

2021 Sustainability Highlights Report

For a Better Reality.



Photo courtesy of Ørsted

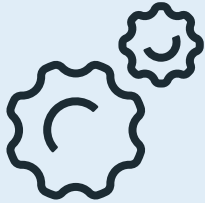


OUR SUSTAINABILITY APPROACH



At Meta, we are in the business of building better realities—and not just virtual ones. We envision a just and equitable transition to a zero-carbon economy, and we are working with others to scale inclusive solutions that help create a healthier planet for all, ensuring that no one is left behind.


For a Better Reality



How We Operate

We are committed to protecting what is truly important: The well-being of people and our planet.


- Take bold climate action by minimizing our footprint, championing renewable energy, restoring water resources, engaging our suppliers and supporting climate justice
- Respect human, labor and civil rights in our operations and supply chain
- Cultivate diversity and inclusion in our operations
- Boost energy and water efficiency in our data centers



What We Create

We push the boundaries of what is possible, creating solutions where none existed and building products that enable change.

- Provide access to new ideas, accurate information and ways to take action via content on our platforms
- Amplify content from scientists and climate action leaders
- Design new products with diverse needs and values in mind
- Elevate small businesses and spur economic growth
- Integrate circular practices in our facilities and hardware

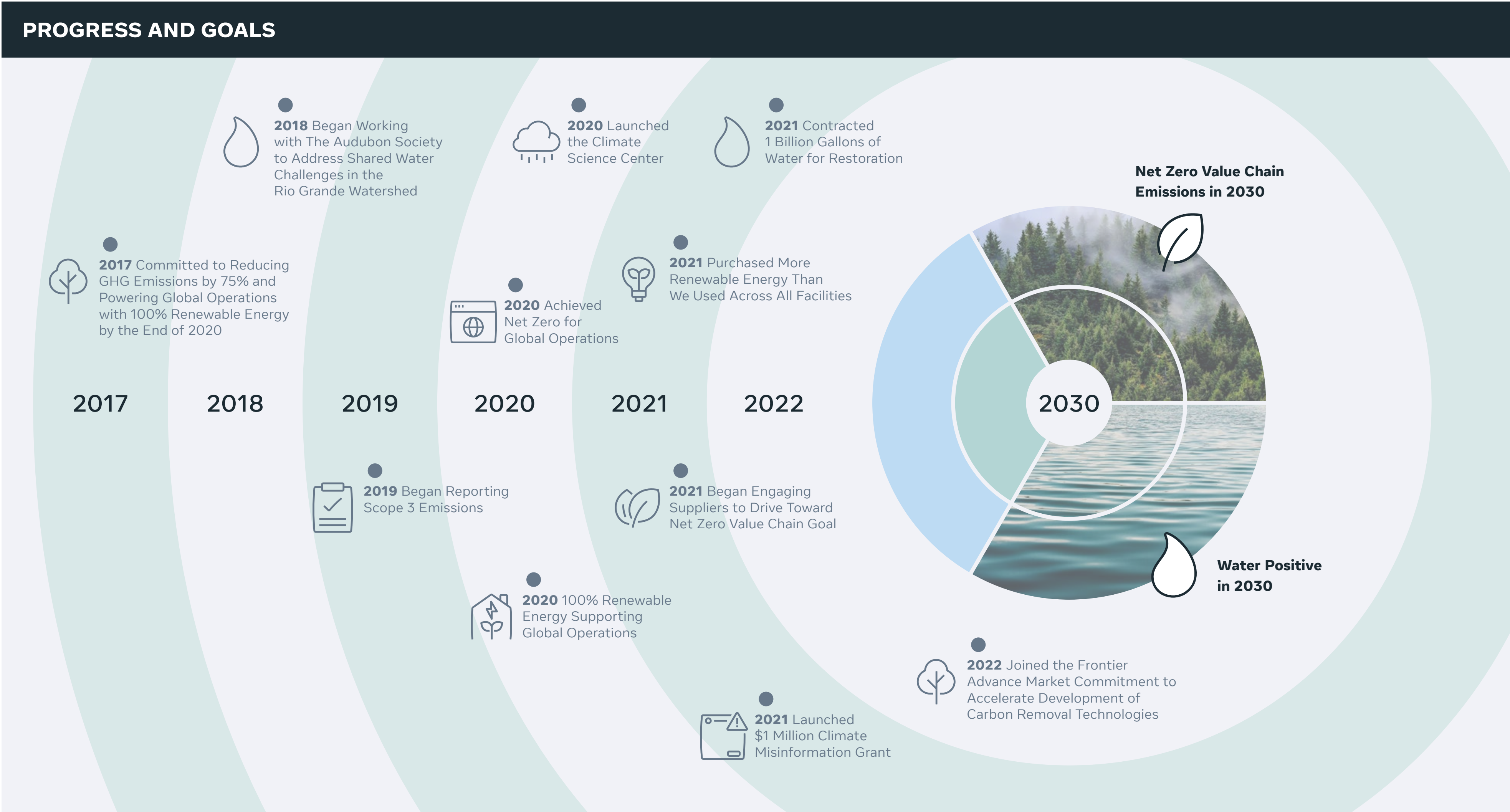


How We Collaborate

We tackle the important issues by creating partnerships and joining established initiatives.

- Engage experts to guide our sustainability and social impact initiatives
- Connect researchers with insights
- Join forces with NGOs and community organizations to create and implement locally beneficial environmental initiatives
- Work with local power utilities to enable our facilities and local businesses to procure renewable energy
- Share our environmental learnings and practices throughout the tech industry and beyond

OUR SUSTAINABILITY APPROACH



To help create a better reality, we begin with our own practices, processes and culture. Because climate-related issues are inherently uncertain, assessing risks and evaluating actions is an ongoing process.

For the last decade, we have invested in ways to minimize our footprint, champion renewable energy, restore water supplies and support climate justice. As of 2020, our global operations have reached net zero emissions and are supported by 100% renewable energy.¹

¹ By reducing emissions by 94% from a 2017 baseline and supporting carbon removal projects

RESPONSIBLE SUPPLY CHAIN

Meta is part of a complex value chain that touches lives and communities around the globe. Our Responsible Supply Chain (RSC) program strives to empower workers and protect the environment.



Net Zero Supplier Engagement

"For a Better Reality" is about building a better future. Business as usual must fundamentally change to move away from what is obviously an unsustainable path. This shift is an enormous undertaking affecting all levels of the supply chain, an undertaking even a company the size of Meta cannot tackle alone. What we can control right now is how we operate and how we collaborate to collectively solve this giant challenge.

We have developed a supplier engagement program to help us reach net zero emissions across our value chain in 2030. We focus on working together with vendors to determine their Scope 1, 2 and 3 emissions, training them to set reduction targets and to take the actions to achieve those targets.

We engaged with 40 suppliers in 2021 to identify greenhouse gas (GHG) reduction opportunities within their operations. An energy-efficiency assessment for one such supplier in 2021 identified nearly 9,000 megawatt hours (MWh) of potential annual energy savings within the supplier's mechanical and electrical facility-level equipment.

Happiness Series

Our value chain spans the globe, relying on technology, innovation and, most importantly, people from all cultures and walks of life.

Our Happiness Series strives to increase worker morale and sense of belonging across our supply chain. After spending time at a supplier factory in

China in 2021, we were inspired by the employees' vast interest in education for personal growth and investment in their families.

We installed a "smart" library that allows more than 11,000 workers to access nearly 2,000 books—for example, books that empower women to take control of their own destiny and books that workers could share with their children.



Photos courtesy of Meta Supplier

"The Happiness Series extends beyond code compliance," explained Leslie Collins, Head of Responsible Supply Chain Sustainability for Meta. "It's about wanting to do good and working to elevate joy in the lives of workers."

WORKPLACES

With nearly 72,000 employees across 80 cities, providing workplaces that are healthy, safe and sustainable exemplifies our commitment to building a better reality—and directly engages our employees in our vision.

Healthy and Sustainable Workplaces

Many of our offices are certified by [Leadership in Energy and Environmental Design \(LEED\)](#) — a globally recognized third-party verification standard for

sustainable buildings developed by the [U.S. Green Building Council](#). All of our new offices over 100,000 square feet pursue LEED Gold Certification or higher. To date, we have 50 offices globally that are LEED certified.



In 2021:

- 21 offices received LEED Gold certification (Dublin, Seattle, Denver, Chicago, Los Angeles, and multiple cities in the San Francisco Bay Area)
- Sydney, Australia office received [Green Star Certification](#) (6-Star Level)
- Fremont, California campus earned [Fitwel](#) Certification (2-Star Level)
- Hong Kong office achieved [World Green Organisation's Green Office & Eco-Healthy Workplace Award](#)
- Dublin and London offices were re-certified under [ISO 50001 Energy Management Certification](#)

Our culinary team serves our employees and visitors healthy, delicious snacks and meals. We operate more than 60 cafes and 700 microkitchens globally. In 2021, we launched our first Culinary Sustainability Program focused on embedding environmental and social responsibility into culinary procurement and operations.

As part of this program, we aim to reduce:

- Food waste
- Packaging waste
- Carbon intensity of our ingredients
- Carbon impact of cooking

Office Spotlight

Our new Dumbarton campus in Fremont, California, is LEED Gold and Fitwel Certified. Campus buildings are clustered around a central courtyard that extends to a variety of outdoor spaces.

Office neighborhoods are located along the buildings' perimeters to maximize landscape views, and ample sunlight penetrates deep into floor plates through skylights and clerestories.

The buildings will use 25% less energy and 45% less water than the LEED baseline.

DATA CENTERS

For the Earth

Data centers are at the heart of connections. They power the internet and make digital communication possible. Data centers also account for the highest percentage of Meta's energy use, water use and GHG emissions.

We can have the largest impact on overall emissions reductions by designing, building and operating some of the most sustainable data centers in the world. Data center buildings we completed in 2021 exhibit a Power Usage Effectiveness (PUE) of 1.09 and Water Usage Effectiveness (WUE) of 0.26.

For Meta, efficiency and renewable energy are key components of our approach to designing, building and operating sustainable data centers. We have 28 certified

LEED Gold data center buildings totaling nearly 17 million square feet, six of which earned the designation in 2021.



Our Odense data center earned Green Data Center of the Year honors for Special Contribution to improving Energy Efficiency at the Data Center World Awards. The site also earned the Sustainable Data Center Award at the Data Cloud Global Awards.

Each site is designed to promote biodiversity, plant native and adaptive landscape, mimic the natural hydrology of the site and reduce urban heat island effect. We choose plant species, efficient irrigation, alternative water sources when available, [Forestry Stewardship Council \(FSC\)-certified](#) new wood products and smart scheduling technologies that together save more than 80,000 kilogallons of water per year.

For Our People

With each data center building completed in 2021, we incorporated elements to improve sustainability, inclusiveness and comfort:

- Reduced indoor air contaminants to improve occupant comfort, lower absenteeism and increase productivity

- Improved interior acoustics for better privacy and concentration, and improved lighting for better visibility
- Followed LEED guidelines to increase fresh air by 30% to improve cognition
- Maximized natural light and provided views to outdoor landscaping



DATA CENTERS

Water Efficiency



Because data centers rely on water to cool servers and maintain humidity levels, our teams are always looking for ways to reduce our water use. One method we use to conserve water is through direct evaporative cooling, which relies on outside air.

Traditional technologies, like chilled water plants and cooling towers, rely on water to reject heat. In areas facing specific environmental challenges, such as high levels of dust, extreme humidity or elevated salinity, using direct cooling could severely impact IT equipment.

In these cases, we use indirect cooling systems to minimize the risk to our buildings and the servers housed within. In partnership with Nortek Air Solutions, we have developed an indirect cooling technology called the [StatePoint Liquid Cooling \(SPLC\)](#) system. The first of its kind to be deployed to data centers, the system uses less water than a typical indirect cooling system because it uses air to cool water instead of using water to cool air.



Optimizing Humidity for Efficient Water Use

In 2021, we identified winter humidification as an opportunity to improve operating efficiency by optimizing our relative humidity (RH). We piloted the [RH adjustment](#) at our data center in Los Lunas, New Mexico, and found by lowering our current 20% minimum RH to 13% minimum RH, we were able to reduce water use by 40% over nine months.

We expect that implementing this change across existing data centers and new construction will reduce water use 10% to 65% annually.

CIRCULARITY

Embedding circularity principles into how we design, build and operate helps us elevate resource efficiency and reduce water and waste.

To lower the carbon impact of concrete—one of the largest sources of global GHG emissions—we expanded our partnership with researchers from the University of Illinois at Urbana-Champaign to use an

[artificial intelligence model to generate low-carbon mix designs](#). These alternatives use byproducts from other industries, such as fly ash and slag, as a replacement for cement.

Meta's Sustainability team partnered closely with Quality and Engineering teams in 2021 to co-create an internal Design for Circularity guide that embeds principles for design for reuse and design for end of life into the product development process.

In 2021, we focused our attention on extending the lifetime use of memory within our racks. A carbon-intensive component within our infrastructure, using memory to its fullest extent is a key net zero strategy to avoid emissions in our upstream supply chain.

Beyond circularity efforts within our data centers, we also partner closely with our downstream partners to find a second life for parts outside of our data centers through secondary markets and to ensure all residual materials are responsibly managed.



GREENHOUSE GAS EMISSIONS

Prioritizing GHG Emissions Reductions

Meta is committed to reducing GHG emissions across our global operations, value chain and beyond. In 2020, we announced our goal to expand our net zero goal to include our value chain in 2030.

Our climate program is aligned with the [Science Based Targets initiative \(SBTi\)](#) and guided by the latest science on what is necessary to transition to a zero-carbon future.

In 2020, we achieved net zero GHG emissions in our direct operations (Scopes 1 and 2) by reducing our emissions by 94% compared to 2017 levels.

Cutting Workplace Emissions in Half

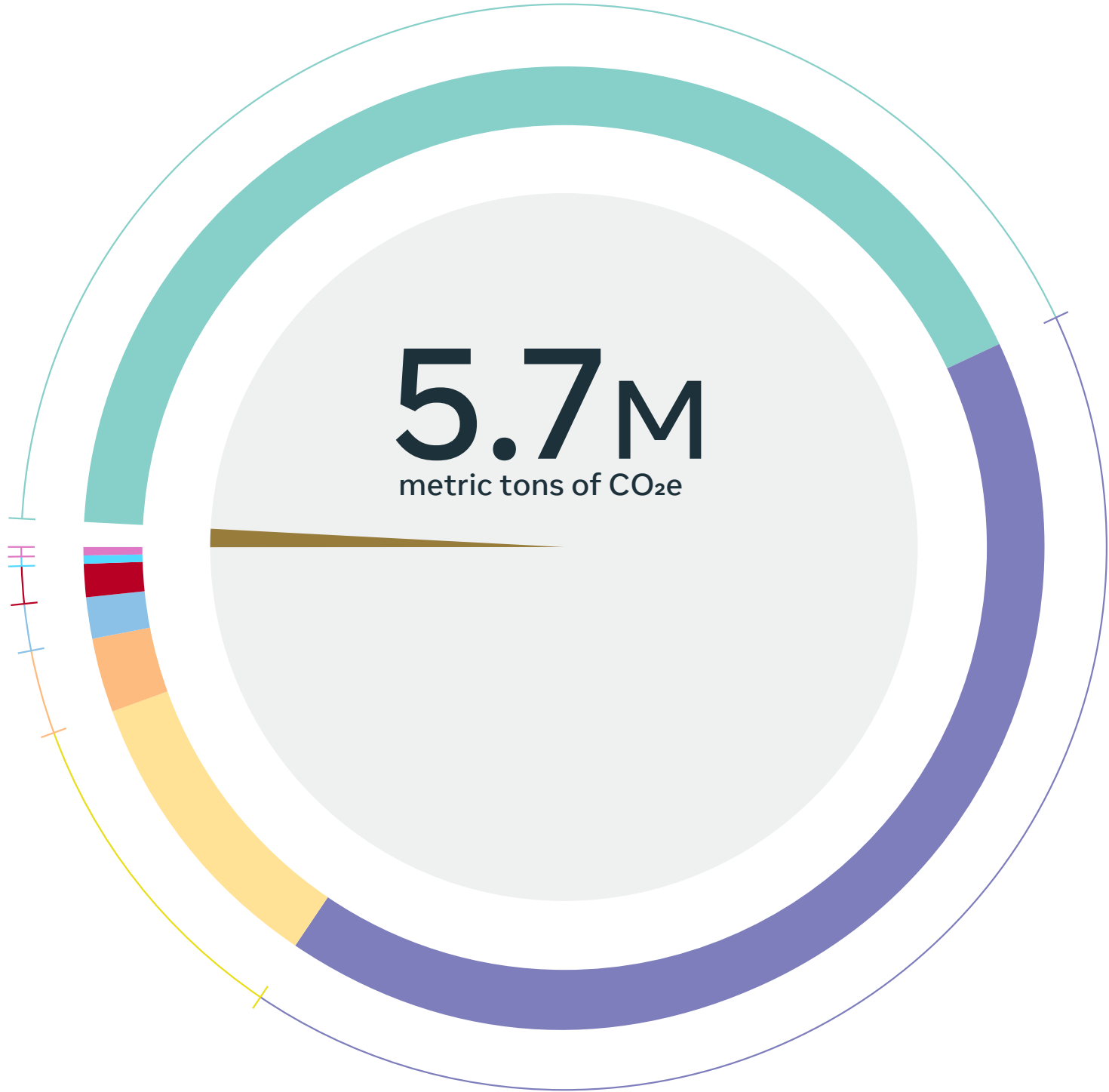
Having set a goal to reduce the carbon impact of our workplace operations by 50% in 2030 on a per headcount basis, we are focused on achieving the following reductions from the 2019 baseline:

- 40% energy use reduction
- 50% waste reduction
- 100% sustainable employee commuter shuttle fleet
- 40% reduction in drive alone commuter trips
- 40% reduction in embodied carbon of building materials
- 60% reduction in carbon intensity of culinary offerings

Supporting Carbon Removal Projects

Our commitment to net zero means that for any emissions we cannot eliminate, we will purchase carbon removal credits to sequester an equivalent amount of CO₂ from the atmosphere. In 2021, we supported carbon removal projects in Kenya and Mexico that represent over 200,000 tons of carbon sequestration via forests and soil.

In 2022, our contribution to the [Frontier advance market commitment](#) will help catalyze a market for technological carbon removal credits and unlock the opportunity to learn from global scientific leaders on emerging carbon removal technologies.



Meta's 2021 Net Carbon Footprint

	mt CO ₂ e
1% Scope 1	55,000
<1% Scope 2	2,000
99% Scope 3	5,651,000
42% Capital Goods	2,410,000
42% Purchased Goods & Services	2,371,000
10% Use of Sold Products	558,000
3% Upstream Transportation & Distribution	180,000
1% Fuel & Energy Related Activities	75,000
1% Other	29,000
<1% Employee Commuting includes work from home emissions	22,000
<1% Business Travel	5,000

These market-based emissions were **43% smaller** than our location-based emissions (9.9 M mt CO₂e). Our market-based emissions adjust for emissions reductions from purchasing decisions we have made. This includes our contracting of over 7,500 MW of renewable energy and purchase of over 700,000 gallons of sustainable aviation fuel for business travel, which has an up to 80% lower carbon footprint than traditional jet fuel.



We removed **90,000 tons of CO₂** through carbon removal projects to cover our Scope 1 and 2 emissions.

ENERGY

Enabling the Transition to Renewable Energy

Meta is one of the largest corporate buyers of renewable energy. We are driving the transition to renewable energy in our communities by selecting projects that are on the same electricity grids as our data centers.

At the end of 2021, Meta had contracts in place for more than 7,500 megawatts (MW) of solar and wind energy across our global portfolio. Of that, over 4,900 MW of new renewable energy is now operating.

Not all utilities offer electric rates (or “tariffs,” as utilities call them) that allow customers to support their facilities with renewable energy. When this is the case, we work with utility partners to create new green tariffs or pursue other new renewable energy arrangements.

These utility-sponsored programs allow corporate customers to purchase renewable energy and renewable energy credits via their retail electricity service and address their sustainability goals.

The green tariffs and renewable energy arrangements we have supported account for over 4,000 MW of new wind and solar capacity.



Photo courtesy of Apex Clean Energy

4,900 MW of renewable energy is enough to power 3.6 million U.S. homes.

Energy Storage

Adding energy storage to the grid is an important tool that enables utilities to move the electricity produced from a solar project, for instance, into times of the day when sunshine is not available. This provides greater reliability and flexibility to the utility system and enables a much lower carbon footprint, as utilities integrate even more renewable energy on their grids.

Near our Los Lunas data center in Valencia County, New Mexico, we partnered with our local utility, Public Service Company of New Mexico (PNM), to add 50 MW of battery storage alongside the addition of 240 MW of solar through our innovative green tariff.

In total, Meta has worked with utility partners, PNM and Tennessee Valley Authority, to add 130 MW of battery energy storage to the grid in New Mexico, Kentucky, and Mississippi.

WATER

Without water, ecosystems dwindle and communities suffer. So when it comes to this precious resource, using less is not enough. **In 2021, we announced our goal to become water positive in 2030.**

To achieve this goal, Meta will restore 200% of the water we consume in high water stress areas, and 100% of the water we consume in medium water stress areas.

Since 2017, we have invested in a total of 18 water restoration projects in six watersheds. Together, these projects are expected to restore more than one billion gallons of water annually.



2021 Water Data

Unit: Cubic Meters

	2017	2018	2019	2020	2021
Water Withdrawal	1,609,000	2,367,000	3,430,000	3,726,000	5,043,000
Water Consumption	838,000	1,279,000	1,971,000	2,202,000	2,569,000
Water Restoration	—	132,000	145,000	2,250,000	2,336,000

*Reported volumes represent total volume restored through water restoration projects for each year, not including contracted projects not yet implemented.

Navajo Community Water Supply

Jadito Wash Watershed, Arizona

The Navajo Nation spans 71,000 square kilometers and is the largest contiguous Native American reservation in the continental U.S. One-third of the Navajo Nation population lacks access to running water.

Navajo households pay 70 times more for the water they must haul into their homes compared to water users in typical urban areas.

In 2021, Meta partnered with [DigDeep](#) to fund water systems for 14 Navajo households. Each system includes a 1,200-gallon water tank, indoor plumbing, power connections to provide running water and recurring water delivery to refill the water tank (managed by Navajo community partners).

Meta's contribution will provide approximately 300,000 gallons of water per year to families.



BIODIVERSITY

The loss of biodiversity has critical implications for humanity, from the collapse of food chains and health systems to the disruption of entire supply chains. According to the [World Economic Forum's 2022 Global Risks Report](#), biodiversity loss is listed as the third most severe risk on a global scale over the next 10 years.

Protecting Our Pollinators

We are taking steps to mitigate our impact and to protect and promote biodiversity where we operate. Pollinators play a key role in supporting food security and providing ecosystem services like clean air and soil stability.



In 2021, we:

- Improved 30 acres of bee habitat near our Gallatin, Tennessee data center
- Planted native species to provide resources for 500,000 bees
- Partnered with the London Beekeepers Association to cultivate our terraces to support the 500 species of insects native to the U.K.
- Constructed beehives at our Seattle, Dublin, and New York offices that house over 180,000 bees

Green Roof

At our Menlo Park, California, headquarters, a 12.5-acre green roof provides a diverse landscape, ranging from grasslands to oak savannas and meadows. The roof serves as a home to over 600 trees and, to date, 5,300 birds representing 50 avian species.

In 2021, we continued to develop our 80-acre Bayfront Campus in Menlo Park, by creating an 11-acre park. We focused on diversifying tree species, particularly oaks (*Quercus*), both to avoid monoculture and transition to species adapted to our changing climate, which is getting warmer and dryer. Over the past eight years, we have planted 2,650 new trees.



Photo courtesy of Marion Brenner Photography



TACKLING CLIMATE MISINFORMATION

In conjunction with our efforts to operate for a better reality, we leverage the capabilities of our platforms to drive climate action through our core products. We create solutions that connect people not only with each other but also with resources, information, tools and opportunities.

Climate Science Center Updates

In 2021, Meta expanded the Climate Science Center (CSC) reach to more than 100 countries, attracted more than 3.8 million followers, and served more than 100,000 daily visitors.

We work with the world's leading climate science organizations, including the [Intergovernmental Panel on Climate Change \(IPCC\)](#), the [UN Environment Programme \(UNEP\)](#), [The National Oceanic and Atmospheric Administration \(NOAA\)](#), [World Meteorological](#)

[Organization \(WMO\)](#) and others, to ensure that the information we feature is timely and accurate.

Also in 2021, we partnered with experts from Monash, Yale and Cambridge to directly address climate myths. The [Facts About Climate Change](#) section includes misconceptions about the existence and causes of global warming, as well as the impact it has on humans and other life on Earth.



Fact-Checking

We are committed to fighting the spread of climate misinformation on our platforms. We partner with more than 80 independent, third-party fact-checking organizations who are certified through the nonpartisan [International Fact-Checking Network \(IFCN\)](#) to identify, review and take action on this content.

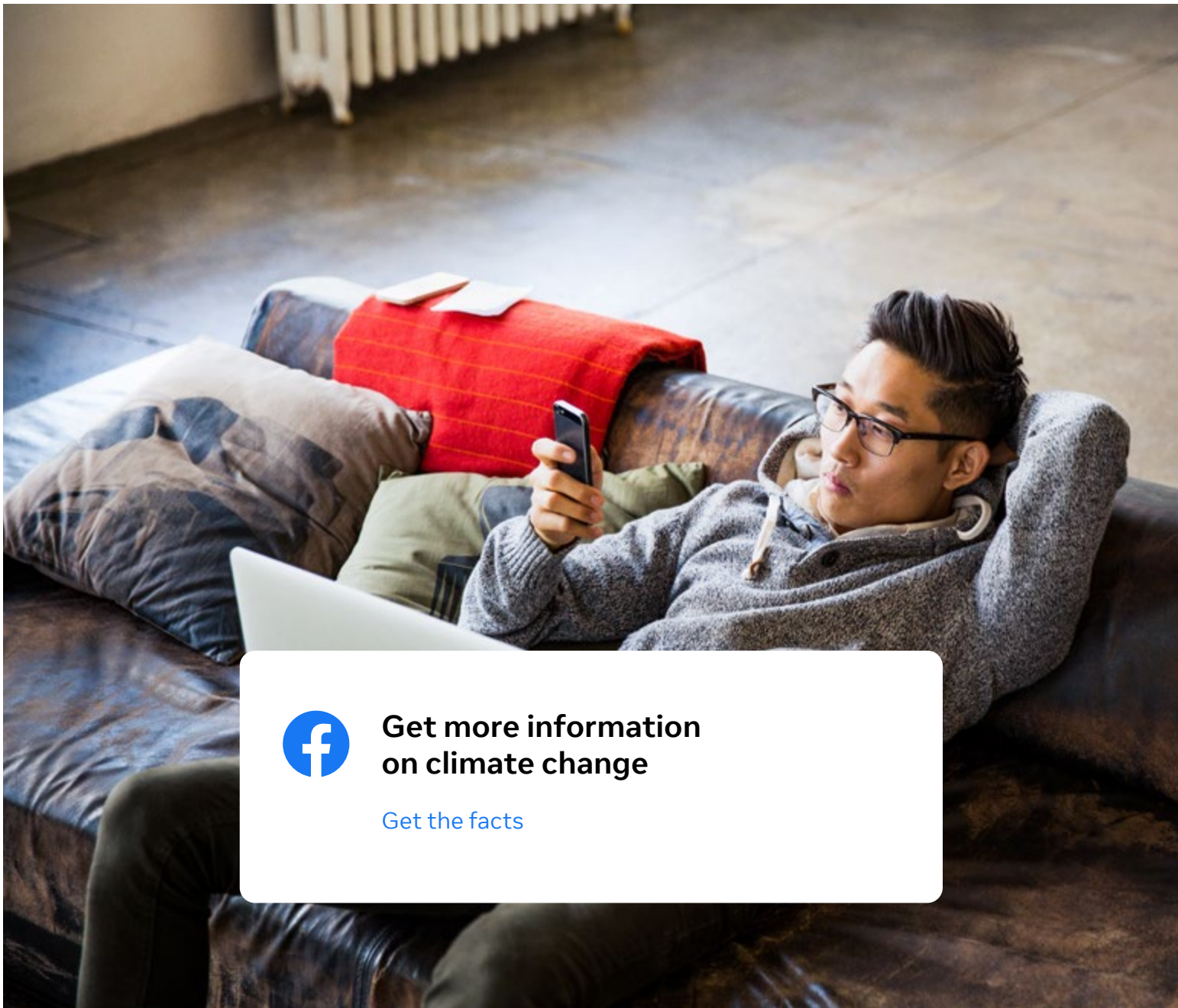
As with all types of claims rated false by our partners, we reduce

the distribution of these posts in Feed so fewer people see them, and we show warning labels with more context for people who do see them, try to share them or already have shared them. Accounts that post misinformation repeatedly, including climate misinformation, will see their overall distribution reduced and may lose the ability to advertise or monetize.

Climate Misinformation Grant

In partnership with the IFCN and an independent six-member judging panel of climate domain experts, we launched the [\\$1 million Climate Misinformation Grant](#) to fund partnerships and

proposals from fact-checkers, climate organizations and solution providers working to combat false and misleading information about climate change.



TACKLING CLIMATE MISINFORMATION

Assessing Patterns of Interest in Climate Content

There are concerns that climate change attention is waning as competing global threats intensify.

To investigate this possibility, we analyzed all link shares and reshares on Meta's Facebook platform in the United States from August 2019 to December 2020. We then identified all link shares and reshares on “climate change” and “global warming” from this repository to develop a social media salience index—the Climate SMSI score—and found an 80% decrease in climate change content sharing and ressharing as COVID-19 spread during the spring of 2020.

Climate change salience then briefly rebounded in the autumn of 2020 during a period of record-setting wildfires and droughts in the United States before returning to low content sharing and ressharing levels.

This fluctuating pattern suggests new climate communication strategies—focused on “systemic sustainability”—are necessary.

[Read more in journals.plos.org](#)



The Future of Business is Green

Over 200 million businesses use Meta's platforms to support their businesses. Our [Sustainability for Business](#) site provides resources for advertisers to find ways to decarbonize.

In 2021, we introduced our first program for small and medium-sized enterprises (SMEs) in Europe, the Middle East and Africa (EMEA). Working with the [SME Climate Hub](#) and our partners across Europe, [Meta Boost Guide to Green](#) provides training and resources to help users grow their businesses sustainably.

BUILDING THE METAVERSE



At [Connect 2021](#), our CEO Mark Zuckerberg introduced [Meta](#), which brings together our apps and technologies under one new company brand. The metaverse is an immersive, embodied successor to the mobile internet.

We are developing exciting new technologies that will help people connect and explore in the metaverse, including our virtual reality (VR), augmented reality (AR) and wearable hardware

technologies and devices. Our [net zero commitment](#) is inclusive of these products, and we are committed to building the metaverse sustainably.

In 2021, we began conducting life cycle assessments (LCAs) of our Reality Labs products, including Quest 2, to better understand the environmental impacts associated with each phase in the product life cycle—materials, transportation, use phase and end of life.

The Reality Labs teams has already started on our journey to move the needle toward reducing the carbon footprint of our products, including:

- Seeking opportunities to incorporate recycled content
- Prioritizing the use of responsibly-sourced fibers in consumer packaging
- Transitioning to lower carbon modes of transit, such as leveraging ocean instead of air freight



In 2021, we launched our Meta Quest [“As Good As New”](#) program, enabling customers to purchase refurbished products for our flagship devices, including Quest 1 and Quest 2.

INTERNAL ENGAGEMENT

It will take collaboration to make the systems-level changes required for a better reality: world-class experts in sustainability and social issues, climate leaders, companies within our industry, nonprofit organizations, suppliers and every one of our thousands of employees.

Read on for a few partnership examples. For more detail on Meta's collaborative approach to sustainability, please download the full version of our 2021 report on our [website](#).



The success of our sustainability program depends on having employee voices at the table. Some of the ways we engage our employees include:

- SustainabiliTEA Talks
- Annual Earth Week, Climate Week and Sustainability Summit events
- [Climate Reality Project Leadership Corps](#)
- Green@ Chapters
- Climate-Focused Hackathons

EXTERNAL PARTNERSHIPS



Photo courtesy of The Northern Rangelands Trust/Kieran Avery

Climate change is a challenge too great for any of us to solve alone. But, by coming together, we have the power to make sustainable change.

Meta collaborates with organizations focused on many aspects of sustainability and

climate action. These partnerships will help us advance our goals of achieving net zero emissions across our value chain and becoming water positive in 2030. And we continue seeking opportunities to share what we have learned with the tech industry and beyond.

The [Open Compute Project \(OCP\)](#) is a collaborative community focused on redesigning hardware technology to efficiently support the growing demands on compute infrastructure.

Sustainability and circularity were identified as 2021 strategic initiatives for OCP. Meta helped lead the scoping and definition of the strategic initiative, helping co-author the community's [first white paper](#) dedicated to a call-to-action on climate change.



ADVANCING INDUSTRY CHANGE

Climate action policy is critical to achieving a sustainable economy and protecting our planet.

In 2021, we showed support for key policies across the world:

- The U.S. rejoining the Paris Agreement
- The [Climate Action Now Act \(HR 9\)](#) in the 116th United States Congress, a federal bill requiring the U.S. to meet its nationally determined contribution (NDC) under the Paris Agreement on climate change
- The [European Green Deal](#) and the [EU's European Climate Pact](#)
- The [Corporate Leaders Group](#) sign-on letter in support of the EU NDC



COP26

Our goal is not just to be one of the most sustainable companies but also to make it easier for our users and employees to live more sustainably.

Meta delivered our biggest activation at COP yet. At the core of our activation was our presence at the [United Nations Framework Convention on Climate Change \(UNFCCC\)](#) pavilion.

Now in our sixth year, we ran a Facebook and Instagram Live Studio—a space for policymakers, advocates, businesses and nonprofits to broadcast progress, challenges and reflections on the urgency of climate change to audiences around the world.



BOARD OF DIRECTORS AND MANAGEMENT OVERSIGHT

The Audit and Risk Oversight Committee of our Board of Directors is updated annually on climate, supply chain and overall program strategy. Meta leadership and senior management are engaged in assessing and managing sustainability risks and opportunities.

Environmental Data Governance

The environmental data found within our [full 2021 sustainability report](#) is used for three main reasons:

- 1. **Measure** performance on issues that matter to Meta
- 2. **Analyze** performance over time against targets and standards
- 3. **Inform** stakeholders about Meta's sustainability performance

Before our data is published externally, we undergo a robust review process to ensure that the data is accurate. This process includes data collection from subject matter experts, internal quality assurance and quality control, third-party verification and legal review.



INCREASING TRANSPARENCY



With greater transparency and our vision to guide us, we will do even more to keep bringing the world closer together—and closer to a better reality for all.

Visit our [Sustainability page](#) to download the full report with our ESG data index, review our 2021 data verification and data methodology, and read messages from Mark Zuckerberg and other Meta leadership.

