DATA CENTERS

BI-WEEKLY UPDATE

June 4, 2025

FRESH COAST
Climate Solutions

Bold Solutions. Transformative Action.

CATEGORIES OF NEWS UPDATES

Fresh Coast summaries and assesses potential environmental impact of the latest news across key categories for Joyce Foundation

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News topics rated on estimated "Potential Impact" (High, Medium, Low):

- Estimated potential impact to mitigate (in green text) or exacerbate (red) environmental footprint in the Great Lakes or US/other states
- Or, neutral rating (has both positive and negative impacts and/or impacts are TBD) in gray

Investments*

Article/Link	Summary	Potential Impact
Trump Signs Nuclear Executive Orders	**5/28/2025 (National):** President Trump signed 4 executive orders to streamline nuclear reactor approvals, increase U.S. uranium production, support rollout of 'next generation" reactor technologies like small modular reactors (SMRs), construct 10 large-scale reactors, and achieve 4x nuclear power output by 2050. Oklo and Constellation have signed deals with data center providers. Oak Ridge National Laboratory (ORNL) and Elementl Power startup, supported by DOE's Gateway for Accelerated Innovation in Nuclear (GAIN), are key partners.	**High** – Nuclear energy is low-carbon and could lessen data center impacts on the grid; but, development timelines, cost, and spent fuel waste are still issues
Blue Owl Partnership for CoreWeave	**5/28/2025 (VA):** Blue Owl Capital, Chirisa Technology Parks (CTP), and PowerHouse Data Centers have finalized a $750 million tranche, part of their $5 billion venture development to develop AI/HPC data centers in Chesterfield, VA. This 350-acre campus is designed to support fast-growing CoreWeave AI cloud infrastructure, incorporating highly energy efficient direct-on-chip liquid cooling techniques.	**Medium** – Advancing highly efficient liquid cooling could result in lower energy and water use and lower emissions
GridCARE Startup	**5/28/2025 (National/West Coast):** GridCARE AI startup aims to streamline grid connection for data centers. $13.5 million was funded through Xora, Aina Climate AI Ventures, Sherpalo Ventures, Breakthrough Energy, Overture, WovenEarth, Acclimate Ventures, Clearvision, and Clocktower Ventures. GridCARE works with data center developers and local utilities to expedite "time-to-power" for data centers.	**Medium** – Improving "time-to-power" could improve financial feasibility, increasing investments and deployments of data centers; may also provide some grid capacity optimization
Meta Builds $800M Data Center in NW Ohio	**4/9/2025 (OH):** Meta to build an $800M, 715,000 sq ft. data center outside Toledo in northwest Ohio, the company's 28th data center worldwide and 2nd in Ohio. Ohio has seen 4x growth in data center since 2011 and now hosts 1,500 in the state. Energy infrastructure investments, including $3 billion made in NW Ohio, are cited as a primary reason for this planned Meta facility. All Meta data centers use 100% clean and renewable energy. (See also: Meta planned $837M data center in central Wisconsin)	**Medium** – Utility upgrades serve to attract data centers and may help avoid grid issues
CenterPoint Increases Capital Plan by $4 Billion	**5/27/2025 (TX & OH):** CenterPoint utility has increased its capital expenditure budget through 2030 by $4 billion due to expected load growth from data centers in Texas. As a result, the company plans to sell its Ohio local gas distribution company assets to optimize its capital portfolio.	**Low** – Demand is increasing utility expenditures, which may raise rates; data center investments in one state may impact utility planning in other (GL) states

*Includes investments in data center developments, plus related investments (i.e., technologies, utility expansions, etc.)

Technology

Article/Link	Summary	Potential Impact
Liquid Cooling Market Growth	**5/19-5/28, 2025 (National):** The liquid cooling market is growing at 33% CAGR and expected to reach $21 billion by 2032 (article). Giga Computing and bp Castrol have partnered to develop liquid cooling tech and invest in Immersion Liquid Cooling (ILC) and Direct Liquid Cooling (DLC) (article). JetCool introduced a self-contained SmartPlate System for direct-to-chip liquid cooling, which reduces water usage (article). Hybrid cooling can smooth the transition to fully liquid cooling and scale with increased workloads (article).	**High** – Tech advancements and diverse stakeholder investments in liquid cooling could considerably lessen energy and water use
Chemours & DataVolt Liquid Cooling	**5/19/2025 (National):** The Chemours Company and DataVolt have partnered to advance liquid cooling technology and data center efficiency through innovations including two-phase direct-to-chip cooling and two-phase immersion cooling. Chemours' ultra-low global warming potential [GWP] fluids for liquid cooling in this project can result in "90% cooling energy reduction, [and] up to 40% reduction in total cost of ownership."	**Medium** – Diverse tech innovations, well vetted, show promise to result in adoption of leading emissions reduction technologies
Nickel-Zinc Alternative to Li-ion	**5/20/2025 (National):** Nickel-zinc (NiZn) is rising in popularity as a cost-effective, safe, and sustainable way to power data centers. NiZn has "lifetime greenhouse gas [GHG] emissions are 25-50 percent lower than lead-acid or lithium-ion alternatives." The solution utilizes conflict-free and readily available materials that are recyclable.	**Medium** – Alternatives to Li-ion for UPS* could reduce data center space, required costs, and GHGs
Flexential and Upenn with Nvidia	**5/19/2025 (PA):** Flexential, a leader in U.S. data center infrastructure, introduced the Nvidia DGX SuperPOD to back the University of Pennsylvania's launch of the high-density Penn Advanced Research Computing Center (PARCC). This project enhances UPenn's capacity for data processing and research computing.	**Low** – Risk of prioritizing increased processing power without considering energy demand per site or other enviro attributes
Nvidia AI Chips Offer Customiza-tion	**5/19/2025 (National):** Nvidia announced the NVLink Fusion system which allows customers to develop data center systems with Nvidia's AI chips alongside other competitor's central processing units (CPUs). This allows customization and integration with semiconductors from competitors, allowing customers more flexibility. MediaTek Inc., Marvell Technology Inc., Alchip Technologies Ltd., Qualcomm Inc., and Fujitsu Ltd. have set plans to develop custom equipment to work in tandem with Nvidia's gear and accelerators.	**Low –** Customization of infrastructure can allow operators to choose more (or less) sustainable and efficient configurations.

* UPS: Uninterruptible power supply

Legislation

Article/Link	Summary	Potential Impact
Differing Approaches to Data Centers	**5/31/2025 (National):** While states like Michigan, Oregon, and Georgia are creating requirements that data centers use municipal utility water and clean energy, meet energy-efficiency measures, and pay for their own electricity, other states like Pennsylvania, Kansas, Kentucky, and Arkansas are expanding tax exemptions and limiting requirements. More than 3 dozen states have tax exemptions for data centers. Some states are creating zones where data centers can determine their own power production, including fossil fuels.	**High** – State lawmakers weigh economic development vs. energy and sustainability requirements
Amazon Data Center Plans Stopped	**5/28/2025 (MN):** Amazon has ceased planning of a data center in Becker, Minnesota due to a potential bill that would repeal a data center electricity tax credit. Amazon had intended to move quickly based on a streamlined process to "obtain permits and utility agreements," but with tax incentive uncertainty the company is redirecting "resources to focus on other projects."	**Medium** – Without harmonization of sustainability policies across states, companies will move to the most accommodating (and least sustainable) statessidential utility payers.
MD Data Center Bill & Potential Overlay Zone	**5/27/2025 (MD):** In Maryland, the Frederick County Council will vote on a bill to restrict zones where data centers can be developed, provide guidelines on design, and require corrective action from data centers in violation of noise and vibration level standards. The bill would create an overlay zone, which modifies land regulations to create an area (not more than 1% of county land) designated for digital infrastructure. A Community Benefit Agreement would preserve agricultural land that would be lost. The bill is anticipated to pass, but opponents fear the bill is not strong enough to protect the public.	**Medium** – Legislation to restrict data center development to particular zones can mitigate their overall environmental impacts on a community, but also push data centers to more accommodating counties and states
West Virginia Bill Removes Local Authority on Data Center Develop-ments	**4/3/2025 (WV):** The State legislature in West Virginia recently passed a bill that removes the ability of local governments to have authority over power generation facilities that could support data center developments. The bill also eliminates requirements for data centers to be powered by renewable energy. (Also reported by NPR.)	**Medium** – Economic focused state governments remove authority from local governments and promote fossil power generation, so that power plants and data centers can be developed

PUC/Academic Research

Article/Link	Summary	Potential Impact
Pennsylvania PUC Hearing & Data Center Feasibility Bill	**5/14/2025 (PA):** Stakeholders from the tech sector, public utilities, and consumer advocacy groups demand fair cost allocation and standard tariffs for emerging data centers in Pennsylvania amongst a changing political climate, as Governor Shapiro's new Lighting Plan becomes more established. Themes of concern that arose at a May 14th Pennsylvania Public Utility Commission hearing were uncertainty regarding costs, reliability of power generation with such increased energy demand, and proper design of tariffs.	**Medium** – Stakeholders across sectors are aligning goals for developments that are cost-effective for residential utility payers and meet energy reliability standards
UT Austin's Sustainable Data Center Research	**5/27/2025 (TX):** Energy demand from data center development is expected to exceed supply by 6.2% in 2026 and 32.4% by 2029. The University of Texas at Austin's researchers are looking for innovative ways to help Texas make the most of economic opportunities while balancing increasing power demand. On September 18th, a workshop will take place to consider which industries and key agencies will be impacted by this growth in an effort to align the goals of industry leaders and policymakers for sustainable data center development.	**Medium** – Researchers are engaging industry and policymakers to balance economic opportunities and energy demand, but environmental and community impacts are not mentioned specifically
Environmental Mitigation Principles	**5/23/2025 (National):** Timothy Male at the Environmental Policy Innovation Center lists 10 environmental mitigation principles to balance economic opportunity of data centers with water use and related impacts to communities. Chiefly, some of his recommendations focus on local planning, data collection, and authority, but also broader regional and multi-state coordination.	**Medium** – Local planning and authority as well as regional coordination and policy harmonization is needed to mitigate data center environmental impacts

Other Industry News

Article/Link	Summary	Potential Impact
Impact of Data Centers Rising in Great Lakes States	**5/20/2025 (MI, WI, IL, OH, IN):** Increasing developments of data centers in the Great Lakes region are occurring at a time when federal protections on waterways are being cut, creating concerns related to management, pollution, resource depletion, and wastewater treatment. Increases in energy infrastructure may mean the state of Michigan may not achieve its goal of 100% of utility scale energy from renewable sources by 2040.	**High** – Growth in data center developments and lack of federal protections puts water at risk; also, states may not meet their renewable energy goals
Global Data Center Market report released	**6/2/2025 (Global):** Research & Markets has released its "Data Center Market Landscape 2025-2030" outlook for data centers globally. They estimate the $379 billion market will grow at CAGR of 8.75% to $627 billion by 2030. Data centers are responsible for most of global electricity consumption growth, but adoption of renewable energy and liquid cooling technologies are increasing. Liquid cooling deployments in data centers is expected to grow at CAGR of 21% by 2030.	**High** – Large industry growth and increasing use of water and energy is expected; sustainability requirements are recommended
Hybrid Cooling ROI Analysis	**6/2/2025 (US):** Adoption of hybrid (air and liquid) cooling systems, versus fully and usually more expensive liquid cooling systems, can have cost and ROI advantages. Analysis includes energy reduction, increasing compute density, and helping meet regulatory requirements and sustainability goals.	**Medium** – Hybrid cooling approach may be more cost effective and scalable for certain types of upgrades and new facilities
France Data Center Campus	**5/20/2025 (France):** Bpifrance investment bank, MGX investments, Mistral AI, and Nvidia have partnered to establish a 1.4 GW AI campus near Paris. Construction is planned for late 2026 and operations by 2028. The hub will be designed to promote AI development from training models to deployment and includes "exascale-class computing, sovereign cloud integration, and low-carbon hyperscale data centers."	**Low** – Large campuses can result in intense energy consumption, but also present opportunities to pursue energy and water efficient technologies and emissions reductions at scale
Protest at UofM	**5/30/2025 (MI):** Protestors disrupted a talk on AI at the University of Michigan to call attention to the University's planned $1.2 billion data center facility in Ypsilanti, under development with Los Alamos National Lab. Protesters questioned Los Alamos motives given it's history of atomic bomb development and allege the facility will dump waste into the Huron River, increase surveillance of citizens, and be developed in a marginalized community.	**Low** – Local pushback on data centers is likely to increase in some areas, with varied opinions on data center impacts

EMERGING THEMES

Grid Planning

- Data center developers are using technologies to lessen dependence on the grid.
- Since the grid often cannot handle the increased demand, developers are using a combination of renewables and onsite generation (natural gas and diesel generators) to supply power.
- Some states are also investing in grid infrastructure to attract data centers.

Energy Demand

- Nuclear power is likely to make a comeback due to energy demand for data centers. Various Small Modular Reactor (SMR) companies have applied for permitting at a variety of US sites and can be used in combination with other technologies to minimize impacts on the grid or avoid connecting to the grid altogether.
- Regulators and utilities are revisiting whether to close fossil fuel plants (or opening them back up) and questioning whether state renewable goals can be met (for example, in MN and AR).

Technologies

- Advances in cooling is a priority for energy reduction
- Closed-loop, liquid and immersion technologies are gaining traction with many companies coming to the market with solutions and new data centers announcing the use of these technologies before they break ground.

Economic vs. Other Impacts

- Local planning and authority, plus regional/multi-state policy coordination is needed to mitigate environmental impacts
- Announcements/media regarding data center developments: typically focus on investment level, investors, jobs and economic development, and technologies; sometimes summarize energy usage, utility preparation, and potential impacts on grid; and rarely report on environmental and community impacts

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THANK YOU

Let’s make bold changes together

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