Amazon Web Services Sustainability Practices

Antonio Vargas
Head of Public Policy in Spain and Portugal

aws

AWS history

2006

when we were born

Millions of customers

using AI and ML

25 years

of AI innovation at Amazon

Sustainability

Amazon is committed to reaching net-zero carbon emissions by 2040 as part of The Climate Pledge—10 years ahead of the Paris Agreement.

In 2023, we achieved our goal to match 100% of the electricity consumed across our operations with renewable energy —a commitment we met seven years ahead of our original 2030 goal.

Renewable Energy

Energy Efficiency

Water Stewardship

Carbon Reduction

Renewable Energy

500+

Amazon has announced more than 500 renewable energy projects across the globe.

100%

In 2023, all of the electricity consumed by Amazon's operations, including its data centers, was matched with 100% renewable energy.

100%

In 2023, the electricity consumed in 22 AWS Regions globally, including every AWS Region in the U.S., was matched by 100% renewable energy.

7.6M

Our global solar and wind projects together are capable of generating enough energy to power the equivalent of 7.6 million U.S. homes.
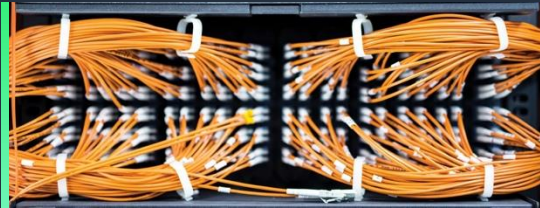
#1

Amazon is the largest corporate purchaser of renewable energy in the world.

Energy Efficiency

Efficiency of Scale

Research by Accenture estimates AWS's infrastructure is up to 4.1 times more efficient than on-premises and when optimizing on AWS, associated workloads' carbon footprint can be reduced by up to 99%.

Predicting Performance

We use advanced modeling methods, such as computational fluid dynamics tools, to optimize our data center design.

Cooling Efficiency

We use different cooling techniques depending on the time of year, and we utilize real-time sensor data to adapt to changing weather conditions.

Power Efficiency

One of the most visible ways AWS is using innovation to improve power efficiency is our investment in AWS chips, such as Trainium and Inferentia.

Water Stewardship

AWS is committed to being water positive by 2030 and making more water available to the communities where we operate.

95%	85%	0.18	3.9
In Ireland and Sweden, AWS uses no water to cool its data centers for 95% of the year and instead uses free-air cooling.	In Northern California, switching to a direct evaporative cooling system reduced annual water use by 85%.	AWS uses 0.18 liters of water per kilowatt-hour, the lowest among cloud providers.	3.9 billion liters of water are returned to communities each year from replenishment projects completed or underway.

Carbon Reduction

- AWS is committed to achieving Amazon's goal of net-zero carbon by 2040.

- We're building our data centers to be less carbon-intensive, including using lower-carbon concrete and steel, transitioning to hydrotreated vegetable oil to power backup generators, and embracing circular economy principles for our server racks, among other advances.

- Research by Accenture estimates AWS's infrastructure is up to 4.1 times more efficient than on-premises and when optimizing on AWS, associated workloads' carbon footprint can be reduced by up to 99%.

20%

The percentage of reduction in embodied carbon compared to standard concrete in new U.S. data centers.

Expansion of AWS Region in Spain

- €15,700M
- +17,500 jobs
- €21,600M GDP impact