

Sustainable Transformation with the Cloud

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Sustainability areas of focus

“Sustainable development meets the needs of the present **without compromising** the ability of future generations to meet their own needs.” UN World Commission on Environment and Development



Decarbonize

Decarbonize the global economy
Limit the effects of the climate crisis



Water

Minimize water use
Keep it clean



Social responsibility

Responsible employment and supply chain practices



Circular economy

Zero landfill
Recycling



Digital transformation becomes sustainability transformation

We've all been figuring out digital transformation over the last decade

We can **connect directly** to our customers and instrument everything we make

But now we have to **measure, clean-up, and decarbonize** all our products and operations

Digital transformation happens in
months or years

Sustainability takes **decades**

How can we deliver a result that
is so far away, and know that we
are speeding up the process of
getting there?



Sustainability transformation challenges



How do I identify carbon emission hotspots?



How do I reduce energy and water usage in my operations?



How can I innovate faster to achieve sustainability transformation?



How do I collaborate with others in my value chain to reduce carbon emissions?

Scientists say there is a limited window to make unprecedented headway and limit global warming to 1.5°C by 2050

Further and faster, together

September 19, 2019

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.

THE
CLIMATE
PLEDGE



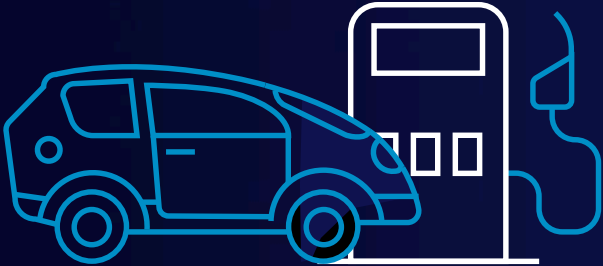
Worldwide greenhouse gas emissions



The GHG Protocol defines how to convert greenhouse gases to a **CO2 equivalent and the **three scopes** of carbon footprint, depending on their source**

Scope 1: Fuel consumed

COUNTED BY WHOEVER OWNS THE FUEL WHEN IT BURNS



Car

Gas pump



Fireplace

Furnace

Gas meter



Cooking

Electrify everything to take Scope 1 to zero



Scope 2: Energy used

ELECTRICITY USE IS COUNTED ONLY ONCE WHERE IT IS CONSUMED



Windmill

Power station

Heat pump

Solar panels

Batteries

Electric car

Induction range

Grid mix

Change grid mix to renewable power and store renewable energy in batteries to reduce Scope 2

Scope 3: Everything else

SUPPLY CHAIN AND INVESTMENTS



Scope 3 depends a lot on the kind of business you are in

Your sustainability journey and AWS



Migrate

Take advantage of the cloud
and AWS efficiency



Optimize

Optimize your workloads with
AWS Well-Architected Sustainability
Pillar



Transform

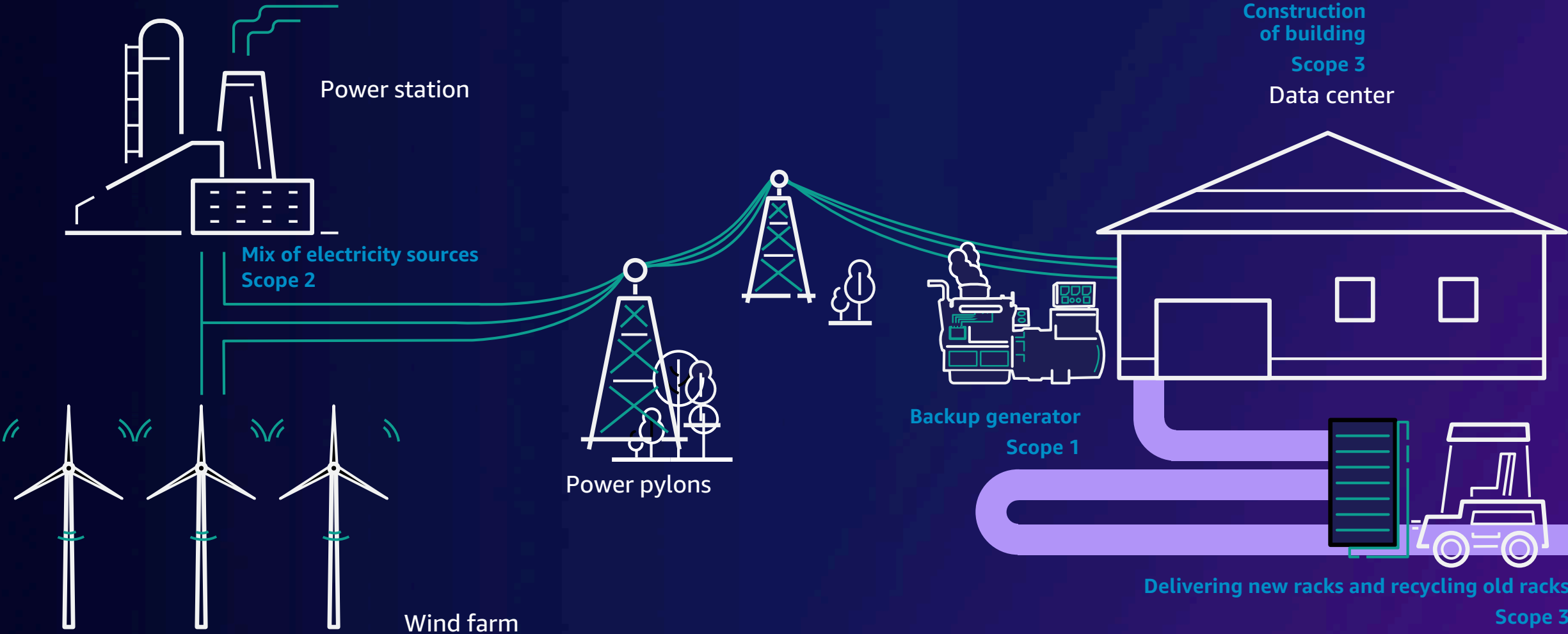
Leverage data and digital innovation



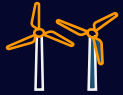
Migrate

The carbon footprint of data centers

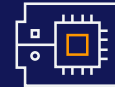
SCOPE 1, 2 AND 3



AWS journey highlights



Amazon is the largest corporate purchaser of renewable energy worldwide



Graviton processors provide better performance per watt than any other AWS processor



New data center construction incorporates use of low-carbon concrete



Launch of Well-Architected for Sustainability Pillar and Launch of AWS Customer Carbon Footprint Tool



Water stewardship: evaporative cooling, recycled water, and onsite water treatment



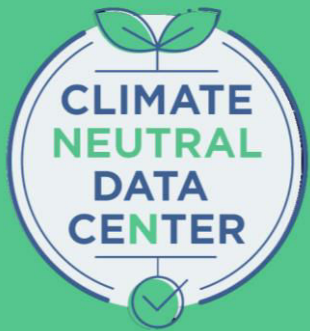
Amazon Sustainability Data Initiative (ASDI) provides free access to satellite data and climate models



AWS water positive commitment

By 2030, AWS will return more water to communities than we use in our direct operations

Climate Neutral Data Centre Pact



AWS joined the data center industry in Europe to create the **Climate Neutral Data Centre Pact**, an industry commitment to proactively lead the transition to a climate neutral economy

Carbon reduction opportunity

AWS can lower the carbon footprint of average on-premises data center workloads by nearly 80% today and up to 96% once AWS is powered with 100% renewable energy



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

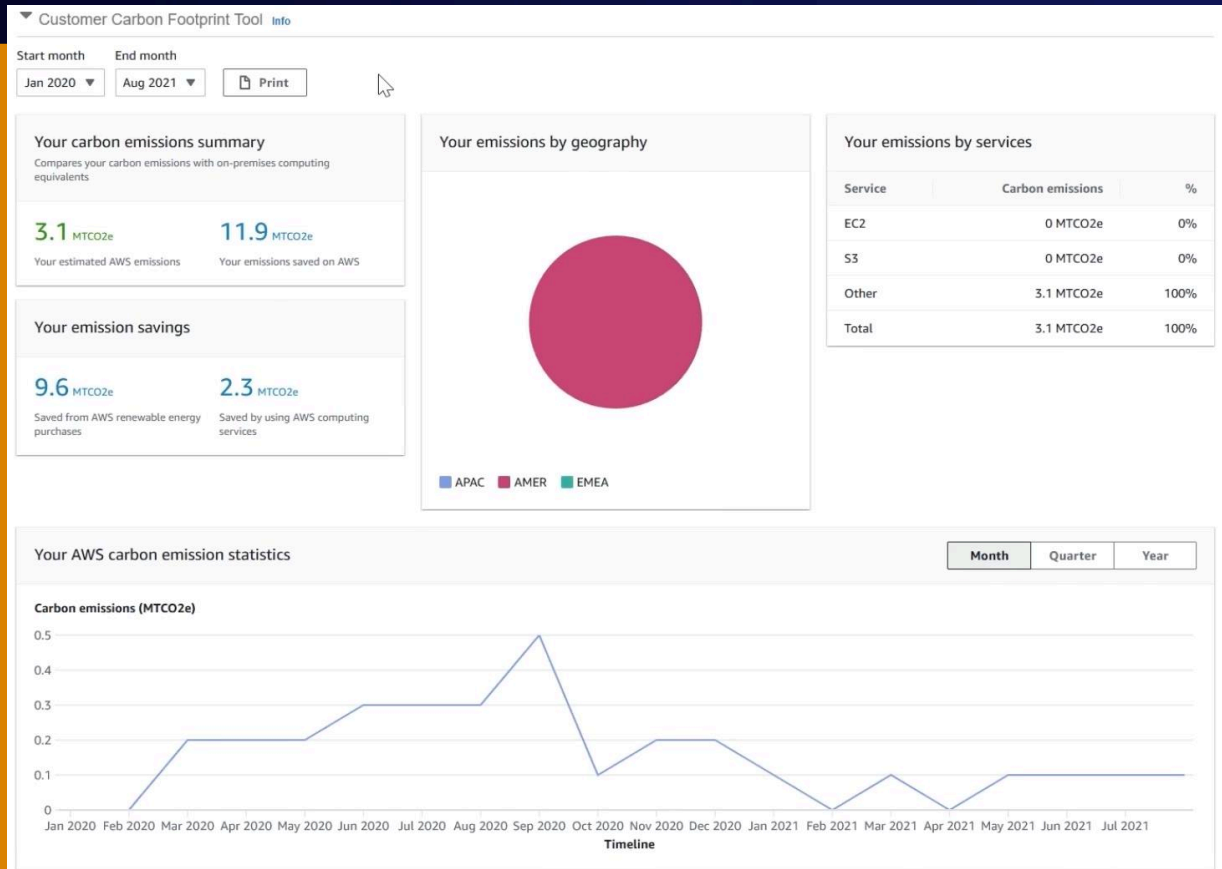




Optimize workloads

**Sustainability in the cloud is
a continuous, focused effort on
energy reduction and efficiency
across all components of a workload**

Customer Carbon Footprint Tool



Calculate carbon emissions generated from your AWS workloads

Understand historical carbon footprint and review changes in emissions over time

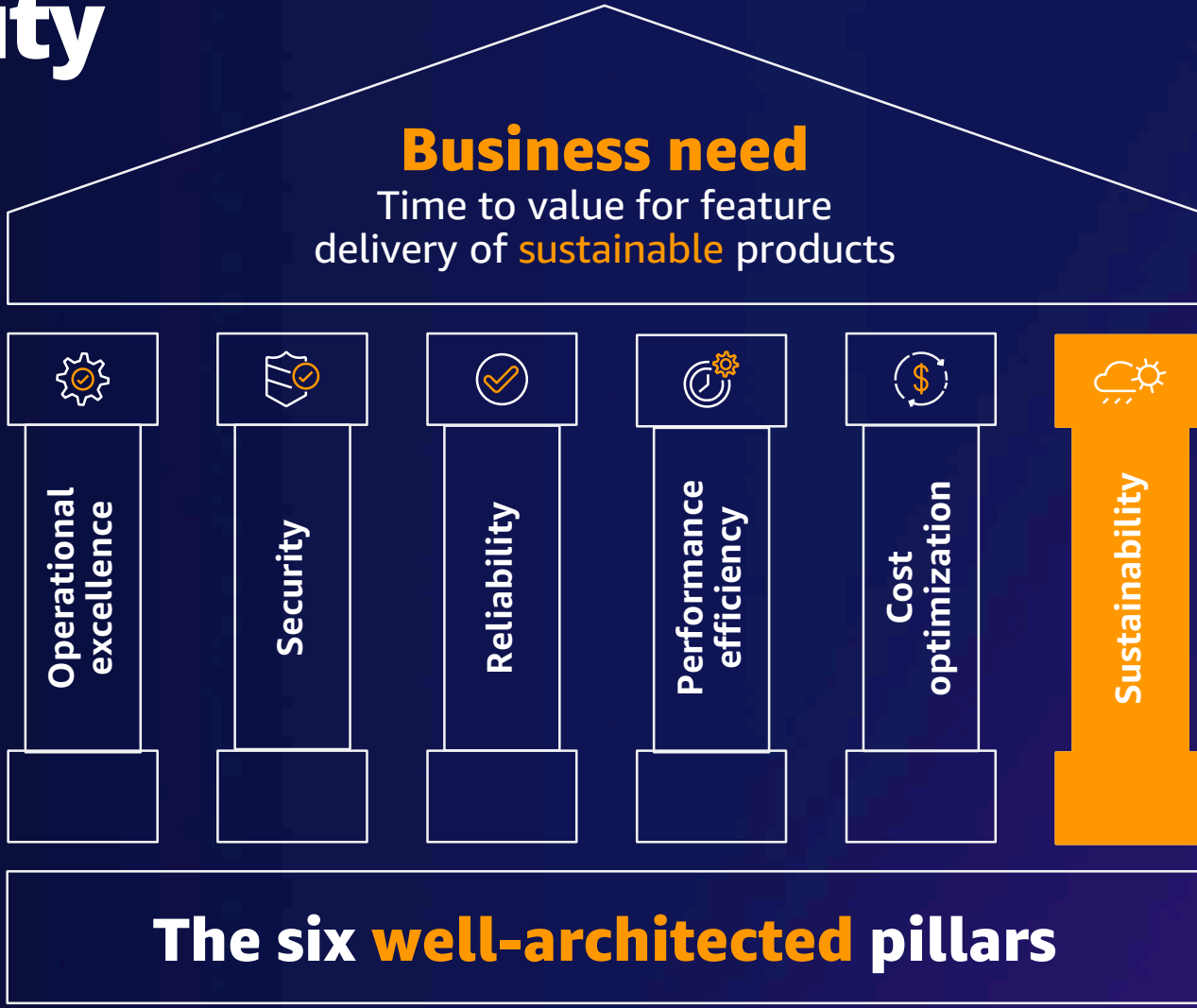
Forecast changes as AWS moves forward on path to 100% renewable power in data centers by 2025

Resources

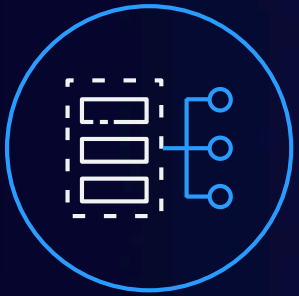
Unit of work

Normalize sustainability KPIs to make them comparable

Optimize: AWS Well-Architected for Sustainability



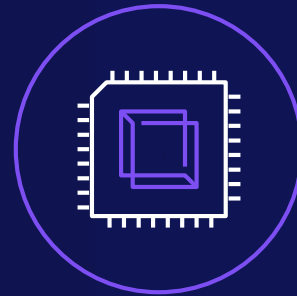
Best practices from the sustainability pillar



User
behavior



Software and
architecture



Hardware

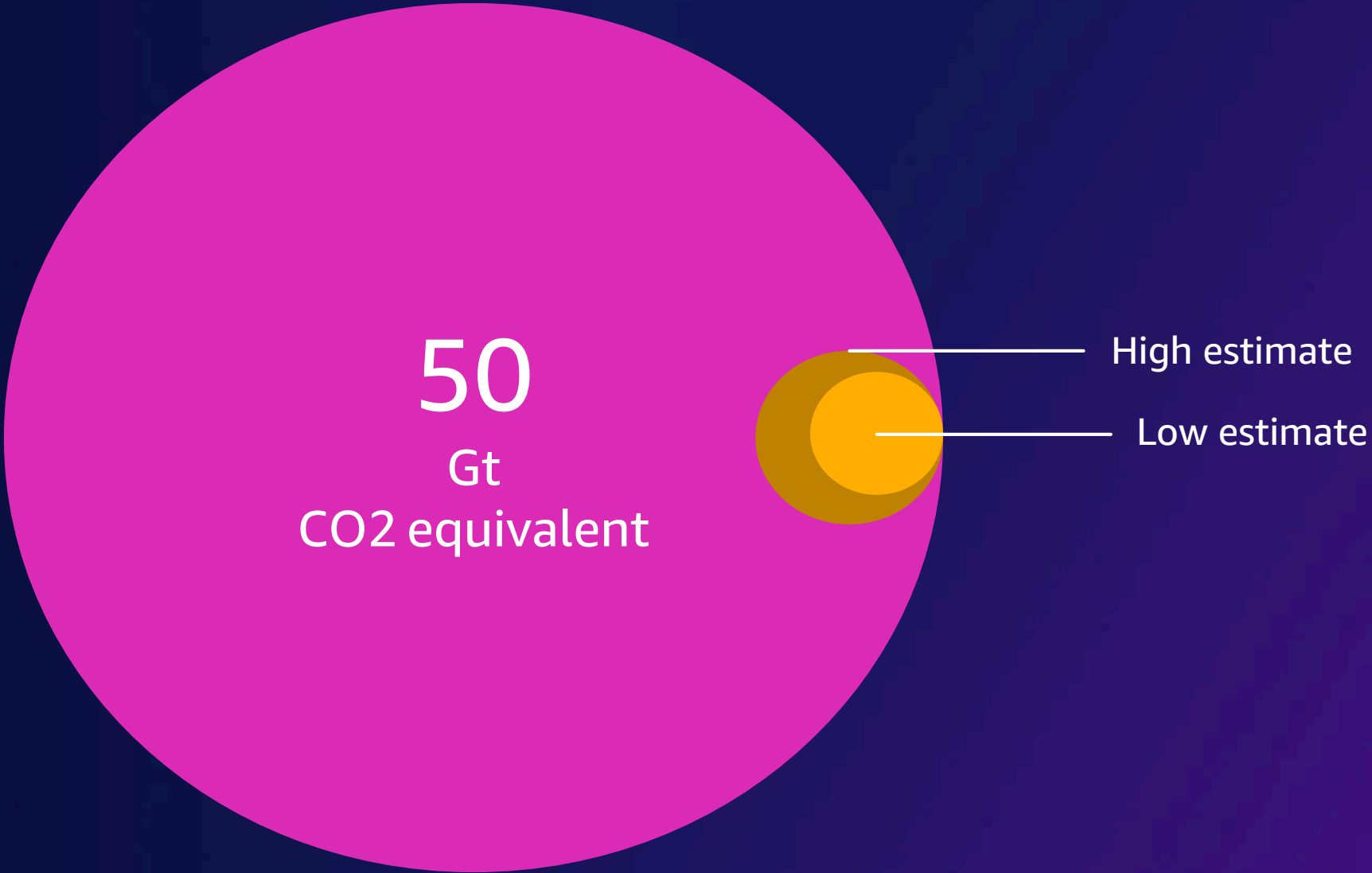


Data



Development
and deployment
process

Think beyond IT





Transform

Identify use cases and leverage AWS solutions



Carbon footprint
framework



Sustainable
Facilities



Energy Analytics
and Forecasting



Water
Stewardship



Manufacturing and
Distribution



Sustainable and
Responsible
Supply Chains



Sustainable
Packaging



Circular
Economy

Data is core to addressing sustainability challenges



Growing exponentially



Dispersed sources



Increasingly diverse

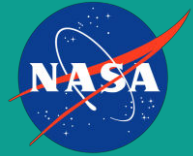


Requires expertise

Amazon Sustainability Data Initiative (ASDI)



Making access to data faster, cheaper, and easier



Climate data projections



Weather forecasts



Historical weather records



Satellite imagery



Air quality



Water



Energy



Ocean forecasts



Sea surface temperature



Environmental indicators

Call to Action



What can I build to accelerate my sustainability transformation?



How can I re-think my existing business practices to be in line with our sustainability strategy?

Thank you!

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