Introduction

FY24 Highlights

About NVIDIA

29,600
Employees globally

36
Countries NVIDIA operates in globally

#2
On Glassdoor's list of best employers

Climate and Efficiency

76%
Renewable electricity in FY24

20X
Energy efficiency of NVIDIA Blackwell GPUs over CPUs for certain AI and HPC workloads

#1
Supercomputer on the June 2024 Green500 is powered by NVIDIA

People, Diversity and Inclusion

50%
Board of Directors is racially or gender diverse

1,000
Employees participated in our mentorship program

2.7%
Overall turnover rate, compared to the semiconductor industry average of 17.7%

Product Value Chain

60%
Scope 3 category 1 GHG emissions covered in supplier engagement efforts

93%
Suppliers audited in the past two years

90%+
NVIDIA GPU systems packaging was recyclable materials by weight

Climate and Efficiency

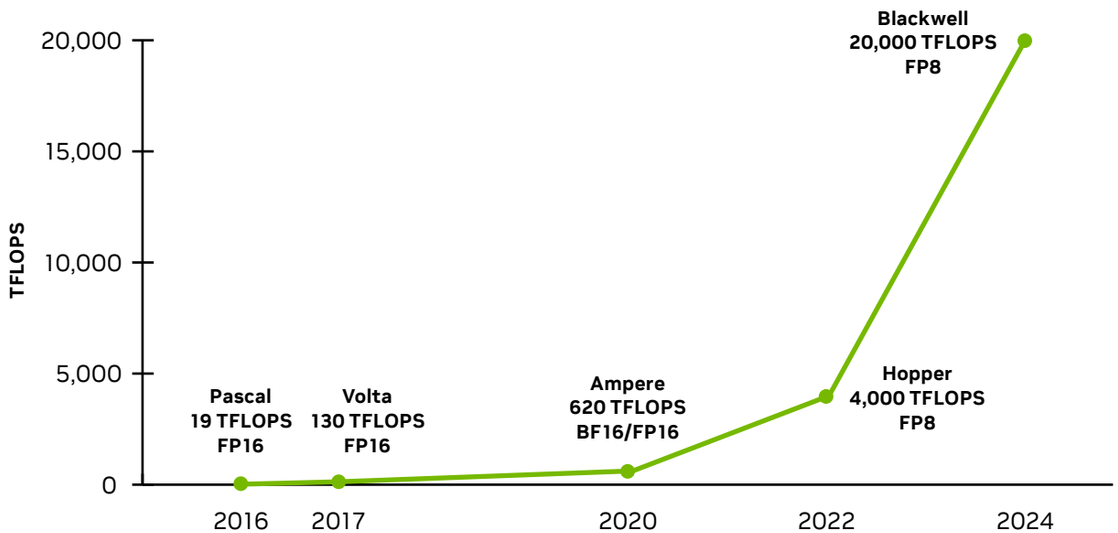
Product Energy Efficiency

Improving performance and energy efficiency is a principal goal in each step of our research, development, and design processes. We develop hardware, software, and networking technology to improve performance and energy efficiency, helping our customers solve problems and decrease emissions intensity.

AI models are exploding in complexity and size as they enhance generative AI and enable scientific discoveries, and modern data centers require accelerated computing platforms to effectively execute these workloads. Accelerated computing is the use of specialized hardware to dramatically speed up computation, by parallel processing that bundles frequently occurring tasks. It offloads demanding work that can bog down traditional processors that typically execute tasks in serial fashion, and offers lower overall costs, higher performance, and greater energy efficiency.

Acceleration completes larger workloads more quickly, returning the computer to a low-power idle state when done and consuming significantly less energy overall when compared to traditional computing.

1000X AI Compute in 8 Years



Over the course of the last 8 years, we've increased computation by 1000X.

NVIDIA Blackwell GPUs are generally 20X more energy efficient than traditional CPUs for certain AI and high-performance computing (HPC) workloads, and NVIDIA DPUs can reduce power consumption by 25% by offloading essential data center networking and infrastructure functions from less efficient CPUs. If these HPC and AI workloads were switched from CPU infrastructure to GPU and DPU-accelerated operations, we estimate the world could save almost 30 trillion watt-hours of energy a year, equivalent to the electricity requirements of nearly 4 million U.S. homes.

Energy efficiency is critical as AI models and HPC applications increase exponentially in size. AI workloads such as large language models (LLMs) range in size from small-scale like GPT-J (6 billion parameters) to larger-scale like GPT-3 (175 billion parameters), and

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Of the top 10 systems on the June 2024 Green500 list are powered by NVIDIA, including the No. 1 spot with the GH200 Grace Hopper Superchip based JEDI system

20x

Energy efficiency of NVIDIA Blackwell GPUs over CPUs for certain AI and HPC workloads

30T

Watt-hours of energy a year saved if HPC and AI workloads were switched from CPU-only servers to GPU-accelerated systems

massive LLMs now extend further into multi-trillion parameter scale. The NVIDIA GB200 Grace Blackwell Superchip is estimated to offer 25X better energy efficiency over the prior Hopper generation for massive LLMs, while CPUs have not demonstrated an ability to effectively run larger or massive LLMs.

In FY24, the U.S. Department of Energy clocked how fast four of its key high-performance computing and AI applications ran and how much energy they consumed on CPU-only and GPU-accelerated nodes on Perlmutter, one of the world's largest supercomputers. At performance parity, a GPU-accelerated cluster demonstrated an average 5x improvement in energy efficiency. By running the same workload on GPUs rather than CPU-only instances, researchers could save millions of dollars and avoid consumption of 588 megawatt hours of electricity per month.

Greenhouse Gas Emissions

We assess our carbon footprint across our product lifecycle and assess climate risks, including current and emerging regulations and market impacts.

Climate Targets

We commit to the following greenhouse gas emissions, or GHG emissions, reduction goals:

Scope 1 and 2:

By the end of FY25, and annually thereafter, we expect to achieve and maintain 100% renewable electricity for offices and data centers under our operational control. By delivering on this commitment, we aim to reduce our Scope 1 and 2 emissions in line with prevalent climate science standards.

Scope 3:

By the end of FY26, we expect to engage manufacturing suppliers comprising at least 67% of NVIDIA's scope 3 category 1 GHG emissions, with the goal of effecting supplier adoption of science-based targets.

In FY24, NVIDIA achieved:

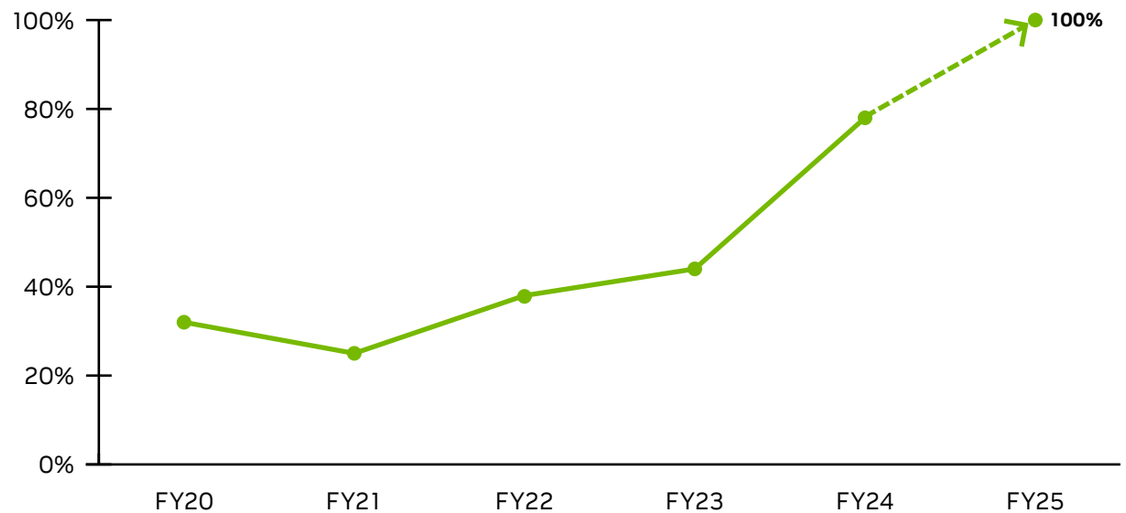
76%

Renewable electricity

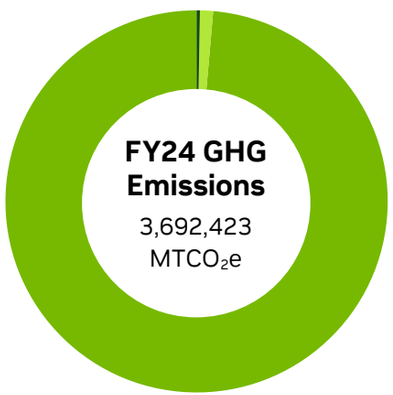
60%+

Scope 3 category 1 emissions covered in supplier engagement

Progress on our Renewable Electricity Target



To manage the GHG emissions footprint of our data centers, labs, and offices, we strategically focus on locating new sites, selecting facilities to expand, managing our operations efficiently, and sourcing renewable energy. Our current goal to source all global electricity use for offices and data centers under operational control from renewable energy is expected to result in zero scope 2 market-based emissions by the end of our fiscal year ending January 26, 2025.



● Scope 1 ● Scope 2 (market-based) ● Scope 3

For a complete breakdown of our inventory, please see our Sustainability Indicators.

Management considers the GHG Protocol to assess, calculate, and report GHG emissions. We engaged an external third-party to perform a limited assurance engagement over select metrics presented for FY23 and FY24. Find NVIDIA's management assertion and the Report of Independent Accountants here.

Energy and Environment

We're committed to reducing our environmental impact by driving operational excellence. We identify and control environmental impacts and continuously improve our performance using a comprehensive environmental management system (EMS) certified to ISO 14001, which covers our headquarter buildings located in Santa Clara, CA and in Yokneam, Israel. Our Environmental, Health, Safety, and Energy Policy provides the framework for our EMS, and our dedicated Environmental, Health, and Safety and corporate responsibility teams work closely with employees globally to execute our environmental policies and practices, with actionable goals and metrics that are annually reviewed with executives.

To bring a more structured approach to managing energy efficiency at several of our key data center locations, we have an energy management system certified to the ISO 50001 standard, which covered 55% of our data center energy use in FY24. Our certification to the ISO 50001 standard recognizes our efforts to properly measure and reduce energy consumption in our data centers.

Energy-Efficient Operations

Two of our headquarters buildings in Santa Clara, CA are LEED Gold certified. Our Hyderabad, India campus is also LEED Gold certified. Our LEED Gold certified buildings were designed to be energy and water efficient, built with sustainable raw materials, and improved indoor environmental quality. For our Santa Clara campus, the two buildings are connected by a three-acre park which is provided with shade by trellis that houses 390 kW of solar panels. These solar panels bring the total onsite solar generation capacity at our headquarters to 846 kW. In FY24, in support of our renewable electricity goal, we added solar panels at our Hyderabad campus.

In FY24, we increased the amount of our renewable electricity use to 76%, through on-site renewables and purchasing utility renewable electricity tariffs, energy attribute certificates and purchase power agreements. We are exploring additional options to increase our sourcing of renewable energy for our growing footprint, in support of our 100% renewable electricity goal.

Waste Management

We aim to reduce the amount of waste we send to landfill through waste reduction, reuse, and recycling initiatives. We've engaged a vendor to complete a gap analysis of our Santa Clara campus to better understand opportunities to increase our landfill diversion rate and minimize the amount of waste generated. We plan to incorporate zero-waste principles in our operations, such as reduction of overall waste and waste sent to landfills.

For products we use for testing, R&D, and production purposes, we have programs in place to support internal re-use of equipment that has not reached the end of its useful life or financial depreciation life. We properly dispose of IT assets and used laptops are sold to a vendor for refurbishment and reuse, with a portion of the financial proceeds donated to the NVIDIA Foundation. For used equipment, we use a global specialist e-waste recycling vendor. All our vendors follow strict certification guidelines and procedures to ensure proper tracking of the chain of custody, decommissioning, data erasure, and recycling of any hardware which is broken and unusable.

Product Environmental Impact

To understand the greenhouse gas emissions generated across our product lifecycle and in manufacturing, we've conducted a product carbon footprint analysis for select products. We will use the information to identify opportunities to reduce emissions.

Manufacturing

Emissions are generated at every stage of our product lifecycle, including manufacturing within our supply chain. Since 2014, we've expected our key silicon manufacturing and systems contract manufacturing suppliers to report their annual energy and water usage, waste, greenhouse gas (GHG) emissions, and reduction goals and objectives through the RBA Environmental Survey or CDP. We also expect suppliers to have their GHG emissions verified by a third party. We use this supplier data to better understand our product manufacturing impact and allocate carbon emissions to our customers.

We have a goal to engage manufacturing suppliers to effect supplier adoption of science-based targets. In FY24, we engaged suppliers totaling over 60% of our scope 3 category 1 emissions.

We maintain Full Material Disclosures for our chip designs and select system products, which demonstrates our compliance with restricted substances including halogenated flame retardants, arsenic, and beryllium. Information on materials we use is reported through various platforms, including Substances of Concern in Products and International Material Data System for automotive.

Packaging

We continue to optimize the balance between protecting the environment and ensuring that customers receive products in like-new condition. We embrace opportunities to reduce packaging materials and increase the proportion of recycled and recyclable materials. Whether products are packaged for end users or prepared for bulk shipping, we strive to find the balance between package density and unboxing experience.

In FY24, over 90% of our NVIDIA GPU systems packaging was recyclable materials by weight. NVIDIA continues to progress other sustainability initiatives such as identifying opportunities to use paper-based cushioning in data center products, increase packaging recyclability, implement FSC paper in corrugate materials, and replace printed documentation with online versions where possible. We continue to add material identification codes to our packaging parts.

90%+

Of our NVIDIA GPU systems packaging was recyclable materials by weight in FY24

Transport and Logistics

We plan, pack, and execute our raw material, work-in-progress, and finished goods shipments to optimize transport and logistics, which results in reduced fuel use and less impact on the environment.

This includes consolidating shipping volumes and weights and implementing a multimodal distribution system. An area of continued focus is to consolidate the number of pickups and shipments.

We expect carriers to report shipment data to support carbon emissions calculations and have sustainability initiatives, which are both covered in quarterly business reviews.

Our products are programmable and general purpose in nature. When we provide tools to help developers create applications for specific industries, we focus on creating products and services that enable developers to create and accelerate socially beneficial applications.

When we create new products, platforms, or services, we have an interdisciplinary team to evaluate whether our offerings could be used in conflict with our Human Rights Policy and provide recommendations to minimize any such risk.

Public Policy

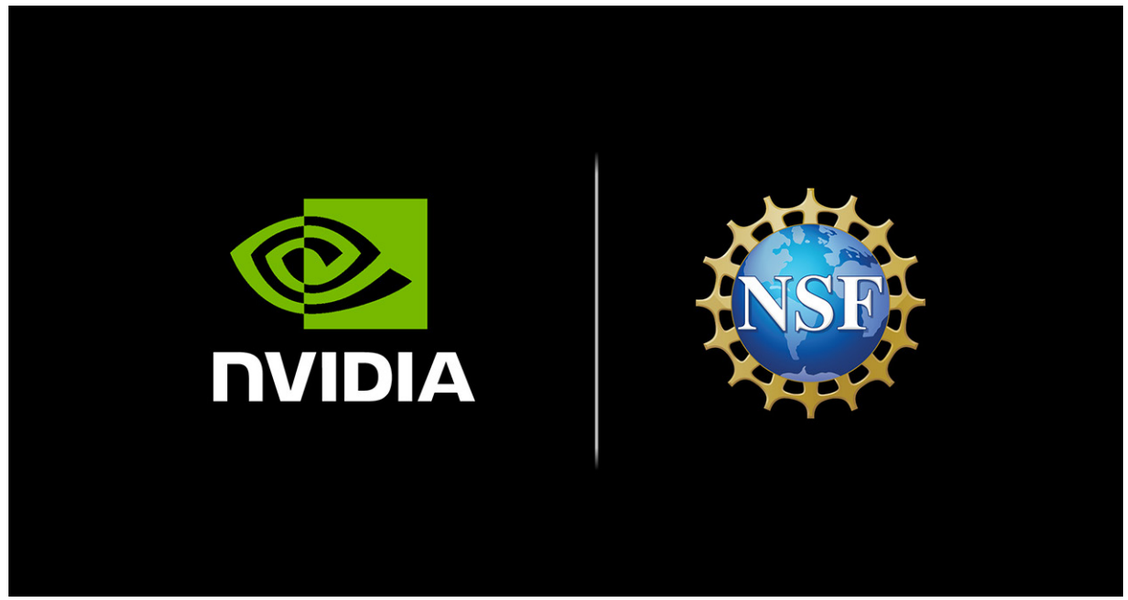
NVIDIA engages in the public policy process to produce better outcomes for people throughout the world while advancing the long-term interests of the company and shareholders. We work with public leaders by bringing the company's technical expertise to bear on issues of importance, such as competitiveness, climate change, and AI.

We continued engagements in the U.S. on issues that impact NVIDIA's public policy priorities, such as AI development and semiconductor design. In FY24, we joined several dialogues in the public sector. We discussed Model Card++ with the U.S. House Science, Space, and Technology and Senate Commerce Committees, AI Caucus Congressional staffers, and the White House National Security Council. We talk to think tanks on energy-efficient supercomputing. We also hosted a government briefing on NeMo Guardrails, ensuring comprehensive engagement on our commitment to responsible AI development.

Our CEO Jensen Huang joined leaders from the White House, Congress, and tech industry to discuss AI standards and best practices. We also announced support for voluntary commitments that the Biden Administration developed to ensure advanced AI systems are safe, secure, and trustworthy.

In Europe, we engaged with stakeholders in the European Commission, European Parliament and Council of the European Union on the development of policy issues and key regulatory filings. Accordingly, NVIDIA is listed in the EU Transparency Register. In the UK, we participated in the AI Safety Summit at which the Bletchley Declaration was signed by 28 countries committed to safe and responsible AI development.

> "AI is increasingly defining our era, and its potential can best be fulfilled with broad access to its transformative capabilities."
> - NVIDIA founder and CEO Jensen Huang



In a major stride toward building a shared national research infrastructure, the U.S. National Science Foundation has launched the National Artificial Intelligence Research Resource pilot program with significant support from NVIDIA. The initiative aims to broaden access to the tools needed to power responsible AI discovery and innovation. It was announced in January 2024 in partnership with 10 other federal agencies as well as private-sector, nonprofit and philanthropic organizations.

Climate and Efficiency

Metric	FY24	FY23	FY22	Reference Indicator
GHG Emissions[1] (MT CO_2e)				
Scope 1	14,390	12,346	4,612	GRI 305-1 UNGC E6 SASB TC-SC-110a.1
Scope 2, market-based	40,555	60,671	78,210	GRI 305-2 UNGC E6
Scope 1 and 2, market-based	54,945	73,017	82,822	
Scope 2, location-based	178,087	142,909	133,569	GRI 305-2 UNGC E6
Scope 3	3,637,478	3,514,000	2,701,477	GRI 305-3 UNGC E6, E6.1
Category 1: Purchased goods and services[2]	3,216,144	2,975,189	2,506,722	
Category 2: Capital goods[2]	200,483	353,280	62,586	
Category 3: Fuel-and energy-related activities	61,590	67,805	50,631	
Category 4: Upstream transportation and distribution	72,562	60,572	37,910	
Category 5: Waste generated in operations[3]	617	579	291	
Category 6: Business travel[2]	17,132	8,633	576	
Category 7: Employee commuting	23,019	14,990	21,189	
Category 8: Upstream leased assets	45,931	32,952	21,572	
External assurance	Report of Independent Accountants for select metrics for FY23 and FY24.			GRI 2-5 UNGC G13
GHG emissions intensity (Scope 1 and 2 MT CO_2e/$M revenue)	0.9	2.7	3.1	GRI 305-4

1 NVIDIA annually considers reporting boundaries, data sources, and calculation methodology used to calculate scope 1, 2 and 3 emissions. Please see our management assertion for details on our methodology.

2 We are continually striving to improve the accuracy of our GHG emissions reporting. In FY24, we changed our measurement methods and criteria for select metrics and have retrospectively updated our previously reported values for FY23 scope 3 emissions for categories 1, 2 and 6.

3 Emissions from waste generated in operations are calculated only for our Santa Clara, CA headquarters location.

Climate and Efficiency

Metric	FY24	FY23	FY22	Reference Indicator
Reduction of GHG emissions	Climate and Efficiency 2023 CDP Climate Change Response, pp. 29-46, 71			GRI 305-5 SASB TC-SC-110a.2
Energy (MWh)				
Energy used	612,008	496,901	424,997	GRI 302-1 UNGC E9
Non-renewable electricity purchased	134,287	249,429	251,760	
Renewable electricity purchased	419,980	193,465	154,160	
Renewable electricity generated, onsite solar	599	1,079	762	
Fuels purchased	57,142	52,927	18,315	
Renewable electricity percentage (%)	76%	44%	38%	
Energy intensity (Energy used MWh/$M revenue)	10.1	18.4	15.8	GRI 302-3 UNGC E9
External assurance	Report of Independent Accountants for select metrics for FY24.			GRI 2-5 UNGC G13
Reduction of energy consumption	Energy-Efficient Operations 2023 CDP Climate Change Response, pp. 38-40			GRI 302-4 UNGC E9
Reductions in energy requirements of products and services	Product Energy Efficiency			GRI 302-5 UNGC E9 SASB TC-SC-410a.2
Energy management in manufacturing	We are a fabless semiconductor company and do not have our own manufacturing facilities. See Product Environmental Impact for how we work with suppliers to track energy usage.			SASB TC-SC-130a.1

Climate and Efficiency

Metric	FY24	FY23	FY22	Reference Indicator
Water[5] (m^3)				
Water withdrawal	382,636	376,656	431,991	GRI 303-3 UNGC E11 SASB TC-SC-140a.1
Water consumption	134,219	197,849	239,780	GRI 303-5 SASB TC-SC-140a.1
Water discharge	248,417	178,807	192,210	GRI 303-4
Percentage of water withdrawn in regions with High or Extremely High Baseline Water Stress	2023 CDP Water Security Response, pp. 14-17			SASB TC-SC-140a.1
Interactions with water as a shared resource	Water Conservation			GRI 303-1 UNGC E11

5 FY22 and FY23 figures are revised to align to the operational control boundaries of our Scope 1 and 2 GHG inventory. Our water data is not comparable year-over-year due to calculation methodology changes.

U.N. Sustainable Development Goals

We continue to align our business activities to the UN Sustainable Development Goals. Here are a few ways we contributed to the SDGs in FY24.

SDG	Our Support	Our Impact
	Our employees' well-being, physical, emotional, and financial health is a top priority, and we aim to support them by offering a suite of services where people can choose what works best for them. We partner with NVIDIA's community resource groups to tailor support programs based on targeted needs, including gender affirmation support, enhanced health insurance coverage for members with developmental delays, and mental health counselor search tools.	NVIDIA launched more than two dozen new microservices that allow healthcare enterprises worldwide to take advantage of the latest advances in generative AI from anywhere and on any cloud. They offer advanced imaging, natural language and speech recognition, and digital biology generation, prediction, and simulation, accelerating transformation for healthcare companies as generative AI introduces numerous opportunities for pharmaceutical companies, doctors, and hospitals.
	We continue to invest in entry-level feeder programs around the world, including the NVIDIA Ignite program that prepares first- and second- year college students for an NVIDIA internship the following summer. We implement tools to help us identify a wider pool of diverse talent in the student population, and our recruitment efforts in the U.S. attracted underrepresented applicants through virtual and on-campus events.	Embodying the convergence of AI and academia, the University of Florida inaugurated the Malachowsky Hall for Data Science & Information Technology, marking a milestone in the partnership between UF alum and NVIDIA co-founder Chris Malachowsky, NVIDIA and the state of Florida—a collaboration that has propelled UF to the forefront of AI innovation.
	NVIDIA continues to achieve pay parity, defined as no statistically significant differences in compensation based on gender, race, or ethnicity, for the past several years, and we plan to continue doing so. We offer comprehensive benefits programs worldwide, including full-cost reimbursement for eligible adoption, surrogacy, and fertility treatment expenses.	In FY24, five NVIDIANs were among 43 women honored by the Silicon Valley YWCA for excelling in their fields, making significant contributions in their executive and professional roles, and giving back to the community.
	We believe AI should respect privacy and data protection regulations, operate in a secure and safe way, function in a transparent and accountable manner, and avoid unwanted biases and discrimination. Trustworthy AI principles are foundational to our end-to-end development and essential for the technical excellence that enables partners, customers, and developers to do their best work.	The U.S. National Science Foundation has launched the National Artificial Intelligence Research Resource pilot program with significant support from NVIDIA. The initiative aims to broaden access to the tools needed to power responsible AI discovery and innovation, in partnership with 10 other federal agencies as well as private-sector, nonprofit, and philanthropic organizations.
	To manage the GHG emissions footprint of our data centers, labs, and offices, we strategically focus on locating new sites, selecting facilities to expand, managing our operations efficiently, and sourcing renewable energy. Our current goal to source all global electricity use for offices and data centers under operational control from renewable energy is expected to result in zero scope 2 market-based emissions by the end of our fiscal year ending January 26, 2025.	The National Grid Electricity System Operator (ESO) is testing AI models that provide granular, near-term forecasts of sunny and cloudy conditions over the UK's solar panels. With better forecasts, ESO could cut down on the extra fossil fuel energy held as reserve—improving efficiency while decreasing carbon footprint.