

TERRA ENERGY DATA CENTER PROPOSAL

Dickerson, MD

On behalf of our board and many thousands of local supporters, Montgomery Countryside Alliance would like to formally submit concerns and background information regarding the proposal for a number of data centers in Dickerson, MD made by Terra Energy. The conditional use approval process can not progress without a site plan that addresses the concerns outlined below.

Concerns Not Addressed in Terra Energy's Filing

Water

Data centers have notoriously high water needs. Estimates are that the 300 facilities in Northern Virginia's "data center alley" are each using 5 million gallons per day [1]. In our region, we are increasingly coming to understand that water is a finite resource. The ICPRB (Interstate Commission on the Potomac River Basin) has identified that the watershed may not meet demand by 2040 [2]. New reservoirs are being planned [2], but the outsized demands of data centers are not yet being considered in projecting future water needs. The Terra Energy proposal, lacking a site plan, does not account for how much water will be diverted from the Potomac River, how much will be lost to evaporative cooling, and at what elevated temperature it may be when returned to the river. This thermal pollution [3] is harmful to aquatic life. If water is to be diverted from the Piedmont Sole Source Aquifer underlying the Agricultural Reserve, this is also a serious concern. MCA has undertaken a campaign funded by the Chesapeake Bay Trust and Clean Water Montgomery [4]. The scientific reports created and disseminated through this program show even more strain on groundwater resources than surface water resources, with no ability to create reservoir backups for the upcounty community.

Power

Data centers have massive needs for electricity, 10-50 times that of a similarly sized office building [5]. This leads to two twin concerns - the strain on the power supply grid and the emissions required to meet the outsized power needs.

Strain on the Grid

It is projected that the power required for Virginia's data centers will double the state's peak demand by 2038 [6]. In 2023, Virginia's General Assembly passed legislation recognizing a \$627 million emergency transmission project will be needed to accommodate this increased power need [6]. This cost is borne by ratepayers - many of them in Maryland. [7]

Carbon Emissions:

Already outsized carbon emissions from data centers may actually be underreported. The Guardian has reported that data center emissions from the largest tech companies are actually 600+% higher than reported. [8]. Maryland recently passed exemptions for data centers to use diesel generators as backup power, overriding existing air quality and emissions laws [9] Coal plants are now being kept online longer to meet increasing demand from data centers [10].

Impacts of AI:

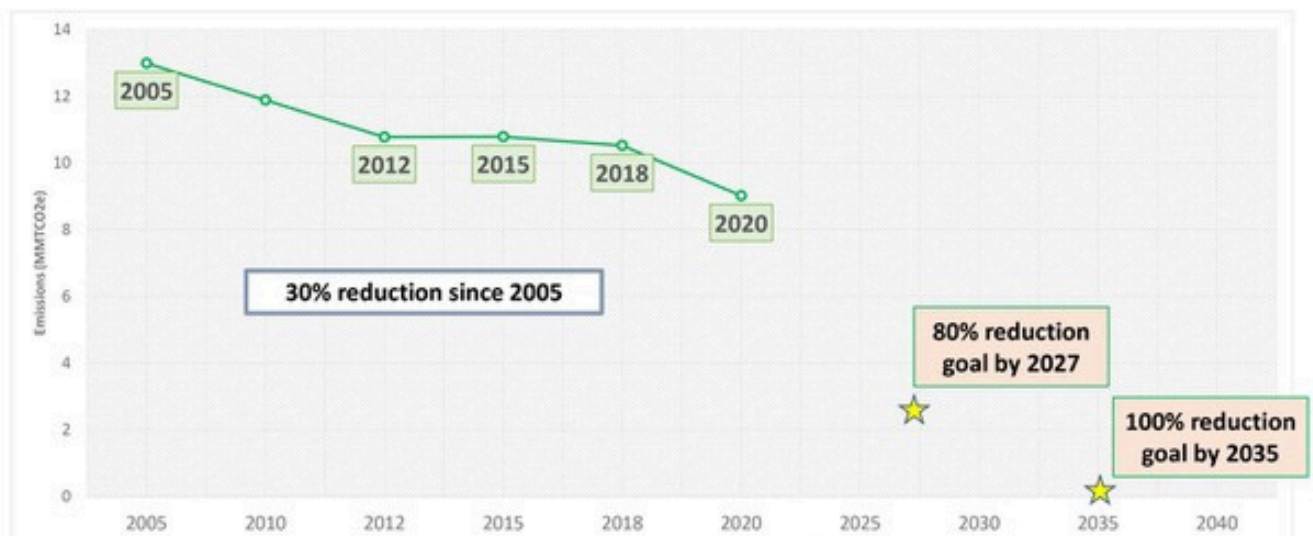
The main reason for the explosion of data center resource consumption is artificial intelligence. A single conversation with ChatGPT uses 16oz of potable water and the program's daily power needs are the equivalent of 180,000 US homes [11].

Alignment with Local and Regional Climate Goals

Montgomery County, The Metropolitan Washington Council of Governments and the State of Maryland have established zero emissions goals [12]. The extreme emissions of data centers make these goals even more difficult to achieve.

The application from Terra Energy does not cover how much energy will be required nor where it will come from. Understanding how this project fits into local and regional climate goals is not possible without this data.

Montgomery County's Measured GHG Emissions



Source: Metropolitan Washington Council of Governments (MWCOG) Montgomery County GHG Inventory

Impacts on the C+O Canal

4.5 Million visitors annually visit the C+O Canal National Historical Park with an annual economic impact of \$96 Million [13]. The property line is approximately 110' from the C&O Canal towpath, and at least one existing building is less than 150' from the towpath. Staff report p. 8 describes two data centers, two admin buildings, two warehouses and parking lots within approximately 120' of this property line.

Legality

The Planning Approval Report states the Applicant's Conditional Use Application: *"met the burden of proof by showing that operating these uses at this location will not be a detriment to the neighborhood and will not adversely affect the public interest"*

But the applicant has not provided the required site plan upon which to make these determinations.

The zoning ordinance does not contain a "general approval" provision or a waiver provision for a site plan.

The application and staff report is incomplete. No analysis has been provided to determine:

- the adequacy of power for these uses, and the timing of providing such power.
- the impact on the Potomac River from the water use and increasing temps for cooling these uses. Based on a conversation with the applicant's attorney, the temperature of water returning to the river may be 6 degrees higher than the intake water.
- the (broadly publicized) noise impacts and their public health impacts
- impacts on the C+O Canal National Park as detailed above

Civic and Government Concerns

Montgomery Countryside Alliance and Sugarloaf Citizens Association had identified specific concerns and recommendations early in the process and shared these with Terra Energy and also Planning staff (14). Specific zoning concerns were also shared [15]. The County Executive has shared these concerns and identified additional concerns [16].

Notable among these concerns:

- requesting data analysis of the actual power draws of these facilities
- the water cooling needs and temperature at which water will be returned to the river
- Prohibit the use of diesel generators because of high emissions
- Protection of the portion of the property that is zoned agricultural. We recommend a condition prohibiting expansion of the industrial uses into the AR.

Concerns from the Community

[Sierra Club Maryland's Data Center Concerns](#)

[Community Meeting with Sugarloaf Citizens Association, MCA and Sugarloaf Alliance to discuss data center proposals in Frederick and Montgomery Counties](#)



Links:

1. Virginia Data Centers Draining State's Water Supply
<https://www.planetizen.com/news/2024/05/128903-virginia-data-centers-draining-states-water-supply>
2. <https://www.potomacriver.org/focus-areas/water-resources-and-drinking-water/cooperative-water-supply-operations-on-the-potomac/long-term-planning/>
3. Thermal Pollution <https://blogs.illinois.edu/view/789/423237>
4. The Good Gift Groundwater Campaign of Montgomery Countryside Alliance - <https://www.mocogroundwater.org/>
5. Department of Energy <https://www.energy.gov/eere/buildings/data-centers-and-servers>
6. Virginia Conservation Network <https://vcnva.org/agenda-item/surging-energy-demand-from-data-centers/>
7. https://www.loudountimes.com/0local-or-not/1local/proposed-power-grid-upgrades-driven-by-va-data-centers-could-cost-marylanders-500m/article_5e8f6d70-ccd-11ee-8575-17ce8605c755.html
8. Guardian -<https://www.theguardian.com/technology/2024/sep/15/data-center-gas-emissions-tech>
- 9.. Data Center Back up Bill <https://mgaleg.maryland.gov/mgawebsite/Legislation/Details/SB0474>
10. Internet data centers are fueling drive to old power source: Coal
<https://www.washingtonpost.com/business/interactive/2024/data-centers-internet-power-source-coal/>
11. <https://www.forbes.com/sites/cindygordon/2024/03/12/chatgpt-and-generative-ai-innovations-are-creating-sustainability-havoc/>
12. A history of emissions reduction commitments from Montgomery County, the State and local Council of Governments (prepared by MCA) https://docs.google.com/document/d/1b-jiBdrdLoAzul70Gne9aJYn_nL104RRJGAm2vjIjQ/edit?usp=sharing
13. Report from the Canal Trust <https://www.canaltrust.org/2024/09/co-canal-national-historical-park-is-an-economic-engine-for-surrounding-communities-2/>
14. Concerns shared with the applicant and planning staff 7/23 <https://drive.google.com/file/d/1EechG7ZGO9K--FedxZjTNS4GVIndA7RB/view?usp=sharing>
15. Pre-Hearing concerns shared with Planning Staff prior to preliminary hearing, January 22, 2024
<https://docs.google.com/document/d/1Pum5COnHw1uYqllzRD-1I0BG2x5htmlR/edit?usp=sharing&ouid=101957230313159691215&rtpof=true&sd=true>
16. Concerns shared with the planning board from the County Executive 8/9/23
https://drive.google.com/file/d/1gDh_Yiu-zwjJeZRV4CrC22OpSMICLGEb/view?usp=sharing