

AI data centers expected to spike demand for electricity, water

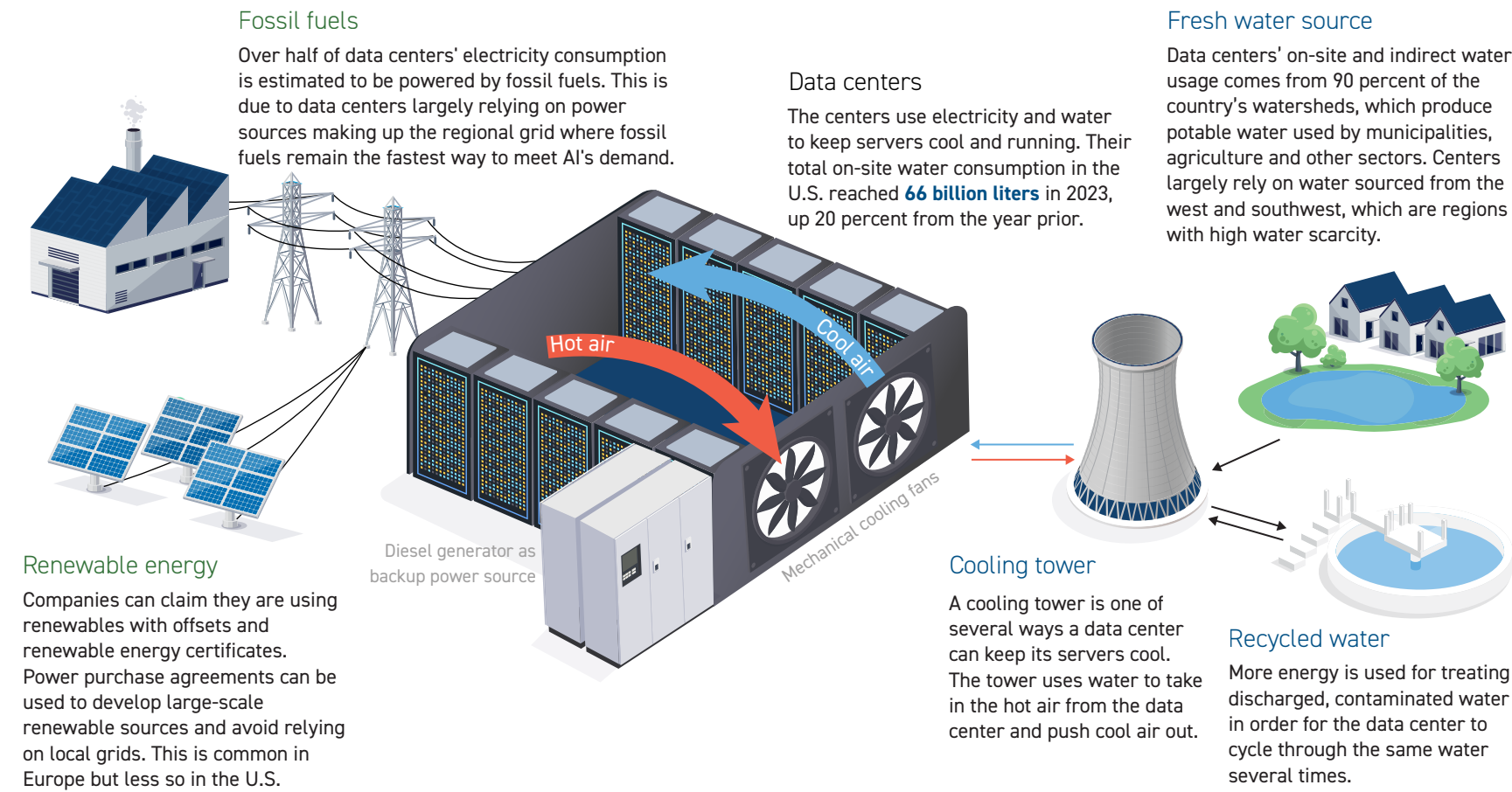
BY CATHERINE ALLEN, ROSMERY IZAGUIRRE AND CLAUDINE HELLMUTH | 05/21/2025

States and communities are being left to grapple with the intensive energy and water needs of large-scale artificial intelligence server hubs, known as data centers. President Donald Trump’s plan to invest in AI relies on his ability to deliver on another key promise: energy dominance.

A national energy emergency executive order directed federal agencies to expedite projects for coal, gas and nuclear energy. The newly established National Energy Dominance Council is tasked with finding ways to produce more energy, partly to “lead the world in artificial intelligence,” another executive order states. Lawmakers and FERC commissioners have expressed concerns that data centers on the grid drive up energy costs and tighten already limited supplies of water and electricity.

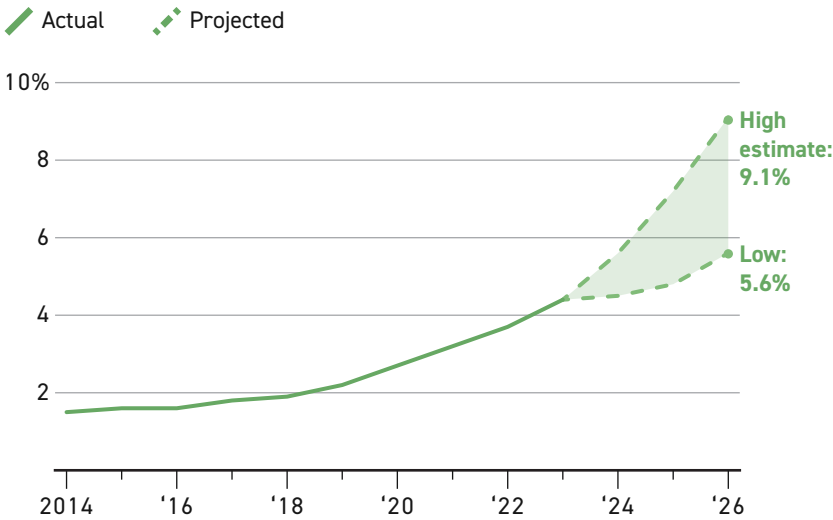
How data centers rely on energy and water resources

Main steps of data center operations, for illustrative purposes



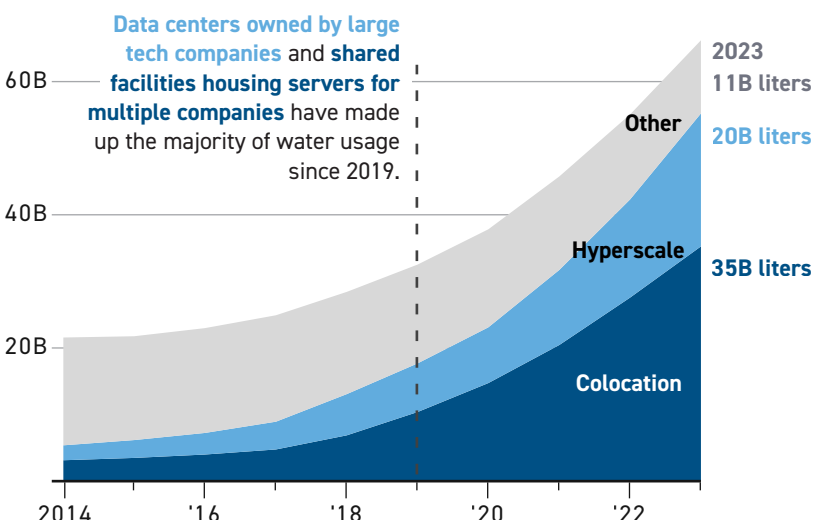
Share of US electricity used by data centers expected to double from 2023 to 2026

Percentage of total U.S. electricity consumption used by data centers



Water consumption by data centers tripled in 10 years, particularly for large-scale colocation systems

Annual on-site water consumption in liters, by type of data center

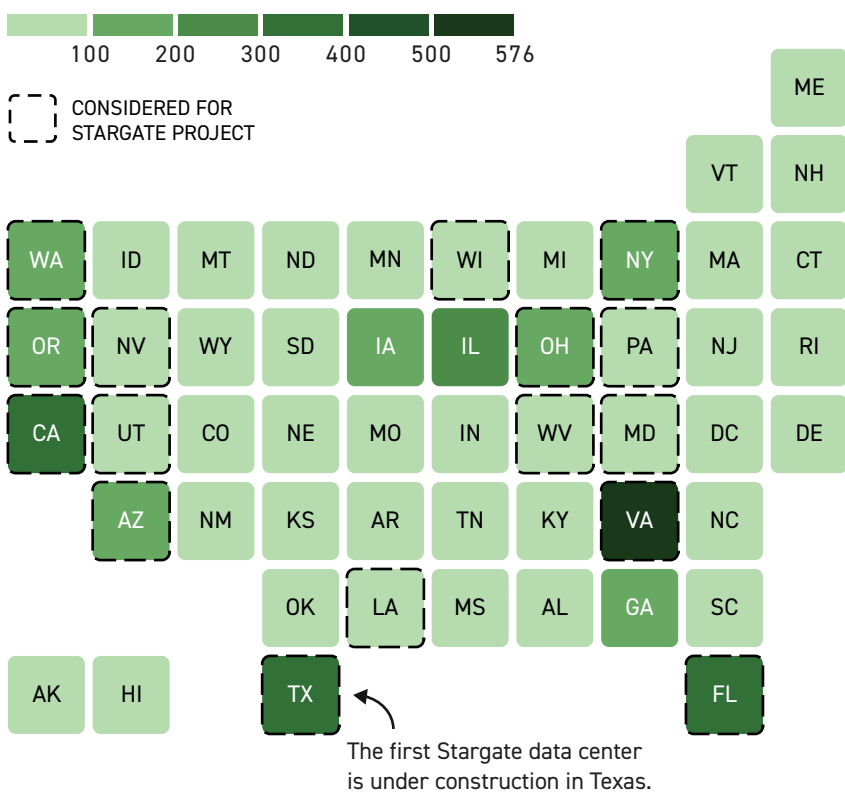


Tech companies are investing billions into data center infrastructure

Trump's administration is pursuing Stargate, a joint venture with OpenAI, SoftBank and other big technology players that will invest \$500 billion in data centers over the next four years. The first data center for the project is underway in Texas, and OpenAI is reviewing data center site proposals across 16 states for further Stargate developments.

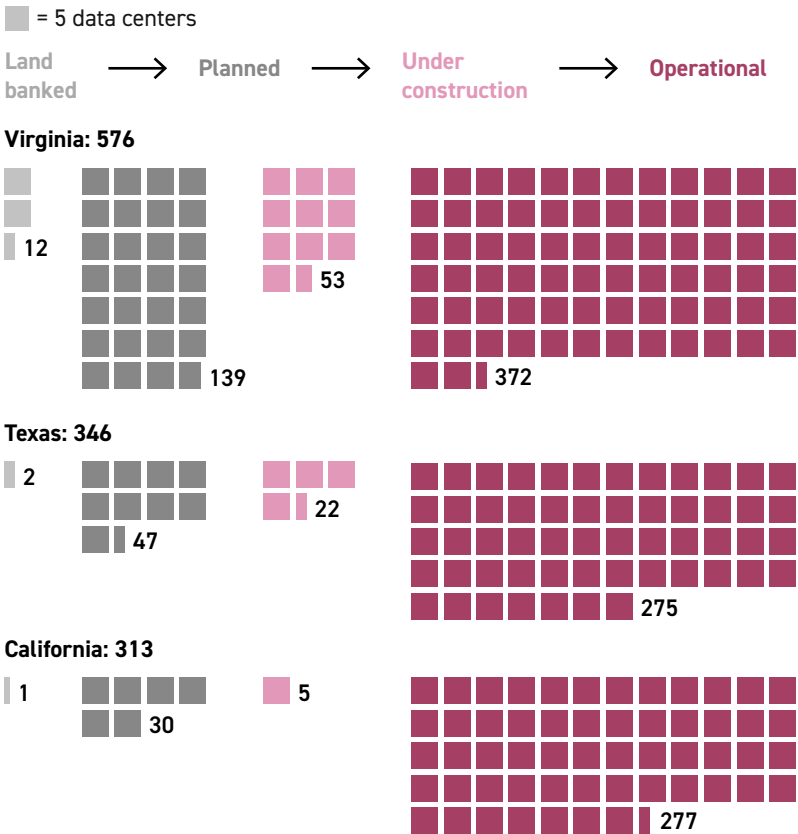
Virginia, Texas and California lead in number of data centers

Number of data centers reported by state, as of May 20



Three-quarters of data centers in top states are operational

Data centers by status in top three states, as of May 16



Source: U.S. Department of Energy, Energy Information Administration, Lawrence Berkeley National Laboratory, Data Center Map, IOPscience, Guidi et al. 2024, Li et al. 2023, iStock, POLITICO reporting
Note: State data is based on voluntary reporting and may not be comprehensive.