DID YOU KNOW?

AI DATA CENTERS & THE ENVIRONMENT

WHAT IS AN AI DATA CENTER?

Artificial intelligence (AI) data centers house the equipment used to process requests from large language models - like ChatGPT - that use more computing power. These cloud services operate very differently than traditional data centers and are typically owned by large tech companies like xAI, Meta, Amazon, Google, and Microsoft who have heavily invested in this new wave of data centers. Some of these centers can take up over one million square feet.

WHAT ARE THE ENVIRONMENTAL IMPACTS OF AN AI DATA CENTER?

Although people have used research and Internet-based searches for years, AI poses a unique set of problems. For example, NPR highlighted that a ChatGPT search uses 10 times more electricity than a regular google search, and Forbes highlighted that a similar conversation uses as much water as a water bottle. From the air we breathe to the water we drink, AI can have a negative impact.

Air Quality

Data centers increase air pollution because the processes use some level of fossil fuel generation, that leads to greenhouse gas emissions in the air. Since 2023, some communities have seen a 48% increase in greenhouse gas emissions because of data centers. These emissions cause air pollution because they add more toxins into the air. Air pollution has a long-lasting impact on human health, contributing to chronic asthma and other respiratory issues, in some cases, air pollution can be fatal. Additionally, some companies, who previously stated they would get rid of their coal-fired power plants, have gone back on their promises to get more AI data centers online. Coal-fired power plants have been known to xxxx. Moreover, many AI data centers are using gas turbines and back-up diesel generators because traditional energy grids cannot power their operations, leading to even more pollution in communities.

Water Quality

When data centers use water, it must be removed from local water cycles. What this means is that it can often no longer be suitable to drink or use for everyday needs as well as agricultural uses. Moreover, recently news articles exposed tech companies for actively hiding information about water usage and what it could mean for communities. What is known is that the water cycles will ultimately use processes that have heavy metals and other contamination for billions of gallons of water to run the data center.

DID YOU KNOW?

AI DATA CENTERS & THE ENVIRONMENT

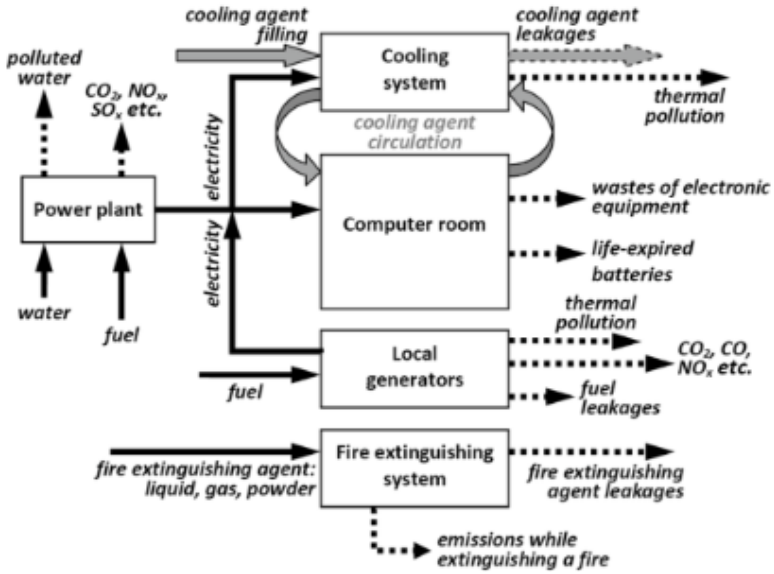
Water Usage

The amount of water needed to cool down a data center causes concern in all communities but can cause immediate concerns where a community may face water scarcity issues. A study by the Houston Advanced Research Center found that data centers just in Texas will use 49 billion gallons of water just in 2025. This number can increase to 399 billion gallons by 2030, just for that one state. Where water is scarce, because of the large amount of water needed, there could be massive shortages for communities for an unknown period of time.

Energy Grid and Utilities

Data centers must have energy to operate. The same way communities use a grid to use everyday appliances, turn on lights, and power their items; data centers must use a source of energy to power their data center. By 2030, data centers may consume as much as 12 percent of all U.S. electricity and could be largely responsible for quintupling the annual growth in electricity demand.

Communities do not have infinite access to energy and the more energy used, the more people have to pay to continue to power everything in the area. This is why utility bills are often more expensive when there is extreme weather, particularly heatwaves. Data centers use those same grids. Residents also pay the cost to subsidize a data center update for the grid infrastructure. Some reports estimate electricity bills can double by 2039 if data centers continue to show up in communities at this rate.



AI AND THE ENVIRONMENT

This diagram depicts the full chain of environmental and health externalities produced by data centers, from power generation to waste disposal. It illustrates how each component of a data center, including power supply, cooling systems, backup generators, and fire suppression equipment, contributes to pollution in multiple forms.

Source: Center for Engagement, Environmental Justice and Health

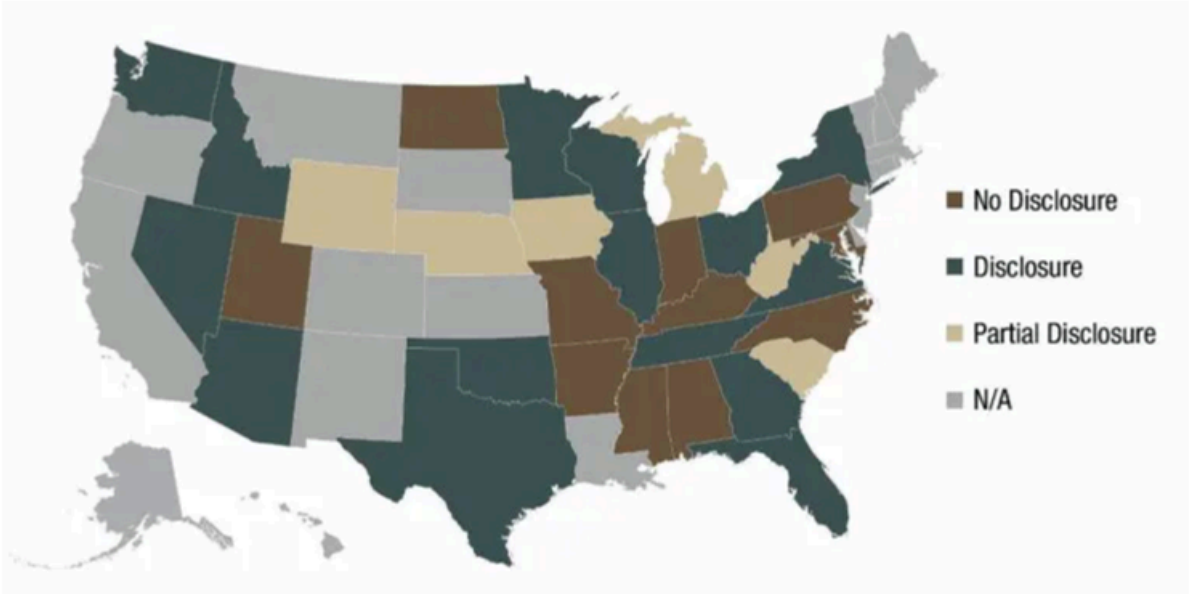
DID YOU KNOW?

AI DATA CENTERS & THE ENVIRONMENT

JUST TRANSITION CONCERNS AND INCREASE OF FOSSIL FUELS

According to Good Jobs First, at least 10 states are already losing more than $100 million per year in tax revenue because of data centers. In fact, many states are giving data centers subsidies to build in communities. Additionally, states are exempting data centers from paying taxes, while these same tech companies are heavily investing money saved through their endeavors in fossil fuels and building alliances with oil and gas companies to get their data centers up and running as quickly as possible.

States With and Without Disclosure of Data Center Revenue Losses



Source: Virginia Department of Taxation, at www.tax.virginia.gov/sales-tax-rate-and-locality-code-lookup

DID YOU KNOW?

AI DATA CENTERS & THE ENVIRONMENT

WHAT CAN YOU DO?

- Educate people within your community regarding the NAACP's Frontline Framework on Data Centers.
- Contact the NAACP Center for Environmental and Climate Justice to help you with your strategy.
- Fill out the NAACP Data Center Community Report Form to help us track where the next data center is showing up in your community.
- Track permits that may deal with air pollution and/or construction.
- Track agenda items at zoning and planning commissions and meetings that may deal with data centers.
- Call for moratoriums on data centers to ensure that there is transparency and a clear process for engagement.