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AWS global data centers achieved PUE of 1.15 in 2023

Company reveals PUE numbers for the first time

December 04, 2024 By: Georgia Butler  Have your say

Amazon Web Services (AWS) has revealed its Power Usage Effectiveness (PUE) numbers for its global data centers for the first time.

Announced at the AWS Re:Invent 2024 conference this week, the cloud giant saw a global PUE of 1.15 across its data centers in 2023. The best-performing site registered a PUE of 1.04.

With the newly announced [data center components](#) including more efficient electrical and mechanical designs, direct-to-chip liquid cooling systems, and "optimized rack positioning," the company is expecting its new data center components to bring its PUE to 1.08.

Those new components will be rolled out to new data centers in 2025, and are already deployed in some existing facilities.

Google claims its facilities average a PUE of around 1.1, with its best site offering 1.06. Meta's facilities, on average, offer a PUE of around 1.08. Microsoft's newest facilities achieve a PUE of around 1.12, with a global facility average of 1.18 across the portfolio. Oracle has said its data centers offer a PUE "as low as" 1.15.

Other efforts to reduce its impact include using concrete with lower embodied carbon, and reducing steel usage.

This week, AWS also launched a partnership to develop technology for [carbon removal](#) methods for its data centers. The company has partnered with startup Orbital Materials, which has, through artificial intelligence (AI), developed a carbon-filtering substance for use in data centers.

Earlier this year, Amazon announced that all of its operations - data centers included - were [matched by renewable energy](#).

However, Amazon employees alleged that the company was "distorting the truth" about how many of its data centers were actually powered by renewable energy. Amazon Employees for Climate Justice (AECJ)

said its research shows that just [22 percent](#) of power used by the company's data centers is actually from renewables.

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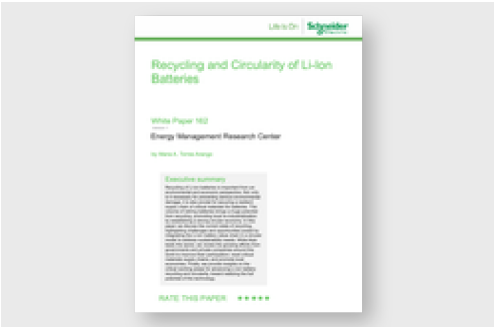


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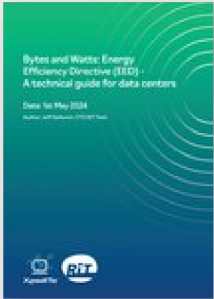


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Data Centre Dynamics Ltd (DCD), 32-38 Saffron Hill, London, EC1N 8FH
Email. info@datacenterdynamics.com
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