Amazon Data Center Overview

Adams County, Ohio

Amazon has invested more than $70 billion in Ohio since 2010, including infrastructure and compensation to employees. Amazon is proud to have more than 35,000 full- and part-time employees across the state. Amazon launched its first Amazon Web Services (AWS) Region in Ohio in 2016. Since that time, the construction, connection, operation, and maintenance of data centers have created demonstrable economic growth for Ohio. Amazon's investment of $39.9 billion in data center infrastructure in Ohio and the resulting economic impact generates revenue for local businesses and supports an estimated average of 9,500 full-time equivalent jobs annually in the local economy.

What is a data center?

Data centers are secure facilities filled with powerful computers that store and process information. They're the engine rooms of the internet and today's digital economy, keeping local and global communication active, critical information flowing, and basic services used by billions highly available, powering everything from online banking, GPS navigation, healthcare services, core transportation applications, to first responder services. Amazon's data centers serve millions of customers including small businesses, government agencies, healthcare systems, and more. Right here in Ohio, our customers include major educational institutions like The Ohio State University and Miami University and government agencies like the Department of Administrative Services.

Artificial intelligence and data centers

AI helps computers learn from information and make decisions, like when your phone suggests the fastest route home on GPS or enhanced diagnostics in healthcare. Data centers provide the computing power needed to train and run these AI tools. They use specialized equipment, cooling systems, and AI to optimize these workloads while meeting environmental standards and conserving water.

Amazon Economic Impact

Data centers generate sustained local revenue that supports schools, public safety, and critical infrastructure. Their development creates construction and skilled trades jobs, followed by long-term technical roles once operational. Local suppliers, contractors, and service providers also benefit as they grow alongside these facilities.

$10B planned investment in Adams County

500 planned jobs

Water

Amazon's data centers are engineered to use as little water as possible. In Adams County, we will rely on outside natural air cooling for about 97% of the year and only use water-based cooling during the hottest periods, which is less than 3% of annual operations. Besides cooling, data centers use water for everyday needs like bathrooms, cleaning, and fire suppression systems.

Amazon Web Services (AWS) has committed to **being water positive by 2030**, returning more water to communities where they operate than they use in their data center operations. As part of this commitment, Amazon has supported The Nature Conservancy and others to restore 11 acres of wetlands in Ohio. The project is expected to filter 77 million gallons of water each year.

Key Takeaways

- Amazon designs data centers to significantly reduce water usage compared to industry averages.
- Amazon data centers use natural air cooling [filtered ambient air] for 97% of the year and only use water-based evaporative cooling during peak heat periods, minimizing water consumption.
- Our discharges meet all applicable local and state water quality standards, and the water is treated by the city's wastewater facility before returning to the environment.

FAQs

Q. What is the source of the water used for cooling?

A. The water that will serve the data center's cooling needs will come from the Ohio River.

Q. How is Amazon responsible with the community's water?

A. We design and operate our data centers to achieve industry-leading efficiency in both water and power usage. In this region's climate, our design will use water for less than 3% of the year, during periods of peak summer temperatures. For the other 97% of the year, we will use natural air from the outside and push it directly to the servers for cooling. This approach reduces our electricity demand by 25-35% precisely when the grid experiences peak summer loads, and regional power demand is at its highest.

Q. Will data centers impact my water rates?

A. Not because of this project. Water rates are set by the Adams County Regional Water District (ACRWD). Amazon's data center will use two water sources: river water for cooling purposes, and utility water from ACRWD for domestic needs such as restrooms, break rooms, and drinking fountains.

Any domestic water utilized by Amazon's data center project will come from ACRWD's existing surplus capacity, which will generate additional revenue for the water and sewer systems without requiring any new investment from ACRWD. Any water or sewer infrastructure improvements required by this project will be funded by Amazon, not by existing ratepayers.

Energy

Data centers require electricity to power servers that process and store data around the clock, ensuring applications and critical services remain available. Amazon works closely with utilities and grid operators to plan for and invest in the regional power infrastructure required to reliably serve our load. This infrastructure, like new or upgraded substations, transmission lines and capacity assets, extends beyond our immediate needs and helps modernize and strengthen the broader electricity grid that serves all users. An **independent study by Energy and Environmental Economics (E3)** found that Amazon pays the costs to power its data centers. These expenses aren't added to the bills of local residents or businesses. In some regions, Amazon pays more than the costs needed to power them, resulting in surplus revenues that utilities can use to modernize the power grid, which improves reliability for the benefit of all customers.

Key Takeaways

- Modern data centers are increasingly becoming grid assets that enhance stability. Reliability is critical for Amazon's operations, and as such, we work closely with utility partners to evaluate innovative ways to support and enhance grid reliability. Our investments in new and upgraded transmission lines and substations typically benefit reliability for all grid consumers.
- Amazon measures data center energy efficiency through Power Usage Effectiveness (PUE) and is constantly working to increase the power efficiency of our data centers to reduce the total energy use. The lower this number, the more efficient the facility, meaning less energy wasted to deliver the same computing power to customers. Amazon's data centers achieved a global PUE of 1.15, lower than the industry average of 1.25.
- Amazon is the world's largest purchaser of renewable energy. Globally, Amazon has invested in more than 700 renewable energy projects that directly feed clean power into the grid. In Ohio, Amazon has invested in 24 wind and solar projects totaling 2.7 gigawatts of capacity – enough to power more than 520,000 U.S. homes annually

FAQs

Q. Will the data center impact my electricity rates?

A. Amazon pays its full electricity costs while making investments in new energy generation and transmission infrastructure. In Adams County, the local utility AES Ohio will service this site. Amazon will fund, build, own, and operate a substation on the campus to power the facility, while also funding transmission upgrades that benefit the local community.

Q. Will the data center impact my electric reliability?

A. The utility plans for its load and is required to maintain a regulated reliability buffer. Prior to serving the load, both the utility and PJM will study and ensure that the load can be served reliably. Amazon works in close collaboration with AES OH and PJM to maintain reliability and resiliency across the system.

Q. Why do data centers use backup diesel generators?

A. Amazon data centers serve millions of customers — hospitals, first responders, energy systems, and national security agencies — all requiring uninterrupted, 24/7 operations. Backup generators exist for emergencies only. Grid disruptions are rare events, but when they occur, backup power ensures life-saving care, emergency communications, and critical infrastructure stay online without interruption. Amazon's generators are equipped with advanced emission control systems and are fully compliant with all EPA and local air quality regulations.

Environment

Amazon is committed to environmental responsibility in building and operating our data centers. Prior to site selection, Amazon conducts thorough assessments evaluating wetlands, waterways, protected species and their habitats, and sensitive ecosystems – with flood risk, air quality, and cultural resources also assessed where applicable. These findings directly shape site selection and design decisions, ensuring environmental impacts are avoided or reduced as much as possible, and all regulatory requirements are met from initial planning through the full data center lifecycle. We work closely with environmental agencies to ensure we meet and often exceed all applicable environmental and public health standards.

Key Takeaways

- We conduct comprehensive ecological studies, including wetlands and protected species habitat surveys in an effort to avoid environmentally sensitive areas in site planning.
- Our backup generators are used rarely (average less than 10 hours per generator per year) and are well-maintained and meet all regulatory requirements. We also invest in advanced Tier 4 emission control systems – reducing NOx emissions by more than 90% compared to Tier 2 generators – ensuring the cleanest, most compliant backup power available.
- Amazon maintains full compliance with all environmental regulations through dedicated on-site environmental professionals. Their primary focus is compliance, delivering rigorous training programs, systematic data collection, comprehensive environmental reporting, and proactive compliance management to meet every local, state, and federal regulatory requirement.

Sound

Some data centers may produce sound primarily from cooling systems which circulate air to keep servers at safe operating temperatures. Amazon designs and operates our data centers in compliance with local ordinances. We take several measures to minimize sound, including conducting extensive acoustic modeling, implementing sound mitigation techniques and systems, working with suppliers to design equipment to reduce sound, and performing regular maintenance to ensure all systems operate as designed.

Key Takeaways

- Amazon implements comprehensive sound solutions by developing site-specific acoustic mitigation strategies tailored to each data center location.
- We take a scientific approach to sound management through detailed sound assessments that follow industry standards and best practices.
- Amazon also provides an educational program that delivers scientifically grounded acoustic facts to communities and addresses common misconceptions about data center sound.

FAQs

Q. Is the sound regulated?

A. Yes. Many jurisdictions have noise ordinances, and Amazon data centers comply with local sound level limits.

Q. Do you use sound and visual buffers?

A. Yes. We include thoughtful sound and visual buffers as part of our design. This often includes landscaped berms, trees, and other screening features that help reduce noise and soften the visual presence of the facility, so it blends naturally with the surrounding area.