



June 13, 2023

County Executive Jessica Fitzwater  
The Frederick County Council  
Winchester Hall  
12 East Church Street  
Frederick, MD 21701

Subject: Recommendations for Strengthening Requirements for Data Centers in Frederick County

Dear County Executive Fitzwater and Frederick County Council Members:

On behalf of Mobilize Frederick we would like to put forth for consideration, and legislative/regulatory action by the County government, the attached list of recommendations relating to a new industry emerging in Frederick County, namely data centers (hereafter "DC").

This is a matter of grave concern for our organization and many others in the county, including many county residents, due to the significant impact this new industry will cause. There is no doubt that the emergence of this industry will have significant financial, environmental, aesthetic, and quality of life impacts on the county. From a public optics perspective there is a general sense and feeling that County government is already "late-to-the-game" in terms of regulatory action, given that the current CDI ordinance was put in place almost two years ago, with no further strengthening of requirements since that ordinance was implemented.

Where and how these recommendations should be implemented we leave to others more knowledgeable. Whether they should be used to help strengthen the existing CDI ordinance, used as the basis for a new and separate ordinance, or incorporated into other areas of County code such as general industrial or light industrial zoning ordinances, or a combination thereof needs to be determined. We acknowledge that some of these recommendations may be viewed as extending government oversight too far into a property owner's or business entity's operations; again, we defer to others more knowledgeable in these matters. Further, some recommendations may have to be addressed and harmonized at the Public Service Commission (PSC) and/or State level.

Please understand: We are not against the presence of DC's in the County. In fact, the State of Maryland is promoting this new industry. Rather, we want this new industry to contribute positively to the County, financially and otherwise, while ensuring they are a harmonious part of the County and community fabric. It is also vital to ensure they do not negatively impact our environmental goals as set forth in the Climate Emergency Resolution and the Climate Response and Resilience report. We believe these recommendations will help facilitate that.

Lastly, we ask that no new DC locations be considered or approved without first strengthening and expanding our regulatory environment covering such centers, and to do so in a coordinated and comprehensive fashion across government, including relevant State agencies and departments. We feel that the need for Frederick County to act proactively, rather than respond on a case-by-case basis is critical, and that the sooner this occurs the better for all involved.

Thank you in advance for your consideration; we stand ready to partner with the County to develop these standards and are anxious to meet or discuss this with you at your earliest convenience.

Respectfully,

*Karen Cannon*

Karen Cannon  
Executive Director  
Mobilize Frederick

Cc: Barb Trader, Board President, Mobilize Frederick  
Harry George, Interim Chair, Mobilize Frederick Government Affairs and Strategic  
Planning Committee

The following recommendations should be incorporated into planning, zoning & legislation as applicable to ensure that data center development in the County is done in a sustainable manner, protecting residents, businesses, and the environment of Frederick County. These recommendations are presented in no particular order or priority.

## ENERGY

**Sourcing.** DC's consume a tremendous amount of energy. That is an accepted reality. Where and from what source that energy originates is a very important consideration. This is particularly true given that the State of MD has legislated that we achieve at least a 40% reduction in Greenhouse Gas Emissions (GHG) from 2006 levels by 2030, and that we source 14.5% of our energy needs from renewable sources by 2030. The sudden large increase of energy usage by DCs will make it significantly more difficult to reach these goals.

Recommendations:

- 1) Require that a percentage of DC energy needs are sourced from renewable sources by maximizing onsite mitigation (solar and/or geothermal to the extent practicable, for example) and through offsite mitigation by working with the State, County, and utility service providers to create *new, incremental sources of green energy* to meet their demands. (NOTE: DCs contracting for offsite alternative sources has the potential to deny others access to the same.)
- 2) Require that buildings are designed and built to meet LEED v.4.1 BD&C: Data Centers or better standards. Entering into operations, conform to the emerging State of Maryland Building Energy Performance Standards (BEPS), achieve EPA's Energy Star Portfolio Manager Ratings of 75 or greater, and use Energy Star-labeled equipment for at least 65% of the energy-consuming equipment in the buildings.
- 3) Require DCs to verify their power contracts, guaranteeing adequate power supply prior to obtaining operating permits, without impacting or impeding other "normal" or non-DC growth-related energy needs in the county.
- 4) Limit the use and run-time of backup diesel generators to emergencies only. Do not allow "peak shaving" at times when electricity-load curtailments are requested. This should be coupled with specific limits on the amount of CO2 emissions allowed per DC within monthly or rolling quarterly timeframes. (According to the 3/23/23 edition of [Loudoun Now](#), the State of Virginia estimates there are 4,151 diesel generators at DCs in Loudoun County, and that those generators release ~93 tons of non-methane

hydrocarbons and nitrogen oxides per hour of runtime – potent and poisonous greenhouse gasses. Other pollutants include ~51 tons of carbon monoxide per hour.) Consider incentives for the introduction of hydrogen fuel cell backup generation, solar-powered microgrids with battery storage, or comparable zero GHG-emitting technologies when they become technically and economically feasible solutions.

- 5) DCs should be required to embrace emerging “stretch” technologies, particularly in the area of energy sourcing, such as hydrogen generators and expanded battery storage to reduce the noise and pollution associated with diesel generators for emergency backup power. As is commonly seen, technology often outpaces regulation. Therefore, we recommend DC regulations should be reviewed and updated on a regular basis to ensure that regulation keeps pace with technology development.
- 6) A single hyper-scale data center can consume the equivalent energy of 40,000+ residential homes. If and when additional DC campus sites are developed, significant additional transmission capacity will be required. Frederick County should follow the example of Fauquier County, VA, requiring the placement of power lines underground in order to avoid a criss-crossing of new additional overhead power lines and associated transmission towers across the fabric of Frederick County’s landscape.

**Reliability/Availability.** As has been reported and documented in neighboring Loudoun County, VA, Dominion Energy has expressed concern about its ability to meet near-term regional energy demands as a result of DC development, thereby affecting the availability for other *current users* such as residential, government and business, potentially leading to system-wide rolling “brown-outs.” This also has the potential to threaten the availability of electric power for “normal” future residential, government, and business growth in the County.

#### Recommendations:

- 1) The County should coordinate with the PSC and State officials as appropriate to ensure availability and reliability of the County’s electric supply. (This does impact the County however, in other ways, such as the duration backup power sources such as diesel generators are allowed to operate, and under what circumstances.)
- 2) We think it important that the County understand and monitor the impact that DC power demand will have on overall regional power supply, and how that demand may impact general power availability during any regional power shortage. We recommend the County pursue the question of prioritizing power availability for various segments of the local economy (DCs, other industry, businesses, agriculture, residential, government and emergency services), during periods of regional power shortages.

- 3) We recommend that a study of county electrical supply and capacity be conducted to determine whether DC operations will consume more power than will be available as the county continues to develop and to make the switch to electric vehicles and electrification of household appliances, HVAC systems, etc. This study should be funded by the utility, Quantum Loophole, and other related DC stakeholders. The electrical capacity formerly used by East Alco may meet immediate needs, but development of additional sites along with the County's residential and commercial growth will likely outstrip this capacity in the near future.

## **WATER/COOLING**

As with energy usage, DCs have massive cooling requirements associated with the equipment inside these facilities. It is an unfortunate fact that one of the most prevalent methods for cooling involves significant volumes of water. Again, sourcing of that water, and the use of alternative cooling methods, should be considered.

### Recommendations:

- 1) Alternatives to water-based cooling should be encouraged (i.e., evaporative and/or air based systems). Use of potable water should be discouraged or restricted.
- 2) If water is used as a primary cooling mechanism: (a) Restrict and minimize the use of potable water, and require DCs to rely on other sources, such as "gray-water" and/or locally captured storm water as their primary sourcing, (b) Restrict, or severely limit the use of on-site wells so as to reduce impacts to neighboring properties and, equally important, local aquifers, (c) Maximize the use of a closed-loop system to minimize overall water needs in general, (d) Require onsite storage for a minimum of five days of operation per DC. Ongoing monitoring and certification should be mandated for compliance. Ideally, require and/or incentivize DCs to be net zero water users.
- 3) As with power availability, to the extent within the County's control, the County should prepare a plan prioritizing water availability for various segments of the local economy (other industry, businesses, agriculture, residential, government and emergency services) during extreme drought conditions or periods of unforeseen stress on local water availability.
- 4) If other non-water based coolants are used, and said coolants are toxic, DC owners should be responsible for payment of costs for either on-site treatment of the coolant or contracted export and treatment at a licensed facility. On-site disposal should not be permitted.
- 5) Any discharges from MDE-mandated lined stormwater ponds must be diffused on entering the local riparian buffer, floodplain, or waterway. No point source discharge into these areas should be permitted.

## **ZONING/SITING OF DCs**

DCs are currently restricted to GI- and LI-zoned land use areas. While this is a good start, we believe a more comprehensive and strategic assessment of where DCs should be sited needs to be considered.

### **Recommendations:**

We recommend the siting of DCs be controlled by the County rather than by market demand, whether such demand be from DCs or landowners. This was a strong recommendation by Loudoun County officials to control landowner pressure for rezoning to take advantage of land values for properties eligible for DC siting. DCs should not be eligible for siting on parkland and prime-soil classified agricultural land. The County should establish dedicated data center corridors in areas with access to adequate supply and distribution of gray water, water treatment facilities, power sources, fiber optics and other such infrastructure. These corridors should not be located near residential areas or preservation areas where noise and other issues associated with DCs would negatively impact residents and natural areas.

## **OTHER**

- 1) Maximize the use of permeable surfaces.
- 2) Require the use of regenerative land management practices utilizing native plants and supporting biodiversity on data center campuses.
- 3) Require that DC owners/developers contribute to an Environmental Impact Escrow Account to ensure that any possible mitigation efforts required as a result of noncompliance can be met through escrow funds to match the County's own budget spending to support recovery. A sliding scale payment plan could be implemented whereby the more proactive measures taken by these entities to protect the environment the lower the escrow commitment.
- 4) Financial Remuneration to Frederick County. Loudoun County, VA receives a very substantial portion of their total county revenue from data centers. (Comprising some \$586MM/year, representing ~40+% of total tax revenues.) While their tax structure is admittedly different from Frederick County and the state of Maryland, it demonstrates that this industry is capable of thriving with such a tax structure and associated business costs. (This is in spite of the significantly higher land values for data centers in Loudoun County.) We strongly encourage Frederick County and/or the State to examine ways to unlock similar revenues from this new industry, which may require coordinating and harmonizing State and County policy.

- 5) As mentioned in the cover letter, harmonization of policies and initiatives at the State of MD level needs to be promoted. On the one-hand the State is encouraging and incentivizing DCs to come here, while simultaneously the State is setting renewable energy portfolio goals and standards, seemingly without reconciling the impact DCs will have on meeting renewable portfolio goals. Since this “flows-down” to the county level, it is incumbent upon Frederick County government to address this issue.
- 6) While the focus of this document is on DCs we believe many of the recommendations, and concerns apply to other areas of growth as well. Examples include the plethora of large, massive distribution centers that are populating areas of the county. As part of the DC ordinance review we recommend considering applying some of these recommendations to other buildings that are 35,000 sf or greater in LI- or GI-zoned areas, as appropriate.