proposal A and B in 2025, in order to bring related items to Legislative Committee for consideration by the Board of Supervisors.