

Cogen Power: The Role Water Desalinization can Play in Data Centers and Micro-Grid Development

Permian Basin Water in Energy Conference

March 2025



TEXAS PACIFIC

WATER RESOURCES

Amazon buys nuclear-powered data center from Talen

Thu, Mar 7, 2024, 7:01AM | Nuclear News



Susquehanna nuclear plant in Salem Township, Penn., along with the data center in foreground. (Photo: Talen Energy)



Sam Altman ✓
@sama

The GPT-3 hype is way too much. It's impressive (thanks for the nice compliments!) but it still has serious weaknesses and sometimes makes very silly mistakes. AI is going to change the world, but GPT-3 is just a very early glimpse. We have a lot still to figure out.

1:45 PM · Jul 19, 2020

801 Retweets

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GPT-4.5 rollout to plus users has started

will complete within the next few days

12:08 PM · Mar 5, 2025 · 340.3K Views

687

483

5.3K

145

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Sam Altman ✓ @sama · 8h

i love this model

280

70

1.2K

112K

Recent Headlines

Crusoe confirms plans for 200MW AI data center in Texas

Company planning 1.2GW build-out at site

July 18, 2024 By: Dan Swinhoe Have your say

Cryptomine-turned-AI firm Crusoe has confirmed it is building a large GPU-focused data center in Texas.

The company said it has designed and engineered, and is now building, a 200MW data center at the Lancium Clean Campus outside Abilene, Texas.

The multibillion-dollar purpose-built data center will include high-density data halls specially designed to enable AI workloads and optimized for direct-to-chip liquid cooling or rear-door heat exchangers - while flexible enough to include air cooling.

At completion, each data center building will be able to operate up to 100,000 GPUs on a single integrated network fabric.

The data center is expected to be energized in 2025, and be the first phase of a planned 1.2GW

Crusoe pivots from gas flare modules to 100MW+ data centers

Sunder Pichai, Google's chief executive, at the company's annual conference on Wednesday, showed some of what it has been working

Three Mile Island nuclear plant will reopen to power Microsoft data centers

SEPTEMBER 20, 2024 · 1:40 PM ET

By C Mandler

The Three Mile Island nuclear plant is seen in March 2011 in Middletown, Pa. Jeff Fusco/Getty Images

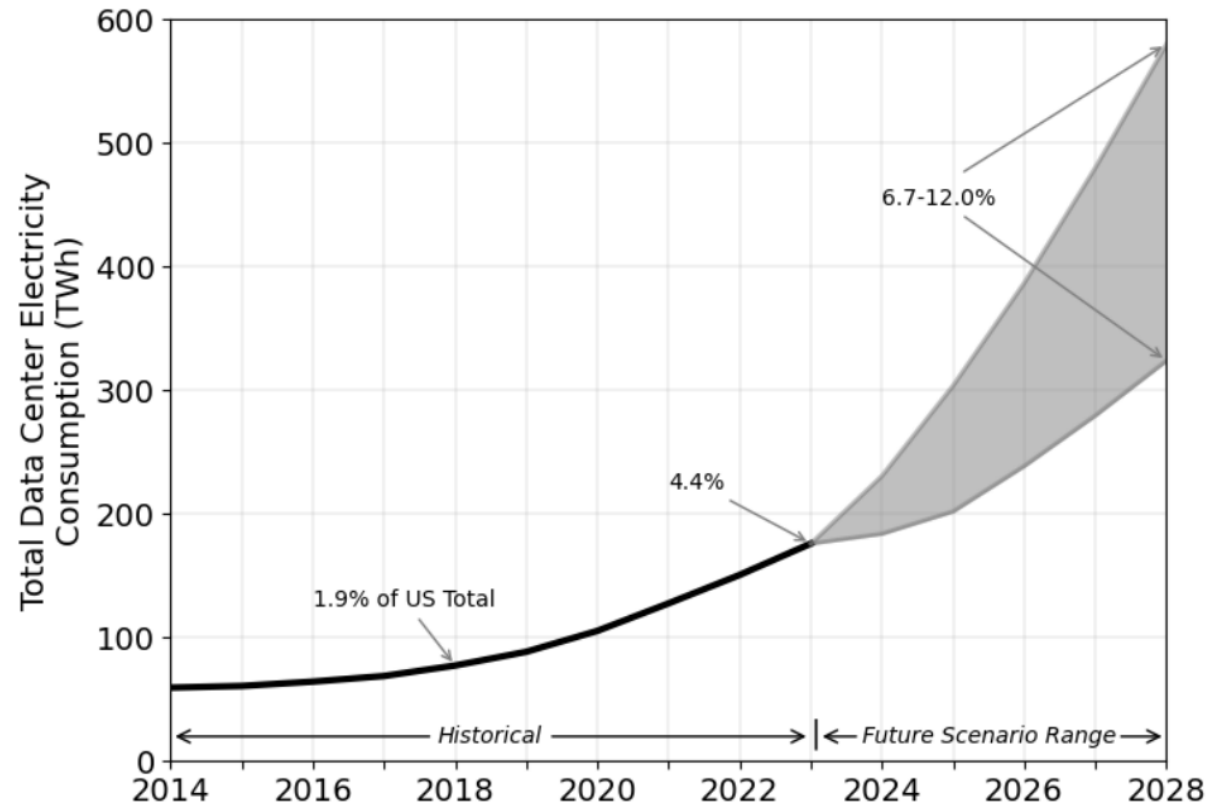
Data Center Campus Planned in Southwest Fort Worth

BY FORT WORTH INC. STAFF MAY 16, 2024 8:48 A.M.

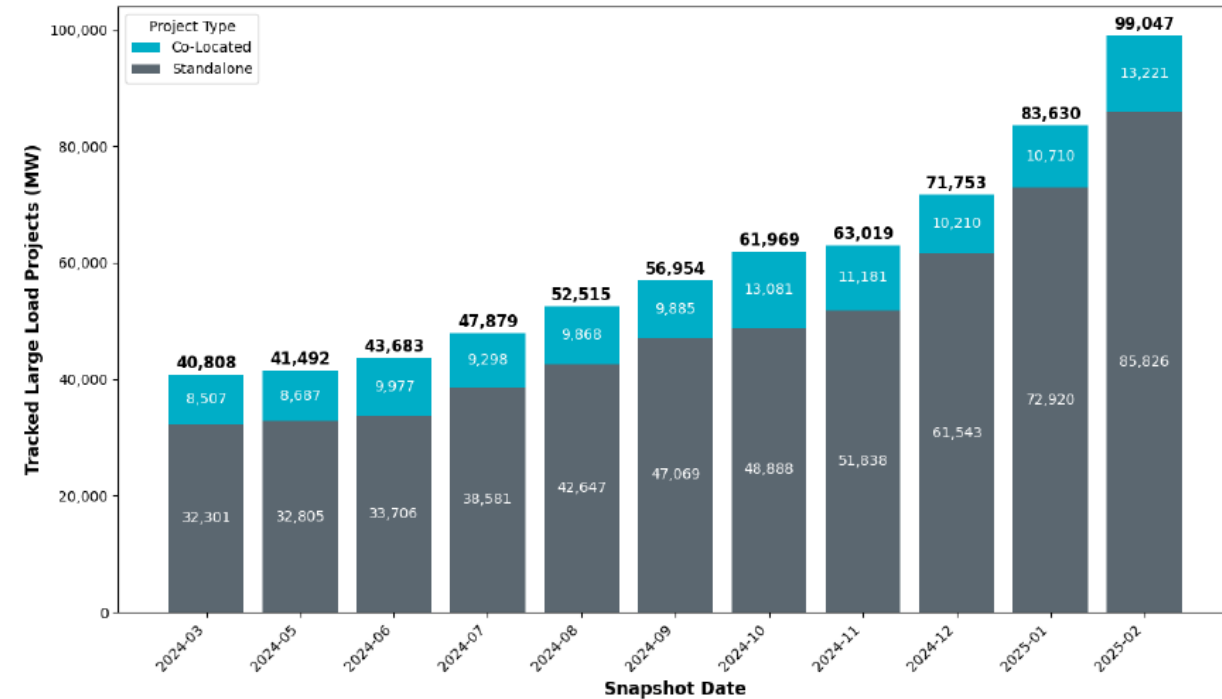
US Data Center Electricity Use

3

Total U.S. Data Center Electricity Use (1)



ERCOT Large Load Queue – Past 12 Months (2)



(1):2024 United States Data Center Energy Usage Report Arman Shehabi, Sarah J. Smith, Alex Hubbard, Alex Newkirk, Nuoa Lei, Md Abu Bakar Siddik, Billie Holecek, Jonathan Koomey, Eric Masanet, and Dale Sartor Energy Analysis and Environmental Impacts Division, Lawrence Berkeley National Laboratory December 2024



(2):Large Load Interconnection Status Update, ERCOT, Large Load Integration Team, Feb. 27.2025

Data Center Cooling

4

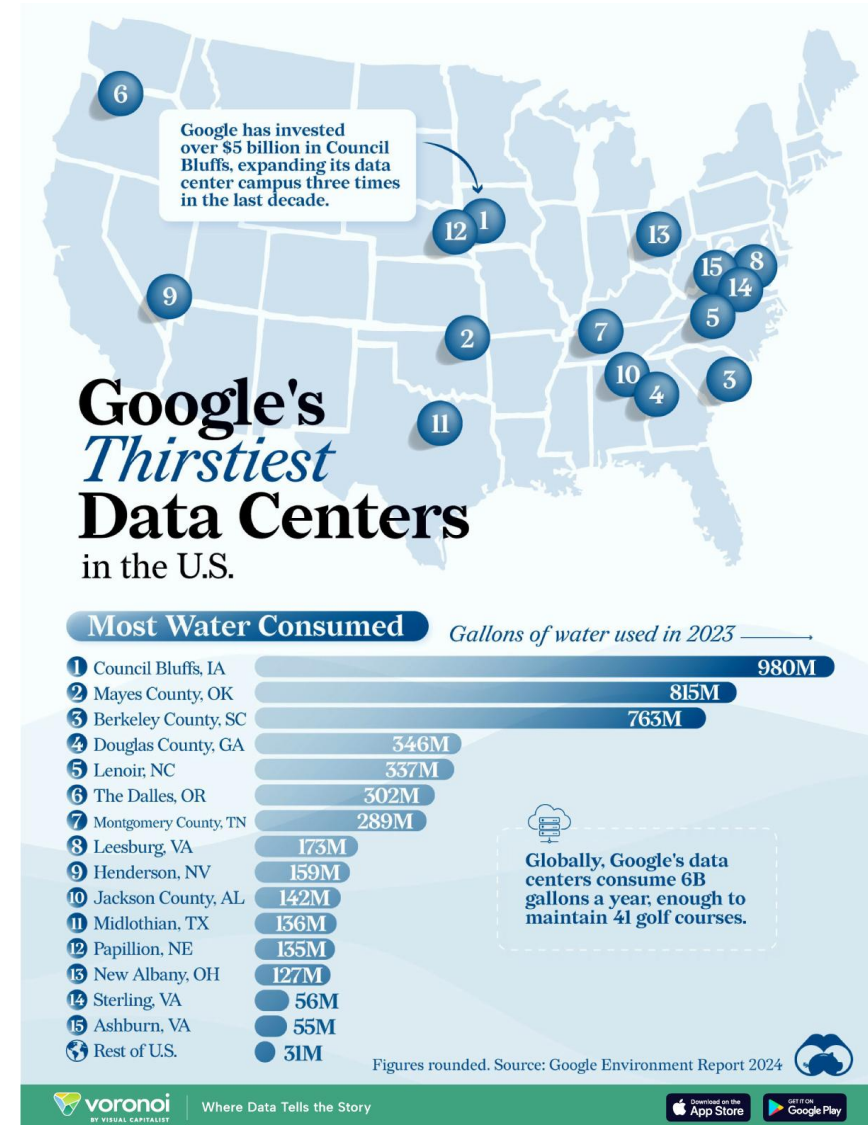
The Washington Post

“Those servers require a great deal of energy and produce a great deal of heat. Without adequate cooling, the servers can overheat, fail or even catch fire. Companies can either use traditional air conditioning to cool the servers, which is expensive, or use water for evaporative cooling. The latter is cheaper, but it also sucks up millions of gallons of water. A large data center, researchers say, can gobble up anywhere between 1 million and 5 million gallons of water a day — as much as a town of 10,000 to 50,000 people.”

For the Oilfield Water Folks...
23k-119k BWPD



Google Data Center Water Usage



Panel Discussion

