



Comments Concerning Data Centers in Ohio
Ohio Valley Environmental Advocates
May 30th, 2026

Ohio Select Committee on Data Centers

Communities all around the state of Ohio are expressing their concerns over the exponential expansion of data centers into their communities. Southeast Ohio and especially the counties bordering along the Ohio River will be disproportionately affected by the increase in construction of these resource hungry mega scale centers. Fracked gas, the industry's choice to power these centers, will be taken from the counties along the Ohio River Valley. Additionally, if these facilities chose to "greenwash" their image by employing the use of carbon capture technologies, once again SE Ohio counties will be the areas used to store the dangerous carbon dioxide emissions in Class VI wells located in Harrison, Jefferson and Carroll counties

Some of the concerns expressed by communities located close to data centers include: [the noise](#), water usage, acres of land [transformed](#) into industrial centers, exposure to [air pollution from power generation](#), high voltage [transmission lines](#) cutting through communities and farmlands, and probable [increases in their utility bills](#) due to the increases in power consumption.

Data centers generate enormous amounts of heat and require cooling systems to avoid overheating electronic components. [In some cases, water is used, in other cases, air is used, but more recently immersion cooling is being employed](#). All these methods come with environmental concerns. Direct air cooling is not adequate for the newer hyper-scale data centers. "[These systems are struggling](#) to keep pace, leading to hotspots, inefficiencies, and reduced equipment lifespans." The systems are not adequate especially in larger systems and where ambient air temperatures are hot which diminishes the evaporation of heat from the water.

<https://www.sciencedirect.com/science/article/pii/S221313882500342X#b0055>



Data centers which operate using water require [large quantities of water for cooling purposes](#). A single data center can consume up to 5 million gallons of water per day and operate 24/7/365. There are an estimated 5,300 facilities in the United States. This adds up to hundreds of billions of gallons of water used each year. One AI query is estimated to use 16 ounces of fresh water and ChatGPT estimates upwards of 10 million queries per day.

Ohio experienced severe droughts in both [2024](#) and [2025](#), which resulted in low stream levels in the state during those time periods. Adding toxic effluent from data centers discharged to the streams with low volumes increases the [concentration of the pollutant levels](#).

Water cooling systems require huge volumes of water, and [chemicals](#) like nitrates, disinfectants, azoles and other compounds are potentially added and discharged in the environment. Even in a closed loop system, these compounds are discharged into the environment during what is known as a “blowdown”. When a blow-down discharge finally leaves the site aka into a body of water in Ohio, it can carry nitrite, glycol, and heavy metals at thousands of times the limits set

for surface waters. Both [Lake Erie](#) and the [Ohio River](#) have experienced toxic algal blooms as a result of excess nitrates.

Managing the increased wastewater discharge from data centers requires significant resources, including advanced [treatment technologies, skilled personnel, and financial investment](#). This can strain the budgets of public wastewater management agencies, potentially diverting funds from other critical infrastructure projects.

[Effluent from data centers can include: biocides](#), corrosion inhibitors, heavy metals, dissolved solids, flame retardants (PFAS compounds), and can also cause environmental damage from thermal pollution. A [significant amount of water is used for cooling these data centers](#) and water temperatures after the cooling process can be significantly higher than initial water temperatures.

Polyfluorinated organic compounds (PFAS) can enter the environment from either direct or indirect sources associated with data centers. The tens of thousands of servers, which require semiconductors, cooling systems, and fire suppressant [are all sources of PFAS forever chemicals](#). Indirect exposure comes to communities who manufacture these components. Also, these components, which are often produced using PFAs as a fire retardant, can outgas at the data center, releasing PFAS into the surrounding air.

Direct exposure results as data centers primarily use PFAS to [cool their servers](#) and to suppress fires. Two kinds of cooling systems are used to prevent the semiconductors and other electronic equipment stored in data centers from overheating.

Many centers are now switching to a “two phase” system that uses f-gas as a refrigerant coolant that is run through copper tubing. In this scenario, f-gas is not intentionally released during use, though there may be leaks, and it must be disposed of at the end of its life. There are also immersion cooling using PFAS compounds. Where the components are submerged into the coolant. Often times these coolants contain PFAS as they [are dielectric and can exist at high temperatures](#). They are virtually impossible to break down in ordinary conditions. The [fluid absorbs heat, boils](#) off at a low temperature, condenses back into a liquid, and drips down into a collection area.

Ohio is considering allowing a general permit for data centers in relation to their National Pollutant Discharge Elimination System ([NPDES](#)) permits. This general permit offers an easier path for data centers to get permits. Data centers differ in size and type, and by allowing a general permit these centers can get a stream-lined permit that fails to cover significant areas of concern. [General permits](#) often require only a simple Notice of Intent (NOI) after the permit is issued, not a full application. In some cases, these permits are approved almost immediately.

General permits also assume minimal environmental impact. This permit also does not require prior testing of a water source pre data center to determine water quality.

An individual permit covers a single specific facility and requires a detailed site-specific application which often takes months to process. It is tailored to unique site conditions, and types and amounts of discharge. They address unique environmental concerns that can be encountered with large data centers. Without individual permits for each center, citizens might see degradation of water quality in local resources.

The [US Environmental Protection Agency \(EPA\) and Ohio's EPA](#) both have regulations surrounding testing of PFAS compounds under NPDES permits, but do not specify PFAS releases in the general permit. Will these requirements be in the final "general application" for the planned data center? Ohio has an "[Action Plan for PFAS](#)"; it remains to be seen if data centers address these plans. Currently, data centers are NOT required to submit water quality testing or reports on the amounts of PFAS and other chemicals used. Additionally, the Trump administration has sought to [roll-back regulations of PFAS compounds](#) which were imposed during the Biden administration.

A majority of the data centers proposed will use some form of fossil fuels to generate the needed electricity. [Trump's Administration reported that a 10 gigawatt](#) gas power plant would be needed to power a data center in Pike County. What this means for [SE Ohio is more fracking](#). Recently, a new project was announced for Jefferson County. [Project Astralus](#), a 3-gigawatt combined AI data center and private gas-fired power microgrid which will straddle the Columbiana and Jefferson County lines. It will rely on its own gas power plant. This means more destruction of our communities with water withdraws, toxic brine, sand trucks and oil and gas infrastructure across the SE counties. The company said it believes it is on track (90%) to get approval and begin construction. However, few citizens in the county knew this project was being proposed. Why is that? Citizens are the last to know and get no say in these issues. It is after all our communities that will suffer the externalities.

In addition, many data centers will [use diesel generators for back-up energy](#). This is a very [polluting source](#) of energy. "They are expensive to run and face limits from federal, state and local regulators on noise and air pollution. Diesel emits harmful pollutants that the [American Cancer Society](#) links to heart and lung disease and cancer."

[Some data centers will "greenwash" their carbon footprint by claiming to use carbon capture technology \(CCS\)](#) but studies show that CCS cannot and will not address the climate crisis and CCS requires more energy and more water for the process, in addition to a massive pipeline system. Harrison County, has been targeted by an out-of-state company, [Tenaska](#), to host [10 carbon capture Class VI wells](#). No doubt these wells will be used to store dangerous carbon

dioxide emissions from data centers under the property of landowners in the Ohio River Valley. Ohio's proposed law, HB 170, will force landowners into pore space agreements against their will.

The number of acres of impervious land that will result from massive data centers will also impact local ecosystems. A typical Walmart parking lot is approximately 5 acres, imagine the run off during a rain event from a data center that could be as large as 2200 acres. [“Not allowing the rainfall to infiltrate back into the aquifer is a very serious issue](#), if that happens, you lose the base flow [the portion of water derived from underground sources] for streams, and you lose the wetlands fed by springs. It's a complete disruption of the hydrologic cycle.”

Data centers also come with light pollution. In some cases, residents relate that the area is like daylight 24/7. Artificial lighting comes with health impacts to humans as well as wildlife. The [Environmental Health Project](#) says that, “Hyperscale facilities require all-night lighting that [disrupts the natural \(circadian\) rhythms](#) of the body, including melatonin production (the hormone that regulates sleep) and sleep-wake cycles. Light pollution is also disturbing [migration patterns](#) and [habitat development](#) among birds, butterflies, bats, cats, and turtles.”

The real travesty in the data center saga is that at a time when humanity needs to put the brakes on carbon dioxide emissions, we are now in a childish race to see how many more data centers we can build in a competition with China. Ohio politicians have yet to explain what these resource hungry facilities will provide to the average citizen and the fact that Ohio has given over a [billion dollars in tax breaks](#) to data centers in the past year is ridiculous.

SE Ohio's citizens are used to being lied to, we are used to being a mineral colony for the rest of the state. However, all of Ohio will suffer if data centers are given carte blanche in the state. One has to wonder why it is necessary to go behind citizens' backs and use “non-disclosure agreements”? Why has the public been removed from meetings and the processes of permitting? What is happening to Ohio's citizens is not fair and our elected officials at the local, state, and federal levels need to address our concerns with real, peer-reviewed research, not data center public relations claims.

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