Microsoft

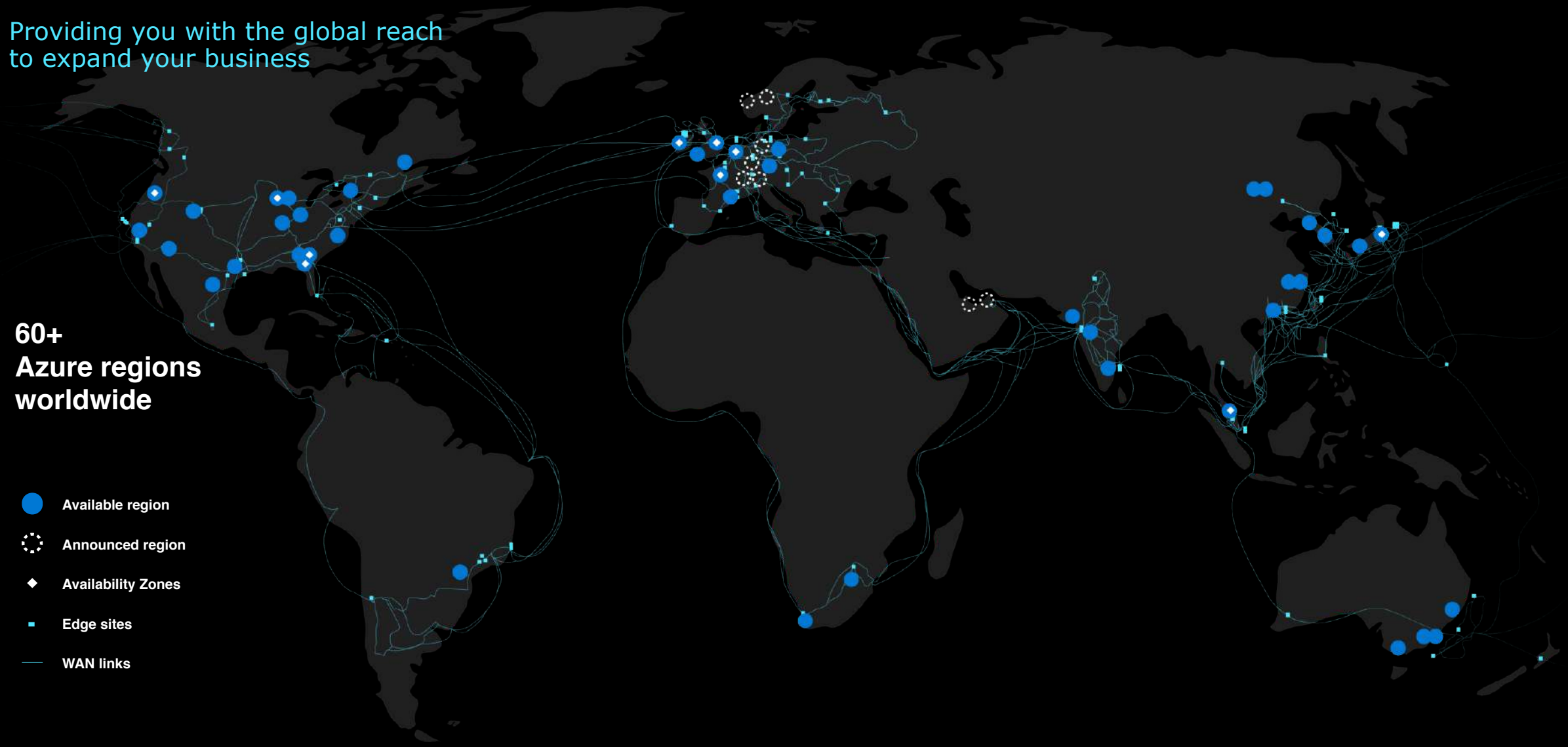
Microsoft Cloud and Sustainability

Christopher Frenning
Data Center Strategy Lead, Microsoft Norway

@chrfrenning

Azure geographies

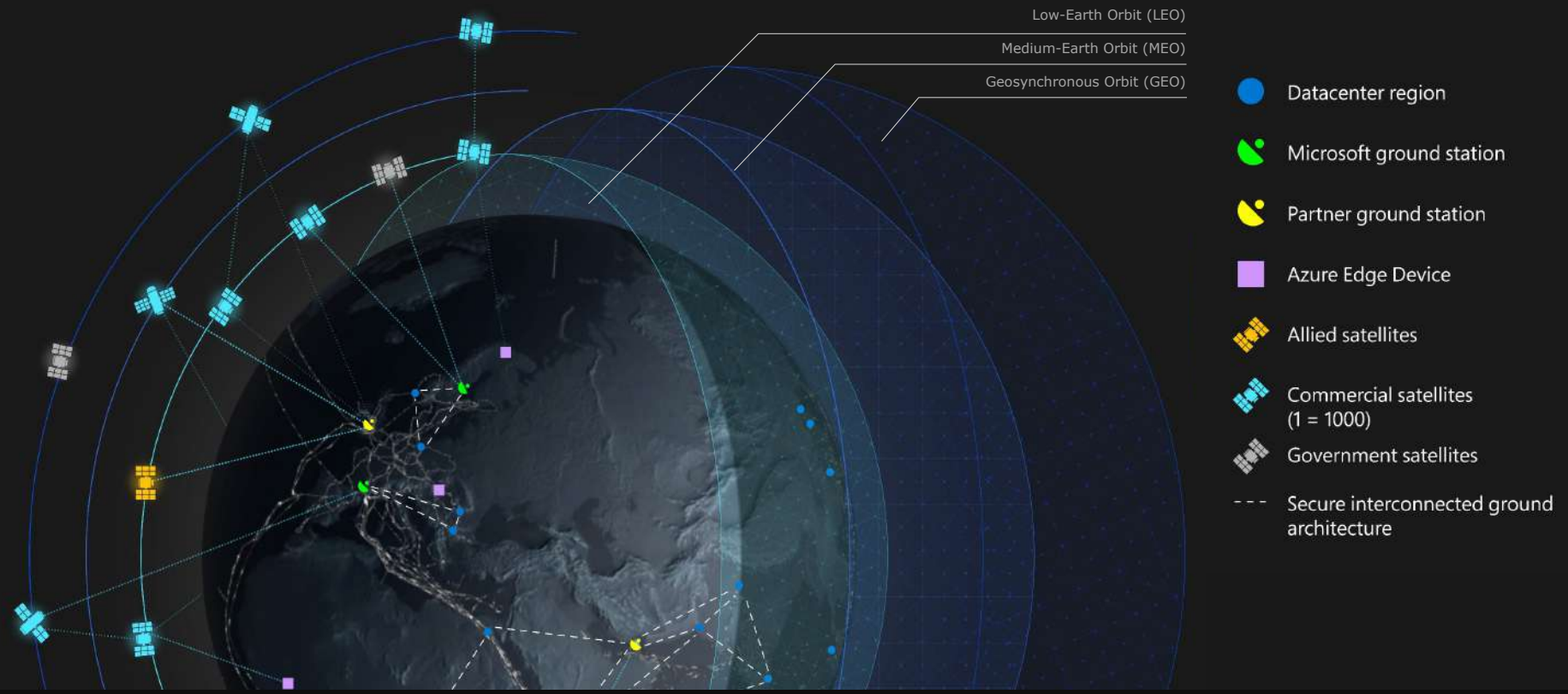
Providing you with the global reach to expand your business




Project Natick

Azure Modular Data Center

Azure Space



Microsoft innovation + a space partnership ecosystem to provide advanced, secure, and resilient capabilities

GLOBAL CONNECTIVITY

Enable command, control, and data downlink of satellites through Azure and connect our global data centers and edge devices via satellite and 5G.

Connect anyone's data, from anywhere in the world, at any security level, into our clouds.

GEOSPATIAL ANALYTICS

Develop an ecosystem that integrates large-scale geospatial and space data, synthetics, AI/ML, and visualization to enable analytics anywhere.

Turning data into knowledge and insights.

AZURE IN SPACE

Run Azure analytics and hardware on satellites, space stations, and beyond.

Driving innovation and creating the ultimate cloud-enabled edge devices – on and off the planet.

EMULATION & SYNTHETICS

Power digital transformation and develop tools for simulating satellites in a rich synthetic environment to develop and evaluate powerful AI/ML capabilities.

Reliable, repeatable technologies to help the space community innovate and move faster with mission assurance.

A planet-sized challenge

50 billion
metric tons of greenhouse gases emitted annually

1 in 4
species are threatened with extinction

55 billion
metric tons of waste produced annually

2 billion
people lack access to safe drinking water

2019 March 1-19

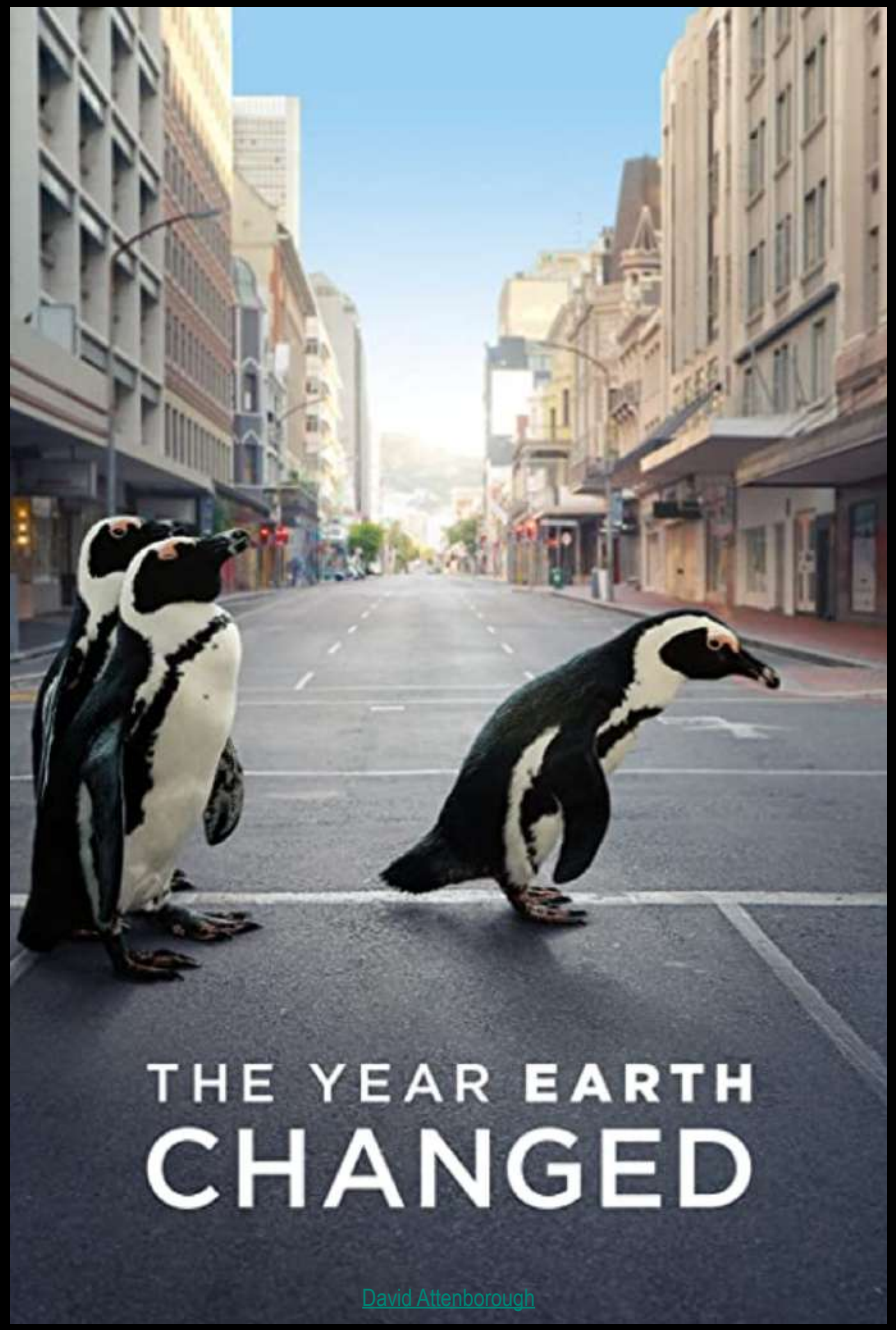
2020 March 1-19

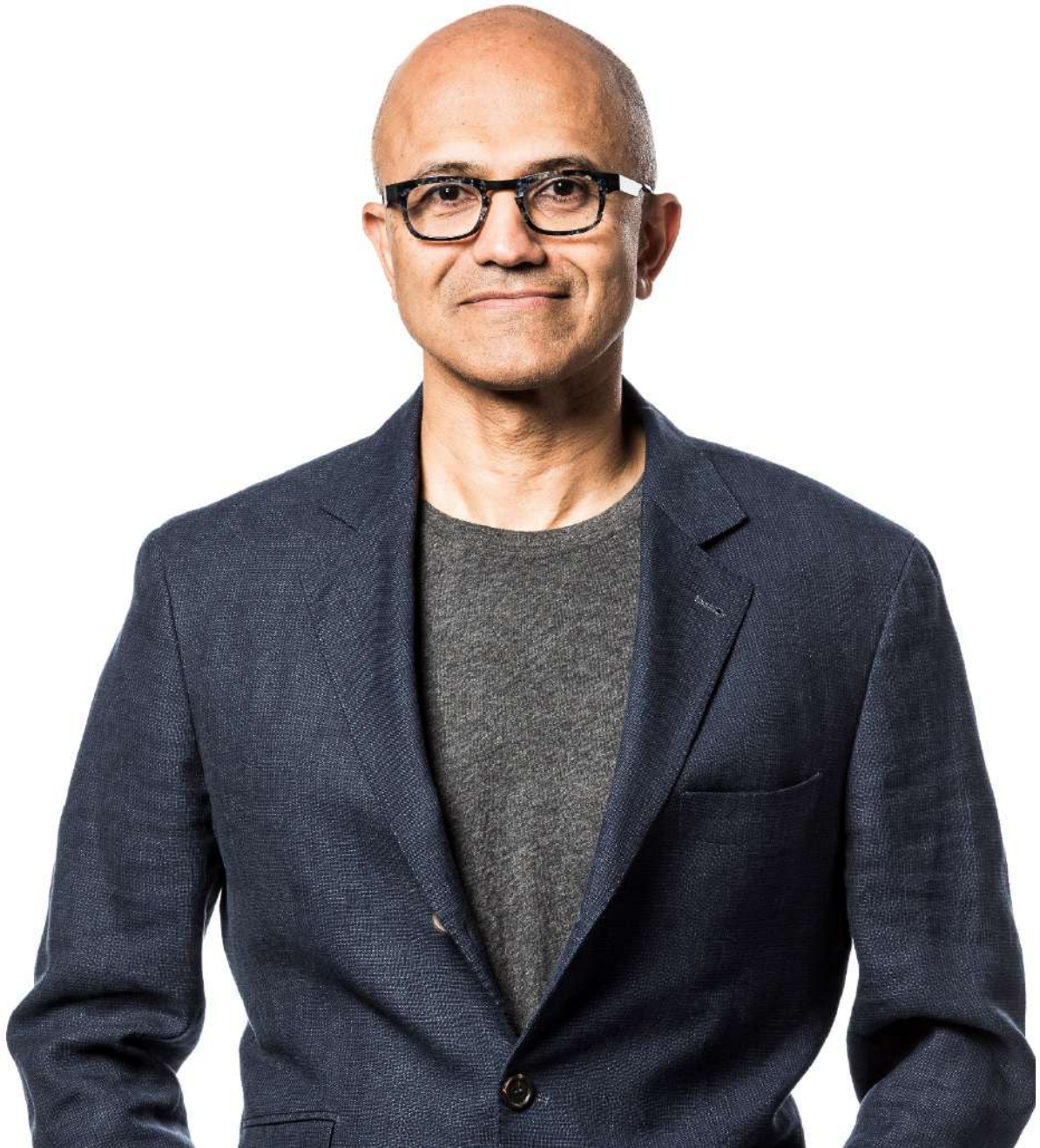
More NO_2 emissions

Flying from New York to Paris emits as much as heating an EU household for a year

Eliminating 1 commute per week for a year nets as much carbon as planting ~10 trees

Source: Sentinel-5P satellite data processed by Descartes Labs



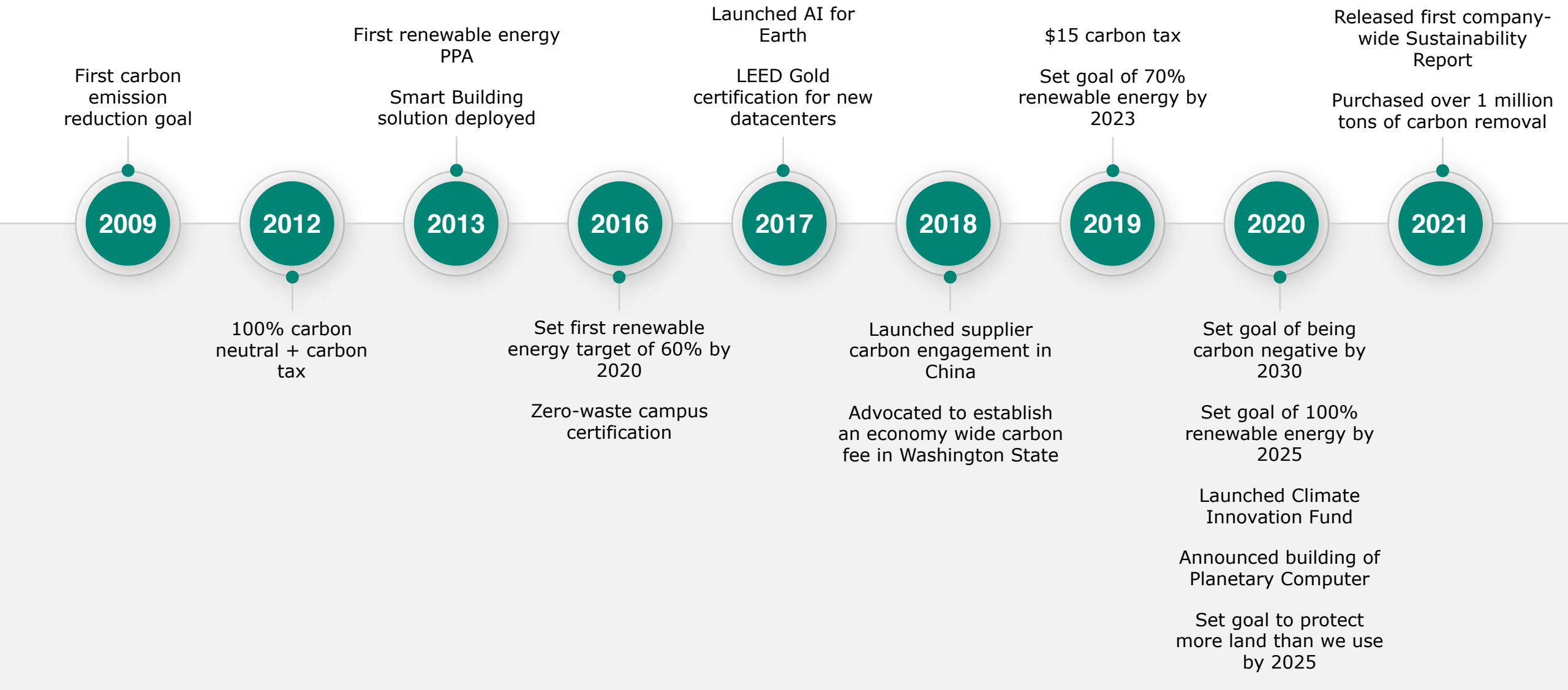


“At a time when many are calling attention to the role technology plays in society, our mission remains constant.

It grounds us in the enormous opportunity and responsibility we have to ensure that the technology we create always benefits everyone on the planet, including the planet itself.”

- Satya Nadella

Our Sustainability journey



Our carbon fee

$15 a ton
carbon tax levied
across business units

> 10 million
MWh of renewable energy

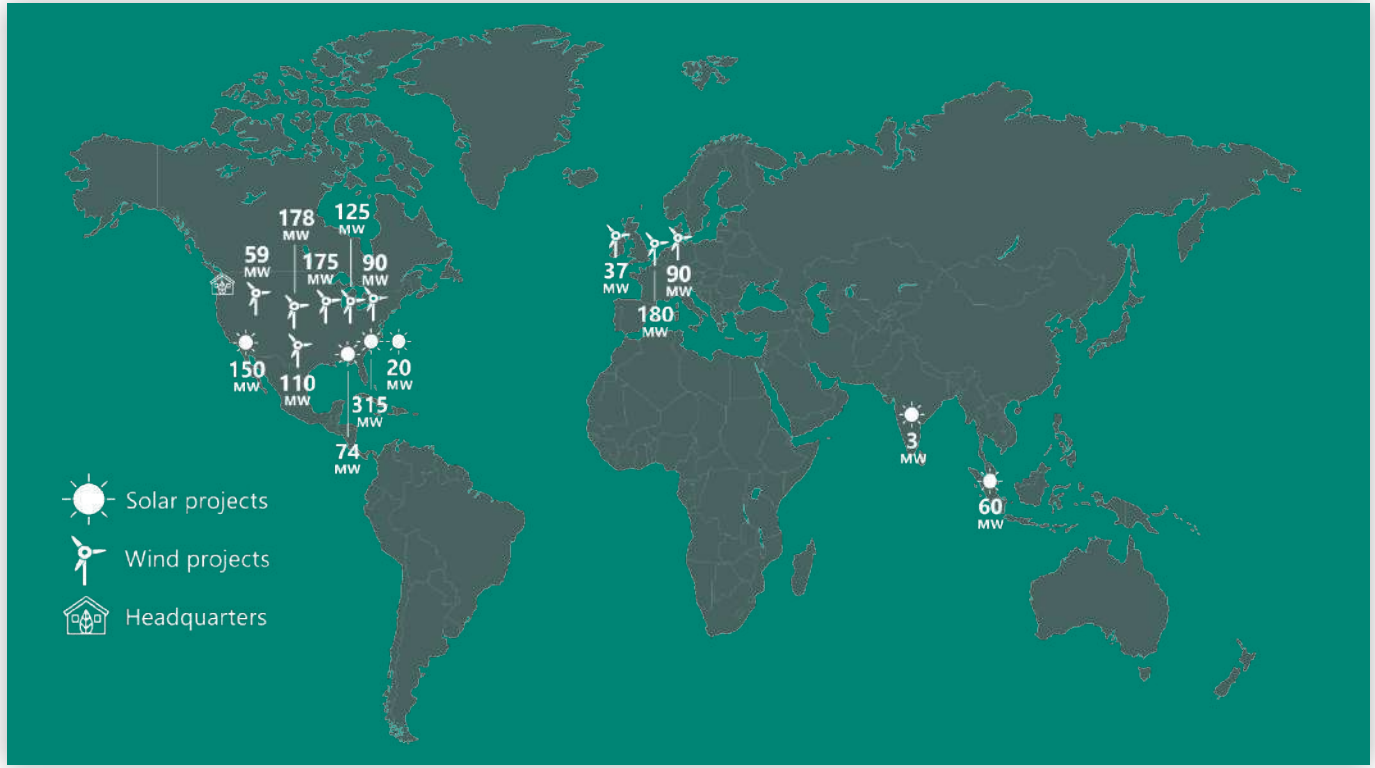
1.3 million
metric tons carbon removal

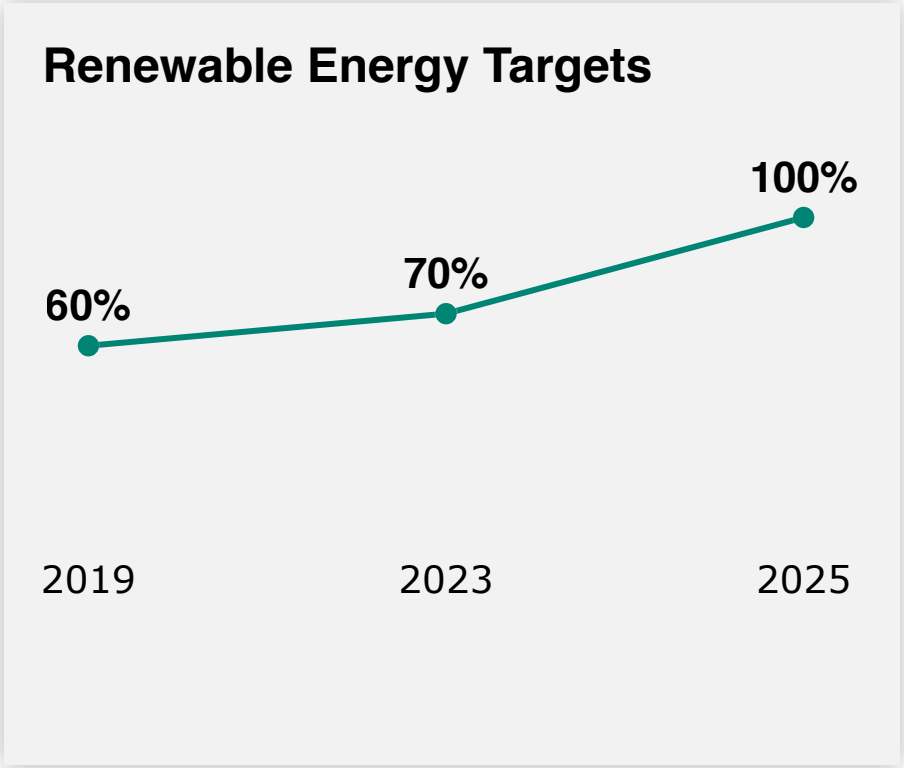
Carbon negative

Accelerate renewable energy

Technology investment

Purchasing renewables





2.4 GW

17 Contracts

3 Continents

Our commitments

Carbon negative
by 2030

Water positive
by 2030

Zero waste
by 2030

Build the
Planetary Computer

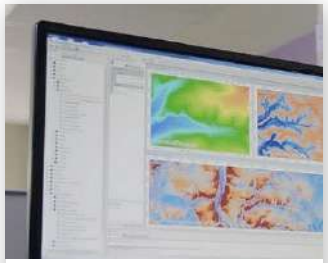
Carbon negative by 2030; erase footprint by 2050

Ground our work in the best available science and the most accurate math

Take responsibility by achieving carbon negative by 2030

Fund $1B for carbon reduction and removal

Support and empower suppliers and all customers with new tools, products and partnerships



Work to advance transparency for reporting on emissions and removals

Use our voice on carbon-related public policy issues

Enlisting our employees to enable them to contribute to our efforts

We're taking action ourselves

We're empowering our customers

We're investing in broader innovation

We're supporting government action

Microsoft

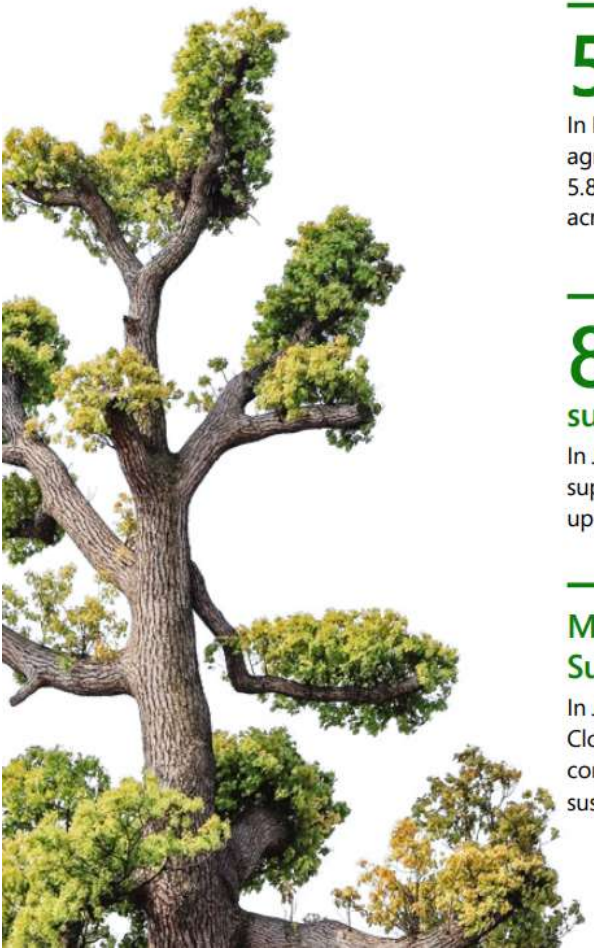
2021 Environmental Sustainability Report

From pledges to progress

2021 progress

$571M

Allocated $471 million to date via our Climate Innovation Fund to accelerate our carbon goals, as well as water and waste. We also donated $100 million to Breakthrough Energy's Catalyst initiative.



Carbon

2.5M tons

In FY21 and FY22, Microsoft successfully contracted to remove 2.5 million $mtCO_2$, meeting our cumulative two-year goal.

5.8 GW

In FY21, we signed new power purchase agreements (PPAs) for approximately 5.8 gigawatts (GW) of renewable energy across 10 countries around the globe.

87% supplier reporting

In July 2021, 87 percent of our in-scope suppliers reported their emissions to CDP, up 12 percent from 2020.

Microsoft Cloud for Sustainability

In July 2021, we launched the Microsoft Cloud for Sustainability to provide comprehensive, integrated, and automated sustainability management.

Water

1.3M m^3

In FY21, Microsoft invested in replenishment projects that are expected to generate over 1.3 million cubic meters of volumetric benefits.

670M

Our programs with Water.org account for over 670 million liters[9] of water benefit per year.

>95K people

Through our partnership with Water.org, we provided more than 95,000[10] people with access to safe water or sanitation.

U.S. Water Prize

In 2021, Microsoft was awarded the U.S. Water Prize for Outstanding Private Sector Organization for adopting our water positive program and committing to being water positive by 2030.

Waste

Circular Centers

We have planned five Circular Centers, with Amsterdam open, construction underway in Boydton, Virginia, and three more to be added in 2022.

>15,200 tons

In FY21, we diverted more than 15,200 metric tons of solid waste otherwise headed to landfills and incinerators.

Zero Waste

Four datacenters are Zero Waste certified, with new certifications for the San Antonio, Texas and Quincy.

18% reduction

We reduced single-use plastics in our Microsoft product packaging by 18 percent.

Ecosystems

>17,000 acres

In FY21, we contracted to protect more than 17,000 acres of land.

>500 users

The Planetary Computer private preview released as planned in April 2021, with more than 500 users signed up and using the APIs and scalable compute.

24 petabytes

We have made available 24 petabytes of data with more than 30 key environmental and Earth observation datasets to Azure in consistent, analysis-ready format that is freely available for use by anyone.

850+ grants

Since its inception in 2017, our AI for Earth program has provided more than 850 grants to organizations working in 110 countries around the world, granting more than $20 million in Azure credits.

Thank you

Virtual our of our data centers
https://chph.link/tour