

Where do data centers consume energy



Article Overview

Most of the energy consumption in data centers comes from operating IT equipment and cooling systems, with IT equipment alone accounting for roughly half or more of total electricity use.

Breakdown of Energy Use

Data centers house servers, storage devices, and networking equipment, all of which require continuous power to operate. Approximately 40–60% of a data center's electricity is consumed by IT equipment, including servers, storage, and networking devices, which perform the core computational and data-handling tasks . The remaining 30–40% is typically used for cooling systems, which remove the heat generated by the IT equipment to maintain optimal operating temperatures . Cooling can involve centralized air or water-based systems, as well as room-scale air conditioners in smaller facilities .

Energy Sources

In the United States, natural gas supplies over 40% of electricity for data centers, making it the largest single source . Renewable energy sources such as wind and solar contribute about 24%, nuclear power around 20%, and coal approximately 15% . While natural gas is projected to remain dominant through 2030, nuclear power may increase its share as some retired plants are revived and tech companies invest in nuclear energy agreements .

Efficiency Considerations...

Article Content

How Much Electricity Does A Data Center Use? 2025 Guide

Data centers consume 176 TWh annually in the US (4.4% of electricity). Learn consumption by size, AI impact, and

Recalibrating global data center energy-use estimates

Here, we integrate new data from different sources that have emerged recently and suggest more modest growth in

Data Centers and Their Energy Consumption: Frequently Asked

Ling Zhu Analyst in Telecommunications Policy Data Centers and Their Energy Consumption: Frequently Asked

How Data Centers Redefined Energy and Power in 2025

How Data Centers Redefined Energy and Power in 2025 Energy-efficient AI, battery storage systems, and renewed

AI Data Center Energy Consumption Statistics 2026: The Definitive Data ...

Global data center electricity hit 460–490 TWh in 2025, up 17% YoY. IEA, DOE, and Epoch AI primary-source data on

How Much Electricity Does a Data Center Use? Complete 2025 Analysis

What percentage of global electricity do data centers consume in 2025? Data centers account for roughly 1.5% of

How Much Energy Is Really Being Consumed by Data Centers?

The International Energy Agency expects data center electricity consumption to increase 30% over 2023 levels in the

Data Centers and Water Consumption | Article | EESI

Data center developers are increasingly tapping into freshwater resources to quench the thirst of data centers, which

Data Center Energy Consumption Statistics & Data (2026)

Explore data center energy consumption statistics and key trends. Learn efficiency benchmarks and insights shaping

Data Center Power Demand | MIT Energy Initiative

The rapid increase in data center power demand has emerged as a key challenge for hyperscale and colocated datacenters, power

Energy demand from AI – Energy and AI – Analysis

Energy demand from AI What is a data centre? Artificial intelligence (AI) model training and deployment occur mainly in data centres.

How Much Electricity Does a Data Center Use?

Ireland data center electricity consumption of 22% in 2024 confirmed by Central Statistics

Data center energy consumption: tracking global power demand,

Data center energy consumption: tracking global power demand, water use, and carbon intensity A data-driven

Data centre electricity use surged in 2025, even with tightening ...

Over the past year, social concerns around AI have also grown, with data centres serving as a highly visible flashpoint

7 Ways Data Centers Affect US Communities | World Resources Institute

Energy prices and water use aren't the only ways data centers affect U.S. communities. We break down the impacts

Data centers keep energy use steady despite big growth

Data centers that support businesses, internet services and our social media lives use lots of energy. As their

How Much Energy Do Data Centers Really Use? | DataSpan

How much energy do data centers use? Data centers account for approximately 1% of global energy consumption. In

Data Centers and Their Energy Consumption: Frequently Asked

What are some potential concerns about water consumption by data centers? Which, if any, federal regulations cover

Data centres will use twice as much energy by 2030 — driven by AI

NEWS 10 April 2025 Data centres will use twice as much energy by 2030 — driven by AI These facilities accounted for roughly 1.5%

Data Centers and Environmental Considerations

Why Do Hyperscale Data Centers Use So Much Energy? Data centers operate around the clock to meet digital demands for speed,

Data centres & networks

As the world becomes increasingly digitalised, data centres and data transmission networks are emerging as an important source of

IEA: Data center energy consumption set to double by

Global electricity consumption from data centers is projected to more than double, according

Data centres are guzzling up too much electricity. Can we make them ...

Our insatiable demand for digital content and services has been driving a rise in energy-hungry data centres. The

How data centres can avoid doubling their energy use by 2030

Data centres consume immense energy but leading facilities use around 84% less than the norm; however,

Data Center Energy Needs Could Upend Power Grids and Threaten

Hyperscale data centers are massive IT and CPU warehouses that facilitate large-scale cloud computing. They have

Data center power consumption

Data center power consumption - statistics & facts Global electricity consumption from data centers has already started to account

Data centre electricity use surged in 2025, even with tightening ...

Data centre electricity use surged in 2025, even with tightening bottlenecks driving a scramble for solutions - News

Data Centers and Their Energy Consumption: Frequently Asked

In its simplest form, a data center is a physical facility that houses and runs large computer systems. U.S. data center

In focus: Data centres – an energy-hungry challenge

Data centres are a vital infrastructure supporting our ever-growing use of cloud storage, social media, AI, streaming

Data Centers and Their Energy Consumption: Frequently Asked

Roughly one-half or greater of the electric power demand of data centers stems directly from the operation of

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.thebucketlistbook.co.za>

Email: sales@thebucketlistbook.co.za

Phone: +33 1 42 78 39 16

Address: 10 Rue de la Paix, 75002 Paris, France

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