Sustainability and AWS in the Digital Workplace & End-User Computing

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Further and Faster, Together

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Amazon and Global Optimism announced
The Climate Pledge, a commitment to meet
the goals of the Paris Agreement 10 years
early—and achieve net-zero carbon by
2040. Amazon is a co-founder and first
signatory of The Climate Pledge.

aws

Renewable energy

Amazon is the world's largest corporate purchaser of renewable energy and is on a path to powering our operations with 100% renewable energy by 2025—five years ahead of our original target of 2030.

400+
Global renewable energy projects (as of January 2023)

20+
Gigawatts of total renewable capacity (as of January 2023)

85%+
Renewable energy reached across our business in 2021

aws

AWS and Sustainability

Carbon reduction opportunity

AWS can lower the workload carbon footprint of average on-premises data centers by nearly 80% today and up to 96% once AWS is powered with 100% renewable energy
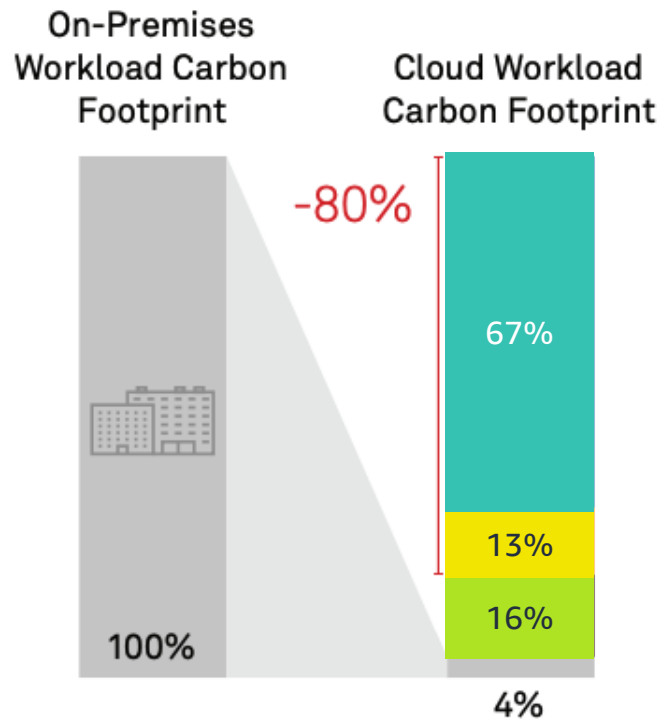
Europe
Up to 5 times more energy efficient

US
3.6 times more energy efficient

Asia Pacific
5 times more energy efficient

Find all the reports on aws.amazon.com/sustainability/resources/

Europe: Carbon reduction opportunity

AWS up to 5 times more energy efficient than typical EU enterprise infrastructure

On-Premises Workload Carbon Footprint

Cloud Workload Carbon Footprint

-80%

67%

13%

16%

100%

4%

Efficiency from Chip to Grid

Source: 451 Research, a part of S&P Global Market Intelligence, Saving Energy in Europe by Using Amazon Web Services, 2021

Cloud servers are responsible for the largest energy reduction, more than 67%, due to being more energy-efficient and more highly utilized

AWS data center facilities account for another 13% reduction by using power and cooling systems that are more efficient, bringing energy savings to 80%

As AWS continues to increase its renewable energy globally, that could further reduce the carbon footprint of workloads moved to cloud by up to 16%

Embracing a circular economy

Design. We eliminate excess materials, increase recycled and biobased content, and plan for reuse from the start.

Operate. We extended the life of our servers from **4 years to 5** and our networking equipment from **5 years to 6.**

Recover. Our reverse logistics hubs test, repair, and recirculate equipment back to data centers or to be sold for reuse by third parties.
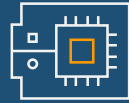
AWS Graviton, Inferentia, and Trainium

The latest generation of AWS-designed processors built for the cloud

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Graviton3-based Amazon EC2 instances use up to 60% less energy for the same performance than comparable instances

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Inferentia instances consume 54% less power than comparable EC2 instances

EUC Sustainability Quick Wins

Greener Devices – Choose devices that reduce energy consumption and GHG (~80% reduction)

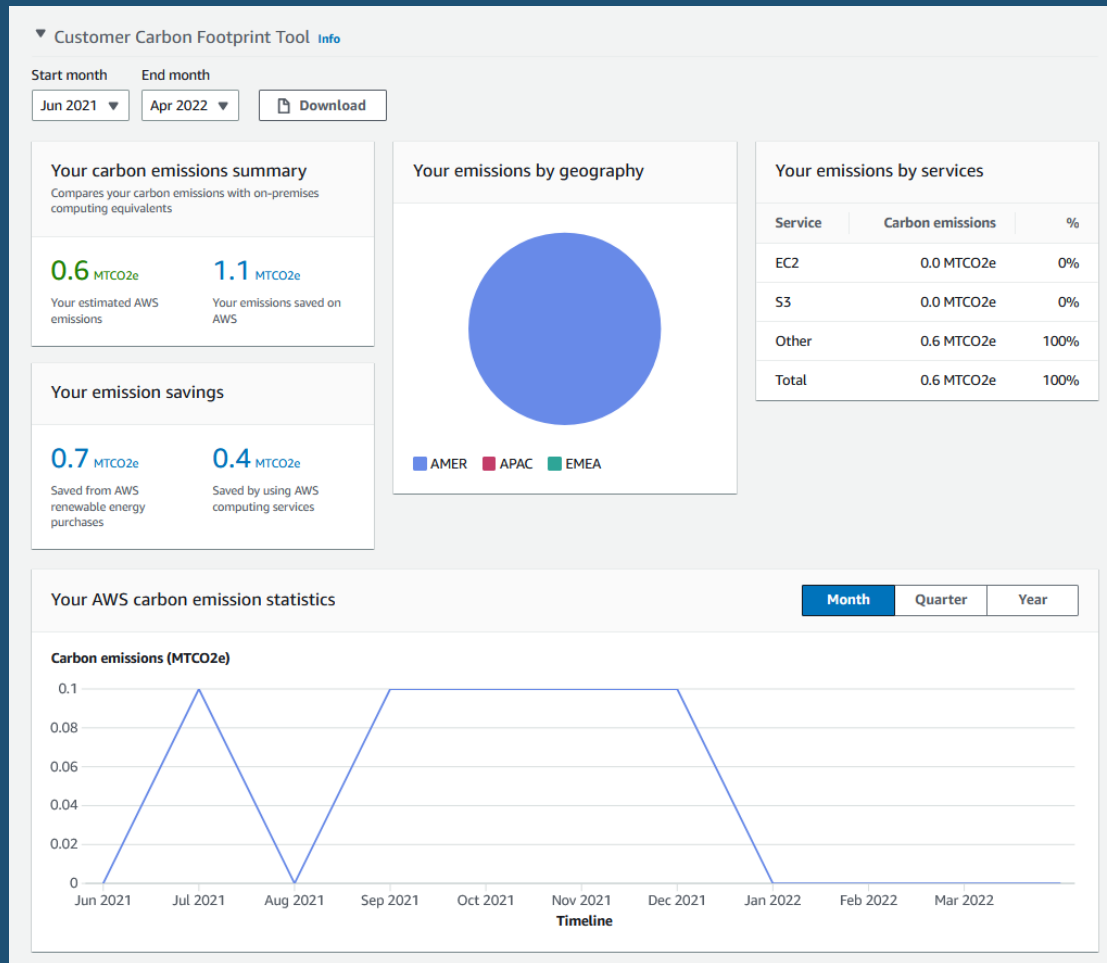**Greener Datacenters** – AWS use of renewal energy and climate pledge alignment (85% delivered)

Hybrid Working – Remote working offering up 40% levels of CO_2 emissions with only 2 days at home.

Extend, Recycle and Repurpose – Add multiple years to the life of devices, or delivery Thinclients

AWS customer carbon footprint tool

Calculate carbon emissions generated from your AWS workloads

Understand historical carbon footprint and review changes in emissions over time

Forecast changes as Amazon stays on a path to 100% renewable energy by 2025

Sustainability assessment: Part of the migration assessment business case

Sustainability Assessment using Migration Evaluator

- A Sustainability Assessment uses data collected by Migration Evaluator from on-premises infrastructure

- Compares carbon emissions to those of the equivalent workloads in AWS, and estimates the year one carbon saving from migrating to AWS

- Uses the same methodology used in the Customer Carbon Footprint Tool.

How to request a Sustainability Assessment:

- AWS Customers – AWS account managers can request an assessment

- AWS Partners - can request a assessment via AWS Partner Network Customer Engagement

- Sustainability Assessment can be requested via Migration Evaluator web page: https://aws.amazon.com/migration-evaluator/

- For any questions regarding Migration Evaluator and/or the Sustainability Assessment please email: migration-evaluator@amazon.com

Directional business case
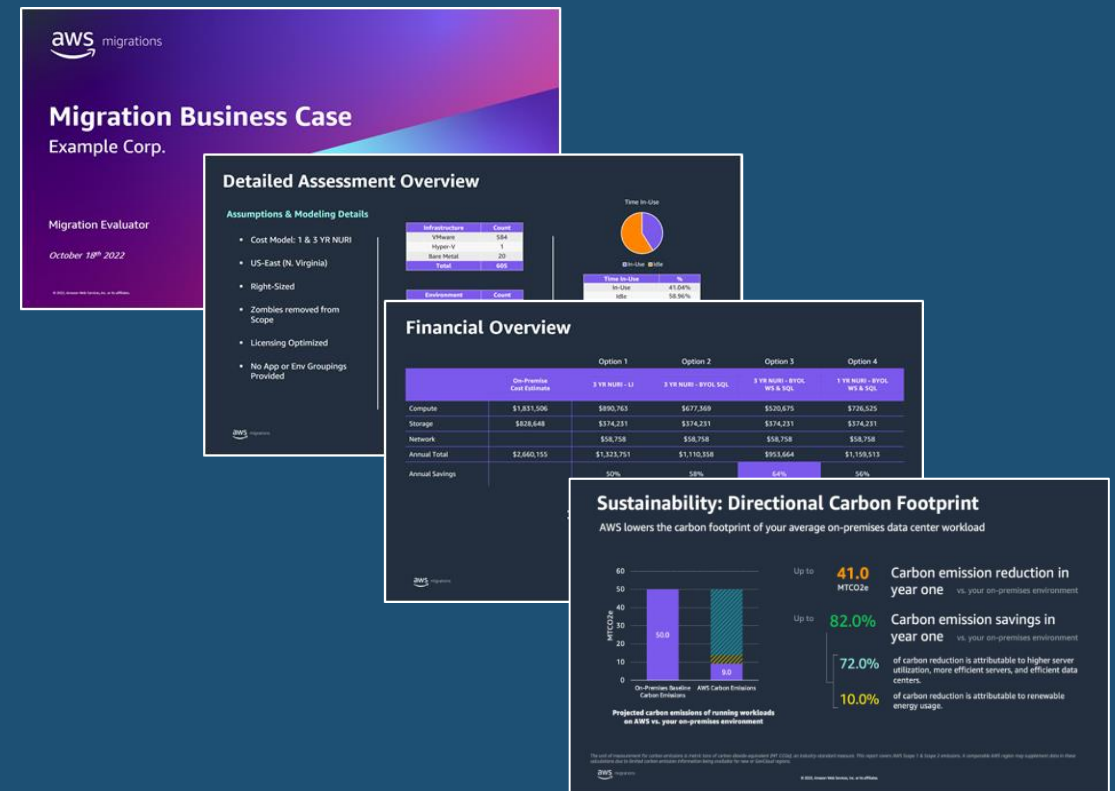
What are the next steps in your journey?

Migrate and take advantage of AWS sustainability investments and efficiencies

Leverage AWS services and expertise to build for sustainability

Optimize your workloads with the Sustainability Pillar of the Well-Architected framework

"At Amazon, we thrive on pushing the boundaries of what's possible. We are taking the same tenacity we use to invent and problem solve for our customers and applying it to how we help address some of the world's biggest challenges."

Kara Hurst

Vice President, Worldwide Sustainability, Amazon

Thank you!

For more case studies and other AWS sustainability news visit our website.

aws.amazon.com/sustainability