FACEBOOK
Sustainability

2020 Sustainability Report

sustainability.fb.com/sustainabilityreport2020

Table of Contents

About Facebook

Founded in 2004, Facebook's mission is to give people the power to build community and bring the world closer together. People use our apps and technologies to connect with friends and family, to further embrace their communities, and to help them expand their businesses.

Our products empower more than 3 billion people around the world to share ideas, offer support, and make a difference.

Learn more about our products:

Facebook app
Messenger
Instagram
WhatsApp
Oculus
Workplace
Portal
Novi

At the end of 2020, our headcount was 58,604. Facebook team members are located at our offices in more than 80 cities across North America, Latin America, Europe, Middle East, Africa, and Asia Pacific.

Facebook headquarters

1 Hacker Way
Menlo Park, California 94025

Facebook technologies are powered by our data centers around the world. These data centers and all of our offices are supported by 100 percent renewable energy.

About This Report

At Facebook, we aim to give people the power to build community and bring the world closer together. Our sustainability work helps us to operate and grow efficiently and responsibly, and empower people to build sustainable communities.

This report reflects Facebook's sustainability progress in fiscal year 2020 (January 1 - December 31, 2020). The world shifted dramatically during this year as we all adapted to the unprecedented effects of the COVID-19 pandemic. And our top priority has been to keep our Facebook communities safe and healthy, we still kept a close eye on our sustainability initiatives.

Sustainability is core to how Facebook operates, and we continue to build transparency into our strategy and reporting. Through our sustainability report, we hold ourselves accountable to commitments made in areas of our operations, as well as our value chain. This is part of a multi-year effort to provide transparency, visibility, and reliability in our non-financial reporting, as we aim to strengthen trust with stakeholders including our clients, employees, partners, shareholders, peers, and communities.

This report will share our approach and progress, as well as our latest environmental data, which was reviewed and verified by a third party.

> "Climate change is one of the biggest challenges we face. Delivering essential technologies and reliable climate information to billions of people is at the heart of how Facebook can help address the crisis. And we believe we can do it with a net zero carbon footprint."
>
> — **Mike Schroepfer, Chief Technology Officer**

Letter from Rachel Peterson

Vice President of Infrastructure

Last year was a year unlike any other in recent memory. The world came to a grinding halt as a result of the COVID-19 pandemic, which drastically shifted the way we work, live, and connect with others.

Rising social tensions and challenges have also shed light on how the impacts of issues such as a global pandemic or climate change are experienced differently across regions and groups of people, specifically BIPOC (Black, Indigenous, and people of color) and economically-distressed communities. Many of these communities already experience the worst impacts of climate change—extreme temperatures, pollution, or weather patterns—due to the lack of access to adequate resources.

While daily global carbon emissions fell for the first time last year due to the pandemic shutdown, the world remains at a key inflection point. Science shows us we have less than 10 years to curb global warming. As we resume our 'normal' lives, it is imperative that the private and public sectors take the lessons learned from 2020 into 2021 and beyond, and remain steadfast in our support for the Paris Agreement.

Last year, the health and safety of our global employees remained a top priority and we quickly shifted our projects online as employees began remote work, in adherence to local public health guidance. Nevertheless, our teams continued to make great strides in strengthening Facebook's commitment to addressing climate change through operational excellence and innovation:

- In September, we announced our most ambitious goal yet: to achieve net zero greenhouse gas emissions across our value chain by 2030. By the end of 2020, we had achieved 100 percent renewable energy and net zero emissions across our global operations through a 94 percent reduction in emissions and supporting high-quality carbon removal projects.
- While the majority of our employees worked remotely, we continued to take steps to minimize our operational footprint by making sure the facilities and offices that needed to stay open were running efficiently. Last year was also the first time we procured additional renewable energy to support the electricity use of our employees while they worked from home.
- We launched two key products on our platform aimed at inspiring climate action: the Climate Science Information Center and the Climate Conversation Map. The Center increases access to authoritative information on climate change from the world's leading climate science sources and the Map allows Facebook partners—academic researchers and environmental nonprofits—to better understand how climate conversations are happening on our platforms.
- We deepened supplier engagement through targeted capability building to ensure the health and resilience of our supply chain workers during the pandemic.

While this progress is important, our collective work is far from over. Businesses must continue to take strong, quick action to combat climate change's toll on our planet. As we continue to innovate and implement solutions to drive climate action, we will work to ensure that our solutions take into account the people who are most affected by climate change so that the world can see a safer, cleaner, and healthier tomorrow.

— **Rachel Peterson**

2020 Highlights

Climate

Net Zero

reached net zero in operational GHG emissions

In 2020, we achieved net zero emissions in our operations by reducing emissions by 94 percent* and supporting carbon removal projects.

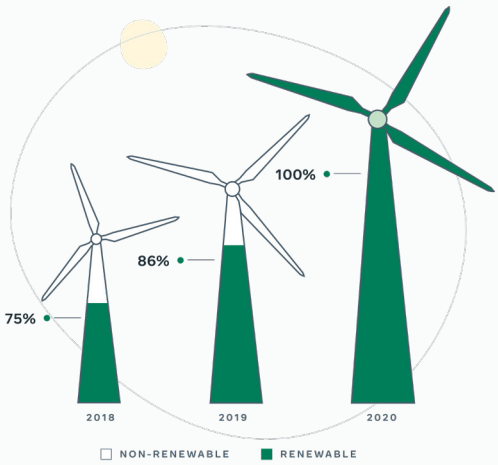
*from a 2017 baseline

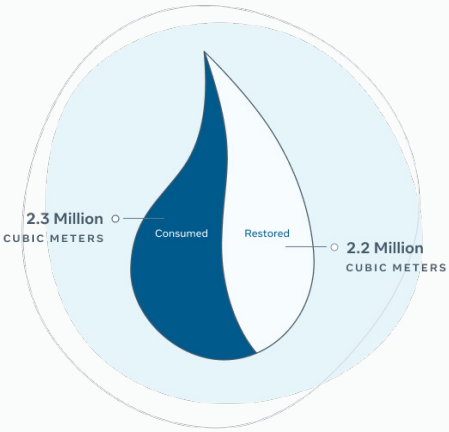
Energy

100%

renewable energy supporting our operations

We achieved 100 percent renewable energy for our global operations and now have over 2.8 gigawatts of wind and solar projects online.





Water

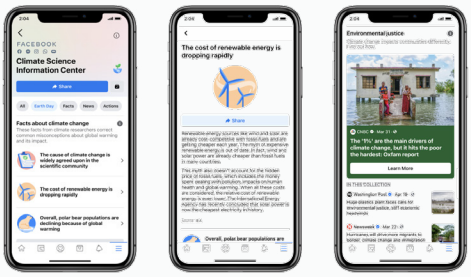
2.2 Million

cubic meters of water restored

In 2020, Facebook locally restored nearly as much water as we consumed to the watersheds where we operate.

Responsible Supply Chain

During the global pandemic, we deepened our collaboration with priority suppliers, working to address labor, human rights, health and safety, and environmental issues across our supply chain.



Product Innovation

We expanded our portfolio of climate products and launched the Climate Science Information Center, a dedicated hub to provide authoritative information from the world's leading climate science sources.

Collaboration

We expanded our presence during the virtualized Climate Week and the UN General Assembly (UNGA) by hosting an online panel, "Working Together to Accelerate Climate Action", drawing over 1,000 viewers for the event.

Data Centers

In Altoona, Iowa, we piloted a number of programs to help reduce our environmental impact through our construction equipment, including the use of the world's first electric drive dozer which consumes 25 percent less diesel fuel compared to traditional bulldozers.

Workplaces

In 2020, we completed our first offices slated for WELL and Fitwel® certifications, which focus on improving the health of a building's occupants. We also launched our inaugural Sustainability Summit, an internal one-day virtual sustainability event that aligns with UNGA and Climate Week and aims to celebrate the cross-functional teams that make Facebook's sustainability work a reality.

Our Vision & Approach

Climate change impacts all of us. We recognize the urgency of climate change and are committed to help tackle this global challenge. We believe sustainability is about more than operating responsibly; it is an opportunity to support the communities we are a part of and have a positive impact on the world.

Our vision is a just and equitable transition to a zero-carbon economy, where no one is left behind. At Facebook, we have achieved net zero emissions in our global operations and plan to reach net zero emissions for our value chain in 2030. Beyond doing our part to reduce our environmental footprint, our approach is to accelerate access to authoritative information and encourage positive action on climate through our core products and services, while working with others to scale solutions that help create a healthier planet for all.

Our climate efforts build on more than 10 years of work and we are not done yet. Sustainability is one of our core principles and it is embedded in everything we do.

Governance

Sustainability is embedded in Facebook's business and is included in our governance structure. The Audit and Risk Oversight Committee of our Board of Directors is updated on climate, supply chain, and overall program strategy, and Facebook leadership and senior management are engaged in assessing and managing sustainability risks and opportunities. Our Sustainability team also provides quarterly updates on sustainability programs to a cross-functional group of internal stakeholders, comprised of business unit leaders, and works across Facebook to make operational changes focused on achieving our sustainability goals.

Our dedicated Sustainability team works to implement our overarching strategy and ensure alignment across global teams to advance progress on topics such as water stewardship, renewable energy procurement, sustainable data center design, sustainable facility operations, and supply chain engagement. The team's mission is to support Facebook's ability to operate and grow efficiently and responsibly, as well as empower people to build sustainable communities.

More information about Facebook's corporate governance structure can be found here.

Internal Engagement on Sustainability

Our employees share our vision of having a positive impact on the world, often using their passion and skills to help drive our sustainability agenda forward. All employees have access to company-wide sustainability updates through internal leadership posts and interactive events that spur ongoing dialogue on these topics.

In 2020, we shifted our internal engagement strategy to a virtual-first approach, due to our global work-from-home policy during the COVID-19 pandemic. Across our global workforce, we focused on increasing remote access to sustainability content by recording our live events for later viewing, helping expand the audience and reach of sustainability messaging across company channels. In tandem, we continued to scale our employee engagement model across our offices in EMEA, APAC, and the Americas with a regional champions support model. This organizing function helps employees stay involved and educated in company-wide sustainability efforts, while allowing the Sustainability team to support the interests of our most active internal advocates.

In 2020, we engaged employees through events to activate and excite our internal community. The two largest events were Earth Week in April, spanning five days, and our first annual Sustainability Summit in September, a one-day internal conference. Our global "Green@" groups were also instrumental in keeping employees informed and engaged on sustainability-related topics within their respective offices. These 13 employee-led Green@ teams play a key role in implementing workplace initiatives, such as hosting panels to discuss influencers on our platforms who are fighting climate change and pushing forward efforts to eliminate the use of single-use plastic water bottles on office campuses. These efforts not only help to bring colleagues along Facebook's sustainability journey, but also allow us to drive greater operational efficiency and reduce our greenhouse gas (GHG) emissions.

[1]Facebook's regions are as follows: Europe, Middle East, and Africa (EMEA); Asia-Pacific (APAC); North America and Latin America (Americas)

Through further engagement with employees via internal hackathons — Facebook's longstanding tradition for sustaining innovation — we continued to develop new solutions and features to help advance climate action on our platform.

Stakeholder Engagement

We believe it is important to hold a continuous and open dialogue with our stakeholders.

Internal and external stakeholder perspectives are important to our sustainability journey. We regularly have formal and informal meetings and conversations with different stakeholders, including the people who use our programs and technologies, colleagues, communities, suppliers, industry peers, nongovernmental organizations (NGOs), policymakers, and investors. These conversations help inform our sustainability programs and advance our progress.

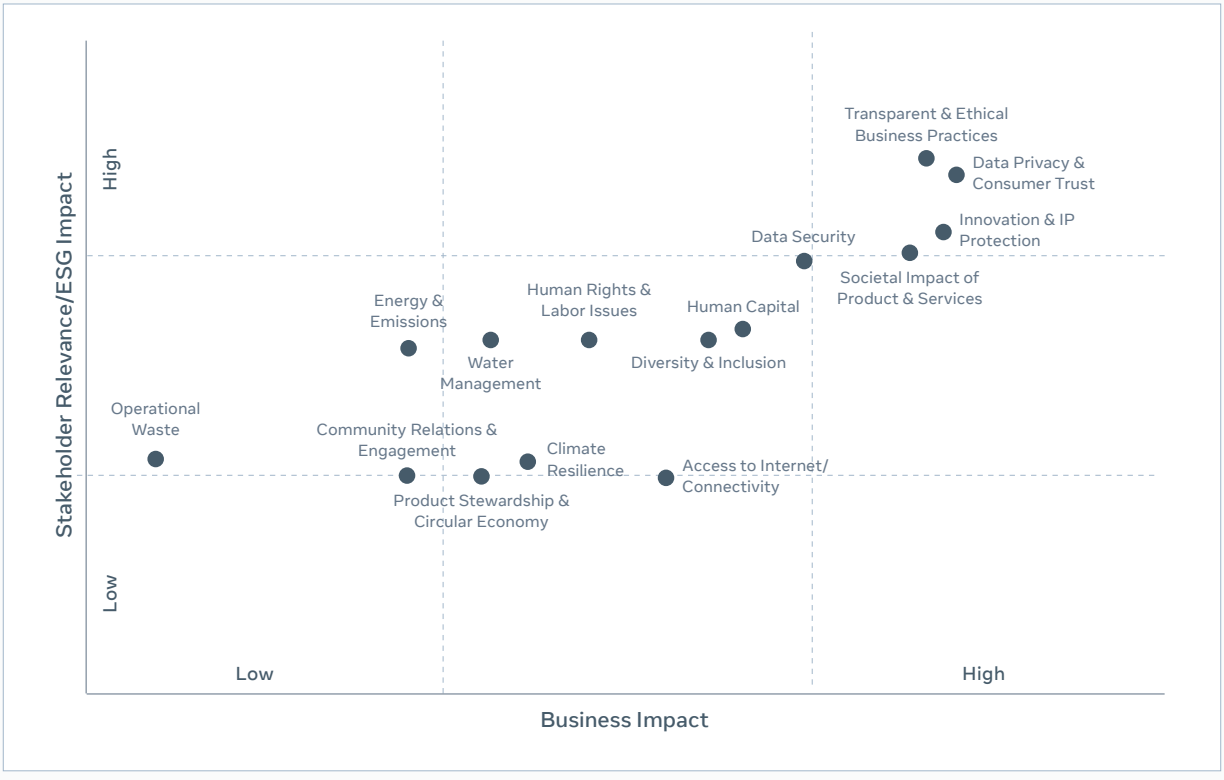
We connect regularly with experts in academia, civil society and other sectors to get feedback on our policies. We have engaged with over 30 experts around the world to solicit input on how we should address misleading climate information in our ads and discuss the nuances and challenges in this space. Through these conversations, we have gained valuable insight on the impact the distribution of climate misinformation and skepticism can have and will leverage it for future policy development.

Environment, Social, & Governance (ESG) and Materiality

We conduct regular materiality assessments to understand the most significant ESG topics across our business over the short, medium, and long term. From this assessment, we identify what matters most to our stakeholders and sustainability agenda..

Our most recent (2019) materiality assessment identified the following ESG issues as priorities for Facebook:

Facebook's Priority ESG Topics



While Facebook works to address all of the topics outlined in our material issues map, our Sustainability team focuses on the key issues below to maximize our sustainability impact. Our next materiality assessment will be conducted in 2021.

Material Topic	Our Working Definition	Location in the Report
Climate Resilience	Adapting to and addressing challenges and risks caused by climate change and any relevant disruptions to supply, operations, and users.	Climate
Energy & GHG Emissions	Ensuring efficient use of energy and transitioning to renewable energy sources in order to reduce GHG emissions across Facebook (data centers, facilities, employee travel).	Climate Energy
Water Management	Minimizing or optimizing the overall water consumption and quality impacts across operations, including within headquarters and data centers.	Water
Operational Waste	Minimizing or eliminating the waste produced across construction and operations, including within headquarters, offices, and data centers.	Data Centers Workplace
Circular Economy & Product Stewardship	Managing the environmental and GHG impacts of manufactured products (including data centers) across their life cycles, including hazardous materials and e-waste.	Responsible Supply Chain Data Centers
Human Rights & Labor	Respecting and protecting human and labor rights throughout our operations and supply chain.	Responsible Supply Chain
Societal Impact of Products & Services	Using Facebook's platform, products, and services to promote and enable a more equitable, safe, and healthy society. Empowering action on key sustainability issues and mitigating negative impacts through core products and services.	Product Innovation Collaboration

United Nations Sustainable Development Goals

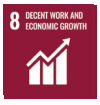
The United Nations Sustainable Development Goals (SDGs) call upon business, government and civil society to address social, environmental, and economic challenges, and drive progress for humanity to build a more sustainable world for all by 2030.

Facebook's mission is to empower people to build community and bring the world closer together. We believe this requires inclusive communities and a world where everyone has a voice and access to opportunities. We acknowledge the importance of each of these 17 goals and actively work alongside the UN and its partners to support progress on these targets globally by 2030.

We manifest this commitment through Project 17 (P17), our partnerships-first approach to accelerating progress on the SDGs. Inspired by SDG 17: Partnerships for the Goals, P17 recognizes Facebook's role as an enabler for businesses, nonprofits, entrepreneurs, researchers, and other communities to advance their impact on the SDGs. A cross-company initiative, P17 responds to the urgency of the SDGs by equipping partners with resources to advance their impact, supporting efforts to evaluate our progress towards specific SDGs, and coordinating with the private sector through initiatives like 2030Vision group.

Our sustainability and broader corporate initiatives can help support achievement of all 17 SDGs. Below are some examples of how our efforts align to the individual goals. Moving forward, we will continue to map our progress against the SDGs and work closely with UN agencies to increase our transparency.

For more information about our contributions in support of the SDGs, visit facebookatunga.com.

SDG Goal	Examples
	Through partnerships with governments, nonprofits, and researchers, Facebook connected billions of people to authoritative COVID-19 pandemic information via our platform.
	Our #SheMeansBusiness program has trained 1 million women in 38 markets around the world since 2016 and provides space for entrepreneurial women to make valuable connections, share advice, and move their businesses forward. We also support the availability and use of gender data across all SDGs.
	In 2020, we achieved 100 percent renewable energy for our operations and by year-end had over 2.8 gigawatts of wind and solar projects online.
	As a global technology company supporting more than 200 million small businesses and 10 million advertisers around the world, we have the scale and reach to produce a network effect of economic growth, helping businesses thrive by enabling them to create jobs and give people breakthrough opportunities.
	Digital transformation and connectivity, links directly to the heart of Facebook's mission. Facebook implements many programs contributing to internet access for all—some focused on more basic access, like our Discover program, while others work to improve quality or affordability like our 2Africa subsea cable.
	We take a preventive approach to biodiversity loss by limiting our environmental impact where possible, while also partnering with local organizations and communities to restore habitats and ecosystems.
	We work to ensure safe, healthy, and fair working conditions for workers within our global supply chain. Through our Responsible Supply Chain program, we engage meaningfully with our supply chain partners, build supplier capacity, and respond quickly to challenges as they arise.
	In 2020, we achieved net zero in operational GHG emissions through a 94 percent reduction in emissions, compared to 2017 levels and with our support of carbon removal projects.

Our Approach to Policy

Climate change is one of the most urgent challenges facing the world today. We use our voice and work with our global partners, such as America Is All In, Renewable Energy Buyers Alliance, and the Corporate Leaders Group Europe, to advocate for policies that will drive systems changes for a healthier planet (e.g., broad national commitments to reduce emissions, clean energy requirements).

Together, we focus on policies that:

- Prioritize building resilient communities, as well as healthy supply chains and workforces.
- Promote consistent, economy-wide decarbonization through federal policy.
- Support emissions reduction, carbon capture and utilization storage through increased R&D funding.
- Expand the markets, infrastructure, and technologies required to bring more clean and renewable energy to the electric grid.

Our Policy Actions

In 2017, Facebook was among the first organizations to join the We Are Still In coalition and pledge support for the Paris Agreement. Furthering our support of the United States upholding the Paris Agreement, we endorsed the Climate Action Now Act (H.R. 9), in 2019. We also recognize the opportunity technology can play in achieving the UN's 17 Sustainable Development Goals and alongside peers Microsoft, Salesforce, Samsung, SoftBank, UNICEF, the University of Cambridge, and others, we joined the 2030Vision group.

Actions in 2020 include:

- Joining the UN Race to Zero movement, the largest global campaign and alliance of businesses, cities, investors, and higher education institutions committed to achieving net zero carbon emissions by 2050.
- Signing a joint letter with peer companies and investors to urge the EU to commit to at least a 55 percent reduction in GHG emissions by 2030.
- Actively supporting the European Green Deal, the European Union's roadmap toward climate neutrality by 2050. We stand as a ready partner to the EU and European Governments in making the ambitions of the Green Deal a reality.
- Re-establishing our commitment as a founding member of the America Is All In (formerly We Are Still In) coalition, and urging the new Biden administration to support ambitious climate policies to reach the U.S. Paris Agreement targets.

Climate

Facebook is committed to reaching net zero emissions across our value chain in 2030, aligning our efforts with the latest science on what is needed to transition to a zero-carbon future.

Science tells us that the next 10 years will be the defining decade to limit the worst impacts of climate change. As a global company, we recognize the tech industry's environmental impact, and we embrace the responsibility of not only reducing our own footprint but also working with other industry leaders to drive climate action.

In 2020, we announced our most ambitious goal yet: Reach net zero greenhouse gas (GHG) emissions across our value chain in 2030, aligning with the Science Based Targets initiative (SBTi) to set clear targets to help limit global temperature rise to no more than 1.5 degrees Celsius above preindustrial levels.

Achieving Net Zero Operational Emissions in 2020

In 2020, we achieved net zero emissions in our operations by reducing our GHG emissions by 94 percent, compared to 2017 levels, and supporting high-quality carbon removal projects. Over the next decade, we will continue to decarbonize our value chain and enable GHG reduction and carbon removal technology advancements.

Sourcing renewable energy for our operations has been a critical part of reducing our operational emissions, and we will continue to reduce our emissions by enhancing the sustainability performance of our facilities while maintaining 100 percent renewable energy. For our full value chain emissions, we are looking at reductions through the life cycles of our offices and data centers and by incorporating circular economy principles into our buildings, server hardware, and consumer products. We are also partnering with suppliers to build capacity on data reporting and to support on-site energy assessments that identify energy reduction opportunities and improve environmental performance.

In 2020, we worked to decrease emissions across our value chain, including:

1. Covering 100 percent of the work-from-home electricity use of our employees with renewable energy. This was the first year that we incorporated telecommuting emissions into our environmental inventory.

2. Covering the emissions associated with our transmission and distribution loss, which are currently reported in our indirect Scope 3 emissions, with renewable energy.

3. Testing new WhatsApp code improvements based on Erlang and reducing compute storage by 25 percent—all while yielding the same performance.

Greenhouse Gas Accounting Methodology

We disclose our GHG emissions annually and are committed to increasing transparency around our impact. Our GHG footprint includes the emissions associated with running our business and data centers, as well as the indirect emissions created upstream from our operations and downstream in our products. These emissions correspond to Scope 1, Scope 2, and Scope 3 emissions as defined by the Greenhouse Gas Protocol.

We have been reporting Scopes 1 and 2 for ten years, some categories of Scope 3 since 2015, and full Scope 3 categories since 2019. Our emissions are calculated annually and verified by a third party. We will continue reporting and updating our emissions boundaries as our business grows.

We invite you to learn more about our GHG Accounting Methodology here.

Reaching Net Zero in Our Value Chain in 2030

While our climate strategy is largely focused on achieving significant emission reductions, we recognize that some of our emissions will be hard to reduce by 2030. To reach our target of net zero emissions, we will remove an equivalent amount of any GHG we emit through high-quality carbon removal projects. Examples of that in 2020 included supporting forestry projects in East Africa and the Mississippi River Valley that removed 145,000 metric tons of carbon from the atmosphere. These nature-based solutions will serve as a bridging mechanism toward long-term decarbonization. In the future, we hope to invest in emerging carbon removal technologies (e.g., direct air capture) that will advance carbon removal efforts everywhere.

Moving forward, we will continue to partner with nonprofits, peers, and other experts to inform the composition of our project portfolio and ensure that our due diligence process is rigorous. We will prioritize carbon removal projects that:

- Are designed to be a durable, additional source of carbon sequestration.
- Support local livelihoods and enable climate justice and equity.
- Benefit the environment by supporting biodiversity, habitat, or water.
- Are quantified using existing standards and verified by a third party.
- Do not create adverse impacts elsewhere.

Reaching net zero emissions means that, for any emissions we cannot reduce, we are removing the same amount of GHGs from the atmosphere as we emit. A simple example of a carbon removal project is planting new trees to sequester carbon.

Some carbon offsets are considered "avoided emissions" offsets. An example of this type of offset is paying for someone to not cut down an existing forest that would otherwise likely be cut. While we believe investment in these types of offsets has a very important role in mitigating climate change and are critical from a biodiversity perspective, our net zero goal aims to remove our emissions rather than offset their effects. We follow the Science Based Targets initiative criteria for emissions reduction and removal in line with a pathway to limit temperature rise to no more than 1.5 degrees Celsius above preindustrial levels.

Assessing Our Climate-Related Risks

Facebook regularly conducts climate-related risks and opportunities assessments to better understand future climate-related transitional and physical risks. Transitional risks can occur as businesses recalibrate to a cleaner, green economy. To assess our transitional climate risks, we consider potential changes to climate policies as well as technological, market, and reputational risks. We believe we are better positioned for the transition to a greener future through our efforts to support our operations with 100 percent renewable energy and our goal to reach net zero emissions across our value chain in 2030.

To address our physical climate-related risks, we execute assessments using models and potential risk scenarios, including a business-as-usual pathway (RCP 8.5)[2], to better understand how acute and chronic physical risks may impact our global facilities, data centers, and supply chain. In 2020, we assessed physical risks, such as wildfires, sea-level rise, water stress, floods, hurricanes, and heat stress, completing climate risk assessments for over 450 priority Facebook sites, an increase from 250 sites in 2019. Insights from these assessments help inform our operational strategy and identify key opportunities to weave climate-related considerations into our long-term resiliency strategy.

Additionally, we take steps to strengthen our climate resilience by incorporating the results of these assessments into key business decisions. For example, we developed a climate resilience toolkit with checklists and key questions for each type of physical risk to help develop resiliency plans. Teams also conduct tabletop exercises to practice responses to disruptive extreme weather events.

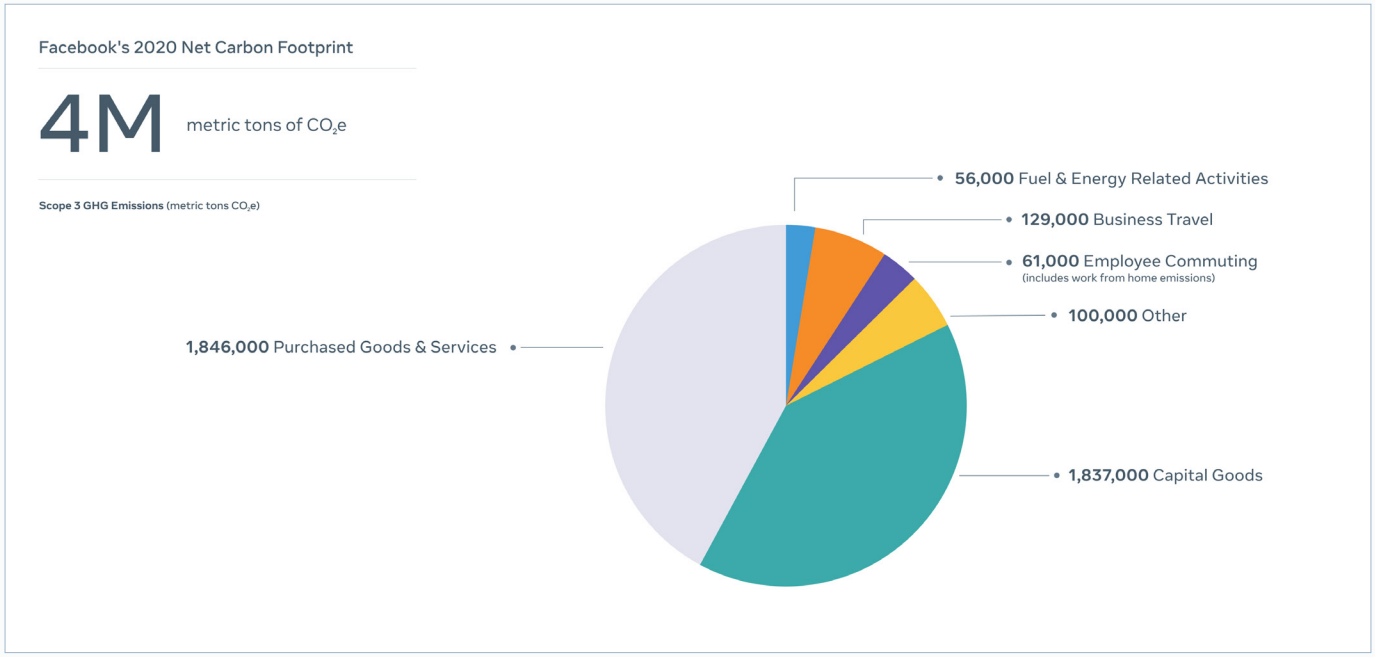
We bring this same approach to our global supply chain, where we work closely with suppliers to help them understand and prepare for climate risks in and to their business. For high-risk suppliers, we conduct deeper assessments and partner closely to ensure they have prepared sufficiently for climate risks.

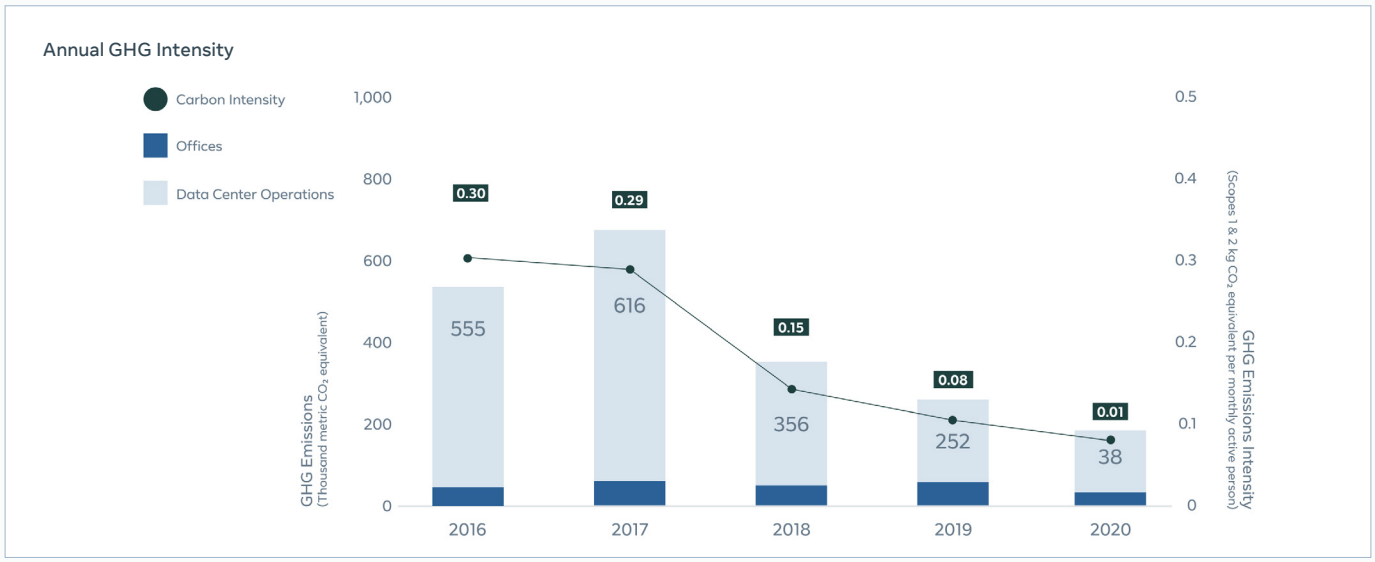
[2]The high-emissions Representative Concentration Pathway (RCP) 8.5 global warming scenario from the IPCC

Each year, we increasingly experience the negative social, economic, and public health impacts of climate change. Yet, these effects are not felt equally across different regions or populations. Black, Indigenous, and people of color (BIPOC) and those in economically distressed communities are disproportionately affected by the extreme weather patterns, natural disasters, and pollution brought on by rising temperatures. Climate action and solutions can also often alienate these communities that are already experiencing racial and economic inequities, such as inadequate housing or access to resources. Lack of stakeholder engagement or needs assessments can further exacerbate the adverse socioeconomic and health impacts.

We are committed to supporting climate solutions that take impacted communities and groups into consideration, advancing projects and partnerships that incorporate equity and justice in their approach to addressing this urgent issue. As we invest in nature-based carbon removal and infrastructure around the globe, we will also prioritize projects that create environmental, social, and economic benefits for people most impacted by climate change.

For example, we supported a locally managed reforestation and sustainable development project in 2020 that will help sustain existing income and improve crop yields for commodities such as fruit, nuts, and timber for smallholder farmers in Kenya and Uganda. This also created a new source of income in the form of direct payments from sold carbon credits.





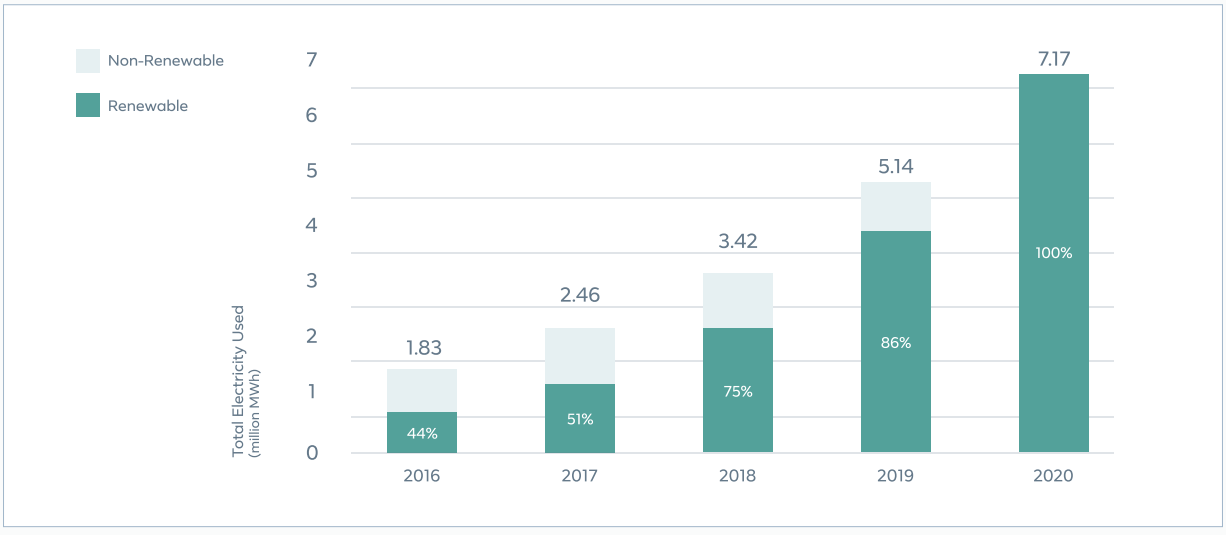
The Aviator Wind East project in Coke County, Texas became operational in 2020 and currently supports our operations in the region.

Energy

We are committed to accelerating the transition to renewable energy as well as supporting renewable energy projects that are on the same electrical grids as our data centers.

Supported by 100 Percent Renewable Energy

In 2011, we announced our commitment to source 100 percent renewable energy for our facilities—and we achieved that goal in 2020. Over the years, our procurement efforts have resulted in Facebook becoming one of the largest global buyers of renewable energy. At the end of 2020, our global portfolio totaled over 5.9 GW of wind and solar projects under contract, and we increased our operating portfolio of wind and solar to over 2.8 GW spanning 15 U.S. states, Europe, and Asia. For 2021, we have announced additional contracts, including our first solar-plus-storage projects that include 180 MW of storage capacity across three states.

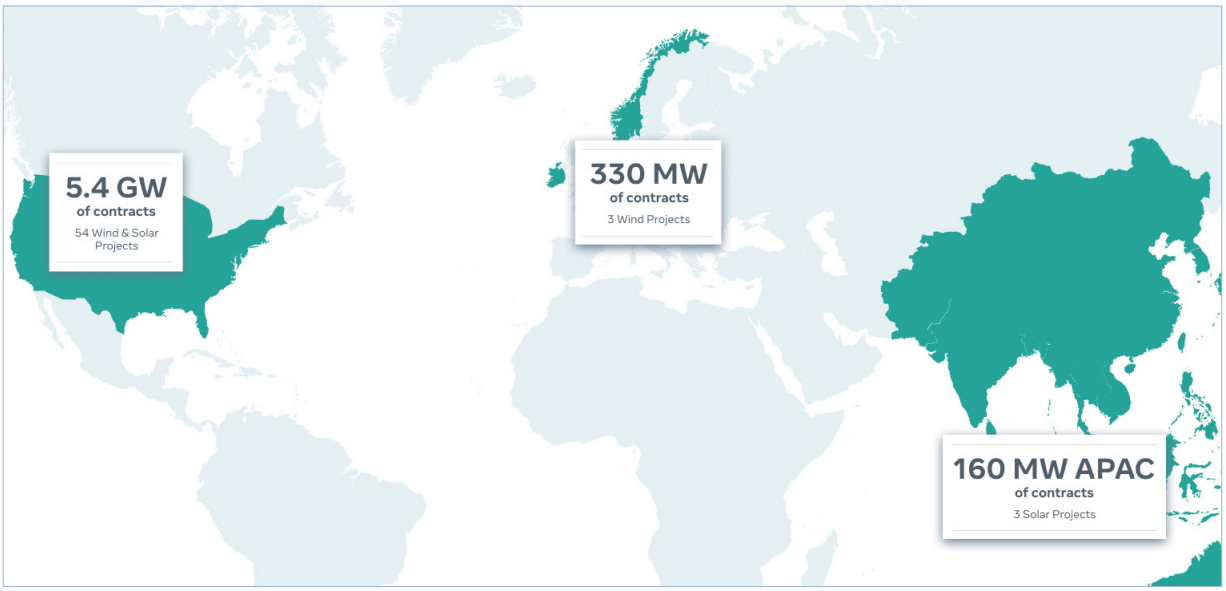


A core part of our renewable energy strategy is supporting new projects and approaches that increase access to renewable energy, as well as add renewable capacity to the grids that support our data centers. To do this, we partner with utilities and developers to build new wind and solar projects to support our operations.

In 2019, we announced our first direct investment in a 300 MW solar power plant in Andrews County, Texas. After 14 months of construction, the plant became operational in July 2020 and has been delivering clean energy to the same Texas grid that serves both our Fort Worth Data Center and Texas offices. Currently, it is also one of the largest solar projects operating in Texas.

In 2020, we expanded the number of states in the U.S. where we have announced new renewable energy projects to include Illinois, Tennessee, and Ohio, growing the grids on which Facebook is bringing new solar and wind energy. We also work directly with local utilities around the U.S. to establish new green tariffs that enable other companies and customers, not just Facebook, to access renewable energy. To date, we have established six new tariffs in the U.S.

Facebook takes this same approach across the globe as well. In October of 2020, we announced Singapore's first renewable virtual power purchase agreement to support our local operations—our offices and upcoming data center—with solar energy from panels to be installed on the rooftops of more than 1,200 public housing residential units and 49 government buildings. Once operational, the rooftops are expected to total more than 100 MW of solar capacity. In Ireland, we also partnered with Brookfield Renewables to purchase energy produced by its 28.8 MW Lisheen III wind farm based in Tipperary. This is our second renewable energy project in Ireland and the capacity will be enough to support the electricity needs of our expanding data center buildings and new office campus in Dublin.



Extending Impact to Communities

Beyond our operations, our commitment to support renewable energy projects on the same electricity grid as our data center and facilities has had a profound economic impact on local communities.

To understand the impact of Facebook's renewable energy projects on jobs and the economy, we released a study in May 2021 that looked at the economic impact of 55 solar and wind projects that support our U.S. data centers. These renewable energy projects total 5,763 MW—some of which are operating today and others that will come online over the next three years—and represent an estimated $7.4 billion in investment. During construction, these renewable energy projects have supported or will support over 42,000 jobs across the country and contribute more than $4.3 billion in U.S. GDP.

Our portfolio of solar and wind projects spans 18 states and 46 counties, and many of these projects have benefited under-resourced communities. Of the 55 U.S. solar and wind projects in our portfolio studied, 96 percent are located outside of major metropolitan areas and 82 percent are located in counties with poverty rates above the national average. The analysis showed that construction of these renewable energy projects have generated or will generate $2.6 billion of labor income for workers, and project operations will generate $70 million in annual employee compensation.

61.6 MW Altavista Solar Project in Virginia

Sharing Market Expertise to Increase Access

Collaboration is a core aspect of our strategy to source and increase access to renewable energy. As part of our efforts to strengthen the global renewable energy market, we work closely with key stakeholders and industry groups—such as Renewable Energy Buyers Alliance, RE-Source, the Centre on Regulation in Europe (CERRE), and the American Council on Renewable Energy—to help other companies make their own renewable energy purchases and to accelerate the transition to clean energy across the entire electricity system.

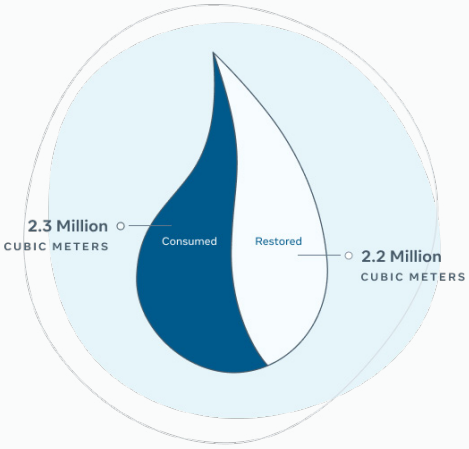
Water

As part of our commitment to water stewardship, we actively work to reduce our water footprint and are transparent about our water data. We strive to be good water stewards by restoring the water we consume in water-stressed regions and by working with others to advance industry understanding and practices.

Managing Our Water Use

Water is a finite resource, and every drop matters.

At our data centers, water is mainly used in two ways: evaporative cooling and humidification. Our evaporative cooling system converts water into vapor to lower the temperature in our data centers, while our humidification process maintains the humidity of our data centers to the current standard. As a result of our innovative design choices and commitment to operational excellence, our data centers are over 80 percent more water efficient than the average data center, and we are always striving to become more efficient.



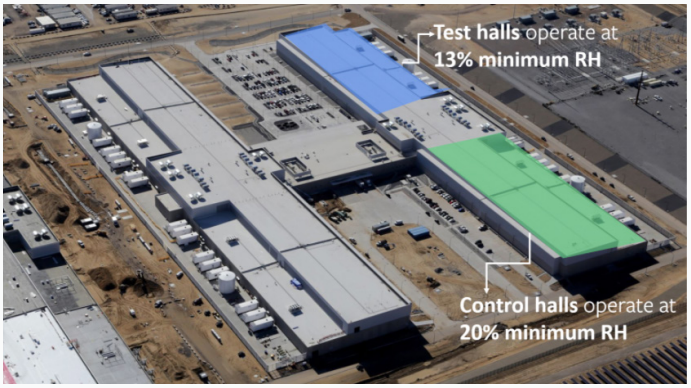
Water

2.2 Million

cubic meters of water restored

In 2020, Facebook locally restored nearly as much water as we consumed to the watersheds where we operate.

Currently, the servers in our data centers are designed to operate between 65°F and 85°F (18°C and 30°C) and in relative humidity of 20 to 80 percent. In 2020, we completed an operational pilot project that explored the possibility of operating at a lower relative humidity limit as a potential way to increase our water efficiency and conserve water. The pilot program was successful as we reduced relative humidity to 13 percent and achieved an overall water savings of more than 40 percent when operating at a lower relative humidity level. Since then, we have been building on the program's success to implement similar lower relative humidity setpoints at our other existing data centers, while also making this the new standard for our future data centers.



Our pilot project that evaluates water savings of operating at a lower relative humidity at our data center.

Our efforts to source more renewable energy have also reduced our water usage. Through Facebook's renewable energy procurement, we have found tremendous water savings compared with sourcing energy from the standard utility energy mix, since renewable energy sources require less water to generate electricity than fossil fuels.

In 2020, we sourced 7.1 billion kWh of renewable energy to support our operations, leading to a savings of 1.4 billion cubic meters (over 380 billion gallons)—enough to fill 560,000 Olympic swimming pools. As part of our commitment to transparency, Facebook is also one of the few companies to publicly report data on water embedded in energy procurement.

2020 Water Data

In 2020, Facebook locally restored nearly 2.2 million cubic meters in high water-stressed regions.

Unit: Cubic Meters	2017	2018	2019	2020
Water Withdrawal	1,609,000	2,367,000	3,430,000	3,833,000
Water Consumption	838,000	1,279,000	1,971,000	2,270,000
Water Restoration*	N/A	132,000	145,000	2,250,000

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

Supporting Water Restoration

In addition to efforts to maximize efficiency in our operational water use, a key component of our water stewardship strategy is supporting projects that restore local watersheds near our data center communities.

Part of that strategy involves partnering with local, trusted environmental nonprofits that share our vision to identify and support water restoration projects that benefit neighboring communities, especially those in water-stressed regions.

Restoring local watersheds is not only essential for the global communities that they support; these projects also play a critical role in preserving local habitats and advancing biodiversity. When identifying restoration projects to support, we prioritize those that help maintain local wildlife habitats and species.

Our overarching vision is to continue expanding our support for water restoration projects, while restoring 100 percent of water consumed at our data centers located in high-risk areas. To date, we have contracted 10 water projects in four high-risk regions, expecting to save approximately 6 million cubic meters (~1.6 billion gallons) each year.

In 2020, we restored nearly as much water as we consumed to the watersheds where we operate.

2020 New Water Restoration Projects

State	Watershed	Project	Contracted Volume m^3/yea (gallons/year)
New Mexico	Rio Grande	Middle Rio Grande Flow Restoration Water rights lease to reduce withdrawal	123,000 m^3 (~33 million gal/yr)
Utah	Provo River	Provo River Olmstead Power Station Water rights lease to reduce withdrawal	2,090,000 m^3 (~550 million gal/yr)
California	Sacramento River	Sacramento River Wildfire Recovery Reforestation Reforestation to reduce runoff	140,000 m^3 (~37 million gal/yr)*
Total Volume Contracted in 2020 (m^3)			2,353,000 m^3 (~ 622 million gal/year)

*Project started in 2020 and we are expecting benefits in 2021.

New Mexico

Since 2018, we have worked closely with The Audubon Society in New Mexico to address shared water challenges in the Rio Grande watershed through an innovative water leasing project. Through this project, the Audubon Society leases water from the City of Bernalillo, City of Belen, and Village of Los Lunas delivering it to key wetland and channel areas in the Isleta Reach of the Rio Grande that lack adequate water to support riparian, in-channel, and environmental function.

In 2020, we extended our project support for another eight years, restoring approximately 123,400 cubic meters per year. This eight-year flow restoration project is the first long-term commitment to lease water for environmental flows in the Rio Grande. To maximize the duration of flows to the Isleta Reach, the water was combined with volumes acquired through other leases, and together the leases helped keep 35 river miles flowing or wetted in 2020. This was crucial to sustain wetland vegetation and fish and wildlife habitat during normally dry periods; a total of 75 bird species were identified at three monitored locations in the project area in July 2020.

California

California experienced one of the worst wildfire years in the state's history in 2018, when over 1.8 million acres of its forestland were engulfed in flames. To restore these areas, Arbor Day Foundation and American Forest Foundation are planting two million trees on 8,000 acres, focusing on large swathes of private lands that are often omitted from governmental revitalization efforts.

In 2020, we supported the planting of 70,000 trees on 280 acres. This restoration of burned lands is expected to provide water benefits by reducing runoff and erosion, while restoring local habitat and providing economic opportunity through sustainable timber harvesting to local landowners.

Utah

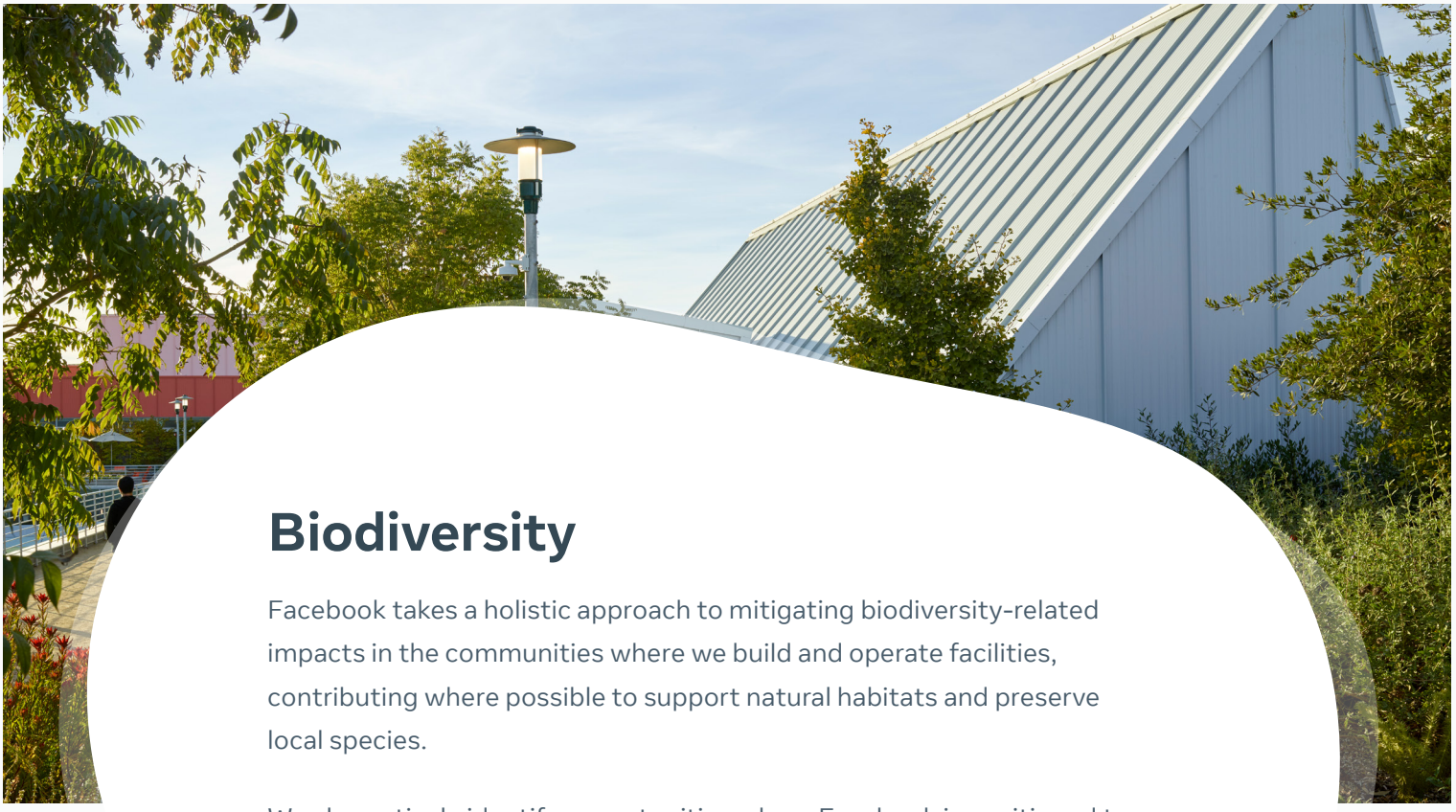
For over 100 years, lower Provo River flows have been diverted out of the river at Olmstead Diversion Dam for hydropower generation. As a result, in-river flows were reduced for an approximately five-mile stretch of the river, with very significant low flow impacts occurring in the most downstream 1.2-mile portion. During periods of high irrigation demand, river flows have dropped below five cubic feet per second (cfs), resulting in warmer water and reduced oxygen levels, which can be fatal to wild brown and rainbow trout populations in this popular fishery.

Provo River before and after flow restoration
Photo Credit: Trout Unlimited

Facebook was the initial funder of this collaborative project to increase flows in the lower Provo River, supporting the Central Utah Water Conservancy District to help ensure 1.6 million cubic meters (416 million gallons) of water remains in the river during the hottest months of the year for a 10-year period. Our initial funding has since been used to raise additional funds to help ensure 4.5 million cubic meters (over 1.2 billion gallons) of water remains in the river between April 15 and October 15 of each year through 2029. These flows will be measured and dedicated to support instream flow in the project reach.

Moving Industry Standards Forward

Industry collaboration is essential if we want to scale impact, which is why we actively engage in partnerships and projects that advance best practices in corporate water stewardship—developing tools, driving collaboration and understanding around key water risks, and setting goals to move the industry forward. As part of our collaborative efforts, Facebook is a member of the World Resources Institute's Aqueduct Alliance and the Bonneville Environmental Foundation's Change the Course Program to spur water restoration projects within our communities.



Marion Brenner Photography, CMG Landscape Architecture, Gehry Partners, LLP

Biodiversity

Facebook takes a holistic approach to mitigating biodiversity-related impacts in the communities where we build and operate facilities, contributing where possible to support natural habitats and preserve local species.

We also actively identify opportunities where Facebook is positioned to protect and promote the planet's irreplaceable biodiversity, leveraging our platforms and partnerships to drive awareness and action.

Supporting Biodiversity at Our Facilities

The loss of biodiversity—the rich assortment of living organisms that includes plants, bacteria, animals, insects; every living species—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 2021 Global Risks Report, biodiversity loss is listed as the fifth-highest global risk in terms of likelihood and the fourth-highest risk in terms of impact.

Recognizing that our offices and data centers can impact biodiversity, we are continuously taking steps to both mitigate that impact and seek opportunities to protect and promote biodiversity where we operate facilities. Through our Biodiversity Program mitigation strategy, we take a preventive approach by limiting our impact on biodiversity where possible, while also partnering with local organizations and communities to restore habitats and ecosystems.

At our Menlo Park headquarters, we installed a 12.5-acre green roof that provides a diverse landscape for local species, offering habitats 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 have been found foraging and nesting on the roof by the Santa Clara Valley Audubon Society during monthly surveys. As we continue to develop our Bayfront Campus in Menlo Park, California, we will also focus on diversifying tree species, particularly in the oak (*Quercus*) family.

We also partner with a number of local nonprofits striving to promote biodiversity and improve habitats near our Menlo Park headquarters, including: Canopy, who we partnered with to plant trees in the Belle Haven neighborhood of Menlo Park; Citizens Committee to Complete the Refuge, which focuses on protecting wetlands in the Bay Area; and the San Francisco Bay Bird Observatory, which focuses on bird conservation and has restored habitat for local endangered species, such as the snowy plover and burrowing owl.

Credits: Marion Brenner Photography, CMG Landscape Architecture, Gehry Partners, LLP

In 2020, we partnered with the mayor of Gallatin on the city's Pollinator Habitat program and committed to providing nearly 30 acres of improved pollinator habitat at our data center site in Tennessee over the next two years. At our data center in Clonee, Meath Ireland, we implemented a beekeeping program to help cultivate bee hives and planted a variety of native plants on-site to help provide resources for the region's threatened bee populations. There is currently enough room to accommodate over 500,000 bees at our Clonee data center.

At our London offices, we partnered with the London Beekeepers Association to provide plantings on our terraces that support pollinator habitat, helping to preserve the nearly 500 species of pollinator insects native to the U.K. threatened with extinction due to biodiversity loss. In Dublin, we installed beehives at multiple office locations to support local bee population security. We plan to expand these efforts at additional office locations globally in 2021 and beyond.

Beekeeping at our Clonee Data Center to help restore pollinator levels in the region.

Leveraging Our Platforms to Protect Wildlife on Global and Local Levels

Preventing illegal wildlife exploitation is another key way to protect biodiversity. In the last few decades, poaching and illegal wildlife trafficking activities have grown at an alarming rate, representing significant threats to endangered species.

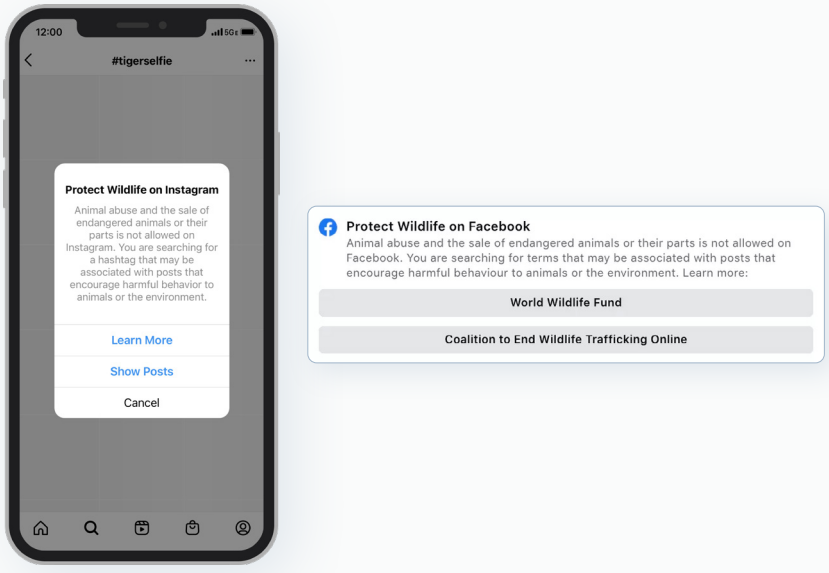
We have strong standards and policies in place to help prevent this type of illegal activity from happening on our platforms. For example, our Community Standards prohibit the sale of live animals between private individuals (i.e., non-brick-and-mortar stores) on our platform and the publishing of content that coordinates or supports the poaching or selling of endangered species and their parts. Our Commerce Policy is even stricter, prohibiting the sale of any live animals, pets, livestock, or animal parts.

These policies align with the Convention on International Trade in Endangered Species (CITES) Appendix I, which lists the most endangered animal and plant species and requires the highest level of protection against exploitation. In addition to aligning with CITES Appendix I, we work closely with external partners to identify vulnerable animals that are heavily trafficked and extend protection to them via our platform. Our content reviewers are trained on these topics, including modules on ivory and specific species known to commonly surface.

Cross-sector collaboration and industry partnerships are crucial in scaling impact in this area. In 2018, in partnership with the World Wildlife Fund (WWF), the International Fund for Animal Welfare, TRAFFIC, and other leading businesses, we launched the Coalition to End Wildlife Trafficking Online, aiming to reduce the illegal trade in ivory and other wildlife products by 80 percent.

These partnerships have also led to the development of new features and capabilities on our platforms to drive awareness around this issue. In 2017, we worked with WWF to create an educational alert feature on Instagram to further prevent wildlife trafficking online and inform people about the harmful impact of wildlife exploitation. When a user searches for a hashtag known to be associated with harmful behavior to animals, such as #tigerselfie or #elephantivory, an advisory screen will appear to warn about these dangers and give the user an opportunity to learn more.

We brought a similar feature to Facebook in 2020, again working with WWF. Facebook users will now receive an alert whenever they search for terms that are linked to harming endangered animals such as “buy antique ivory” on the platform. By redirecting users to credible sources, we hope to raise awareness around this issue and inspire more action against wildlife exploitation.



Responsible Supply Chain

Facebook strives to have a positive impact on the communities and environments where we operate, and we work to ensure safe, healthy, and fair working conditions for workers within our global supply chain—all while minimizing our environmental footprint.

Through our Responsible Supply Chain program, we engage meaningfully with our supply chain partners, build supplier capacity, and respond quickly to challenges as they arise.

Setting Standards for Our Suppliers

Strengthening supplier relationships was again a key focus for us this year. In 2020, we continued to provide a framework of policies, standards, and implementation expectations to guide our supplier business relationships. Given how crucial communication is when working with suppliers, we work collaboratively with them to increase their awareness and understanding of our expectations and to ensure management systems are in place—and we expect suppliers to flow down these standards throughout their extended supply chain.

Our policies reflect our commitment to have a positive impact including: the Responsible Business Alliance Code of Conduct, which sets out standards on labor, environment, health and safety, ethics, and management systems; Facebook's Anti-Slavery and Human Trafficking Statement; and Facebook's Conflict Minerals Policy.

Our suppliers are also expected to follow Facebook's best practices in creating and ensuring a respectful workplace. Our Materials of Concern Standard covers our product requirements around restrictions and use of hazardous substances in our products, while our Electronics Reuse and Recycling Standard provides expectations for recyclers that manage the end-of-life treatment of our hardware. Transparency and trust are essential to how we approach setting and implementing our standards.

In 2020, we conducted risk assessments to help us identify and prioritize the most critical issue areas and suppliers. We proactively engaged with priority suppliers to verify conformance through dialogue, independent audits and assessments, worker surveys, supplier questionnaires, and other forms of assurance. Any issues identified were actively addressed through our corrective action, key performance indicator programs, and deeper supplier engagement.

An example of deeper engagement is our effort to work with suppliers on targeted capability building. Partnering with third-party providers with experience in labor and health and safety issues, we helped suppliers identify areas for improvement and develop a structured plan with KPIs. We also conducted training for entire teams—from workers, senior management, supervisors, line leaders to the human resources team—on topics such as improving grievance mechanisms and communications, to help them build the skills they need to achieve target outcomes. We continued to monitor and track suppliers' progress toward the goals outlined in the improvement plan through regular follow-up site visits or calls as well.

Advancing Hardware Circularity

In support of Facebook's commitment to achieve net zero GHG emissions across our value chain in 2030, we are embracing circularity and resource efficiency as key levers to reduce our emissions. Part of that effort is evaluating each part of the product life cycle—materials, manufacturing, transportation, use phase, and end of life—and working to embed circularity principles into how we design, build, and operate.

We actively seek to include recycled materials in our hardware and product designs, as well as embed circular design principles into our product development process. We are building circularity into how we run and operate our server fleet, exploring ways to extend the life of hardware and components used in our data centers. When hardware and devices reach end of life, we partner with our downstream recyclers to ensure responsible treatment of electronic waste through our e-waste assurance program, which stems from the expectations set in Facebook's Electronics Reuse & Recycling standard.

How We Approach Circularity

At Facebook, we strive to reduce waste by building and operating sustainable facilities. We see circularity as a key part of this effort and an essential evolution from a linear system that is extractive, polluting and finite to a circular one that is sustainable.

To achieve this, we will all need to change the way that we design, make, use and dispose of the materials and items that we use, striving to:

- Specify designs that minimize waste, enable complete disassembly and maximize material recovery.
- Use materials with the highest possible level of recycled content.
- Recycle synthetic materials at the highest level of quality within the technical loops.
- Recirculate natural materials and ensure their eventual safe return to biological loops.
- Eliminate toxins, pollutants and non-recyclable content from materials and products.
- Prioritize the use of materials that restore natural environments.

To scale circular systems, we need to look beyond Facebook. Therefore, we will use our products, family of apps and know-how to catalyze circularity in our industry and beyond.

Facebook Community

Our Workplaces
Shape and operate healthy, waste-free workplaces

Our Data Centers
Build and run data centers with optimal resource efficiency

Our Hardware
Make hardware re-use, refurbishment and recycling the norm

Global Community

Our Products & Partnerships
Empower people everywhere to live in a more circular life

Our Industry
Advance circularity through collaboration and open-source

Engaging Suppliers More Deeply

During last year's global pandemic and economic recession, the health and resilience of workers in our global supply chain was top of mind more than ever. To that end, Facebook worked with our priority suppliers to address labor, human rights, and health and safety focus areas that have the greatest impact in creating lasting change.

We also expanded supplier engagement through a program focused on collecting direct opinions and concerns from workers via mobile-based and tablet surveys, using sentiment and insights from these surveys to help suppliers improve management systems and working conditions. For example, we collaborated with a supplier to create and deliver an employee board as a way to share encouraging messages to boost worker morale and focus on building community in the workplace.

In 2020, we continued to strengthen our climate resiliency efforts throughout the supply chain, conducting physical risk assessments of key manufacturing facilities, and partnering across Facebook to ensure strong supplier business continuity practices. We also stepped up our supplier engagement program and continued to collect data from our suppliers to understand the environmental challenges they face, continuously identifying ways to reduce their GHG emissions impact.

We tailor our approach based on the maturity of our suppliers' sustainability strategy as well as their needs and business priorities. Our program engagement includes building capacity on data reporting; supporting virtual or on-site energy assessments, and identifying energy and greenhouse gas reduction opportunities.

Employees at one of Facebook's supplier sites adding their thoughts to the factory's happiness board.

Advancing Industry Change

Collaboration is one of the best ways to drive more effective change. At Facebook, that means partnering and sharing ideas with others and developing solutions that promote best practices for a responsible supply chain. We are members of the Responsible Business Alliance, a multi-stakeholder initiative dedicated to advancing sustainability globally, the Responsible Minerals Initiative, and the Responsible Labor Initiative.

Product Innovation

We are thinking beyond Facebook's operations and exploring how our products and platforms can accelerate climate action and sustainability. Through strategic partnerships with sustainability industry experts and NGOs, we identify emerging trends and new opportunities for our products.

Since 2019, we have accelerated our work to create and expand sustainability solutions that drive climate action through our core products and services. We leverage capabilities and data across our platforms to create different solutions that will not only increase our understanding of climate change but will also enable our users, partners, and industry leaders to better drive climate action.

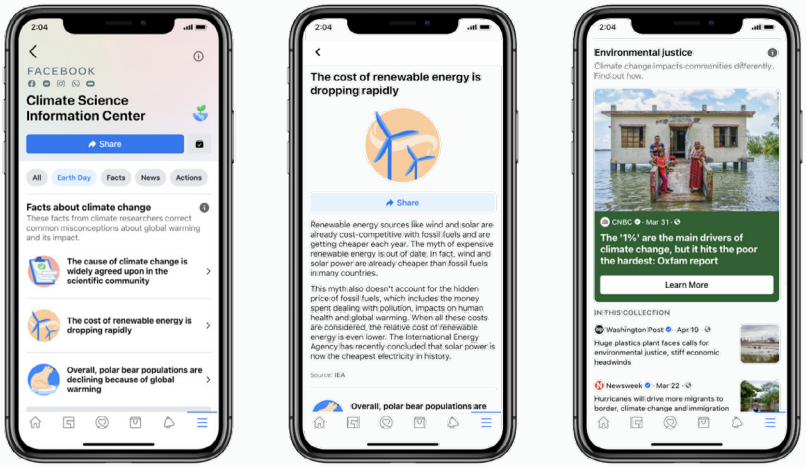
Increasing Climate Understanding through Innovation

Over the years, access to credible climate science information has continued to be a major challenge, inhibiting broader awareness around the urgency of climate change. That is why in September 2020, we launched the Climate Science Information Center (CSIC) as a hub to provide authoritative information from the world's leading climate science sources. Following the launch, we continued to add new features to the tool, which is now available in 16 countries, including a new section with facts debunking common climate myths and information labels on some posts directing people to the Center. More than 3 million people globally follow the platform, with an average of 100,000 visitors every day.

To better understand public views on climate change, our Data for Good team worked with the Yale Program on Climate Change Communication to launch a Climate Change Opinion Survey in over 30 countries and territories on Facebook. This first-of-its-kind survey gathers regional and global insight into public climate change knowledge, attitudes, policy preferences, and behaviors. These findings will be used by external partners in research and advocacy efforts and provide decision-makers an international view of climate change opinion.

Many of our climate solutions are driven by science and data. In April 2020, we launched the Climate Conversation Map, a tool that uses data science research and anonymized, aggregated data to show how climate conversations ebb and flow throughout the world and over time.

For our academic and nonprofit partners, this tool offers key insight into how audiences in different regions are engaging with climate-related news on our platforms and allows our partners to craft programs and messaging that resonate with their audiences. Within five months of launch, we built new state-level and daily datasets for partners. Approximately 70 partners accessed the tool by the end of 2020, and we continue to work closely with select academic partners to improve it.



The Climate Science Information Center increases access to authoritative climate information from the world's leading climate science sources and experts.

Connecting Values-Driven People and Businesses

There is a growing trend of people making shopping decisions by intentionally seeking out businesses and products that align with their own values. In 2020, we explored ways to expand our support for businesses focused on sustainability to connect with new consumers on our platforms.

In EMEA, we developed the Sustainable Business Program (SBP) to help businesses better engage with sustainability-minded customers, and to educate and empower consumers to make sustainable choices. Through SBP, we created a network of over 100 businesses across EMEA, advocating and accelerating business contributions to achieving the UN SDGs. As part of our work, the network published new insights and case studies across EMEA in a centralized resource for participating clients, and we also leveraged client feedback to inform the development of new products that connect conscious shoppers to sustainable brands on our platforms.

In partnership with our clients, we also built a Sustainability Ads Testing Program that provides initial evidence showing how values-driven communications can drive business results. For example, one test showed that ads showcasing supply chain traceability led to a 50 percent increase in the number of purchases and a 31 percent decrease in cost per acquisition. Moving forward, we will continue to enable sustainable brands and partners to connect with sustainability-conscious consumers on our platform and help advance values-driven shopping.

Innovating through Hackathons

Our employees are the driving force behind the success of our products and services. To support the passion that many of our employees have for sustainability, we have built a community of Sustainability Hackers, who gather during company hackathons throughout the world to incubate and build new climate product ideas and innovations. In 2020, we generated a total of 23 sustainability-related product ideas from our hackathons, ranging from biodiversity, environmental justice, and circularity.

We take a similar approach to how we identify and support external opportunities to promote innovation beyond our walls. In 2020, we partnered with **EIT Climate-KIC**, the largest private and public partnership in the EU addressing climate change, to support their Berlin and California **Climathons**, city-based programs that provide opportunities for cities and citizens to co-create ideas that address shared climate challenges.

Collaboration

Collaboration is essential to our ability to give people the power to build community and bring the world closer together. Beyond efforts to expand our platform to connect more people, we also recognize the importance of working with others to address key social and environmental issues like climate change.

That is why we work closely with our stakeholders and partners—including government, academic institutions, industry peers, nonprofits, and local communities—to increase knowledge access and provide a platform that helps empower and activate climate action.

Creating New Climate Content during Climate Week

Climate change is an urgent challenge that is too great for any single person, company, government, or entity to solve alone. Together we can effect more change, and we have built partnerships with globally-renowned organizations over the years to help share information about climate change and use the strength of our platforms to catalyze climate action. As organizations and businesses shifted their global teams to remote work amidst the COVID-19 pandemic, our platform and products offered a unique way for us and partners to collaborate.

During Climate Week NYC and the UN General Assembly (UNGA) in 2020, we helped the Climate Group reach a bigger, wider audience via Facebook Watch Live. We also hosted a panel online titled, "**Working Together to Accelerate Climate Action**," where viewers tuned into the panel via the **FBxUNGA microsite**, a dedicated page on our platform to showcase Facebook's presence at UNGA. We will continue to use UNGA as an opportunity to share our progress against the UN SDGs.

Virtualizing World Water Week

With events going virtual in 2020, we partnered with the Stockholm International Water Institute (SIWI) for the second year in a row to help bring World Water Week to a global online audience, working closely with the organization to develop digital presentation best practices and provide capacity-building training on Facebook and Instagram tools. We also supported the Stockholm Junior Water Prize, a global competition for youth to design water-related projects of environmental, scientific, social, or technological significance.

Sustainable Events Framework

Facebook annually hosts over 1,000 events across the world, and we understand the environmental impact that large-scale, in-person events can have. In 2020, teams across Facebook developed a Sustainable Events Framework to help ensure Facebook's global events align with our sustainability goal to reduce our GHG emissions and environmental footprint.

Through the Sustainable Events Framework, we outlined best practices and set standards for reducing our events' GHG emissions, waste, and material use in line with our net zero GHG emissions target. Beyond using the new framework to guide how we host Facebook events, we hope to share these practices and learnings broadly to accelerate progress across industries globally. In 2021 and beyond, all Facebook event managers and agencies will be asked to take our online course and follow the framework, with the goal of targeting our most impactful events moving forward.

Data Centers

At Facebook, we are proud to design and operate some of the most sustainable data centers in the world. Since we broke ground on our first data center in Prineville, Oregon in 2010, we have worked to minimize our impact by incorporating design elements and construction practices that prioritize resource efficiency and clean energy, while continuing to grow our presence to connect more people around the world.

Building and Operating Sustainable Data Centers

Supporting our data centers with 100 percent renewable energy and saving energy and water through efficient designs are the foundations of our strategy to operate sustainable data centers.

A key component of that strategy is ensuring our buildings comply with industry standards, specifically the Leadership in Energy and Environmental Design (LEED)—a globally recognized third-party verification standard for sustainable buildings developed by the United States Green Building Council (USGBC).

Since our Prineville data center earned the LEED Gold certification in 2011, we have continued to achieve Gold certification levels—or higher—for all of our current and new data centers. In 2020, five of our new construction projects—located across Denmark, Ireland and the U.S.—were awarded LEED Gold certification. Additionally, our Singapore data center, Facebook's first project in the APAC region, earned Platinum certification under Green Mark, a sustainability standard created by the Singapore government.

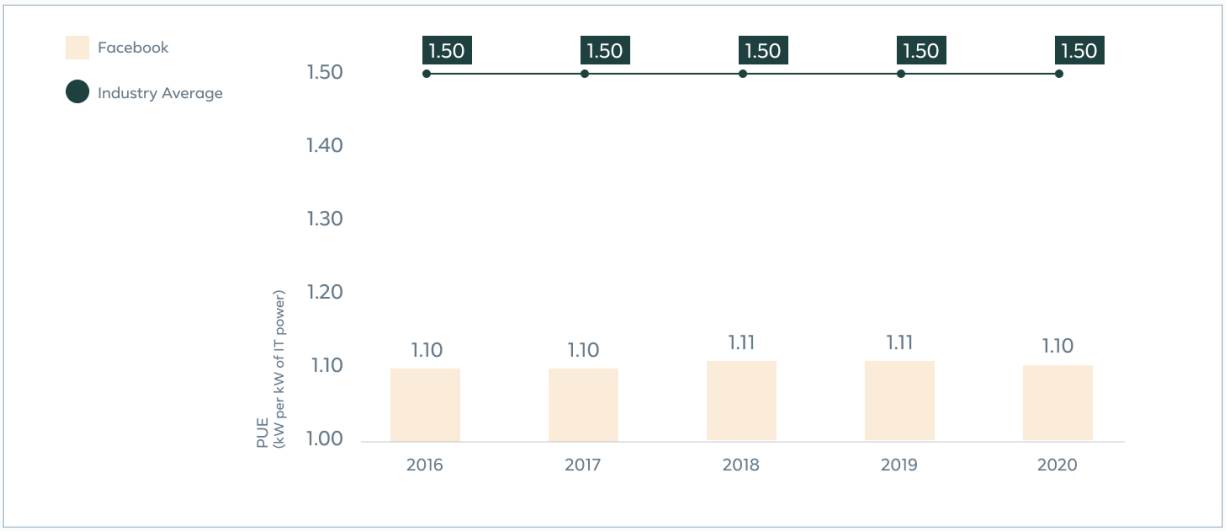
In 2020, we earned LEED Gold certification for our third data center building (CLN3) at our Clonee, Ireland campus.

Our data center in Odense, Denmark includes a system that reuses excess heat from data halls to warm homes in a neighboring community. We were able to divert 90 percent of the construction waste footprint from landfills through reuse, recycling and waste-to-energy facilities, and the project won the 2020 Data Center Dynamics "Hyperscale Data Center Innovation Award"

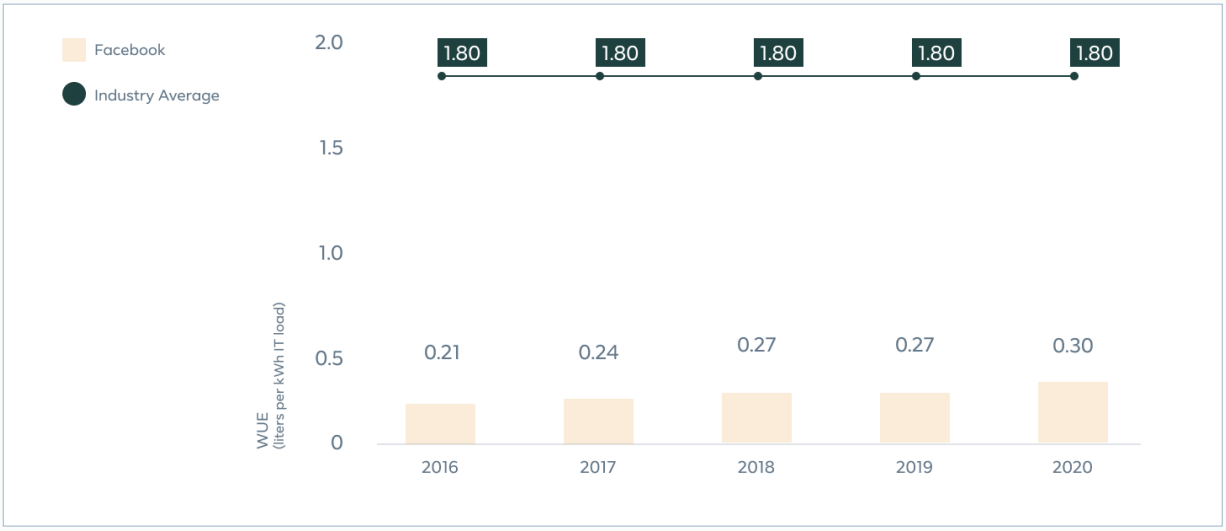
As part of our effort to reach net zero emissions for our value chain in 2030, we explored strategies to reduce the environmental impacts linked to construction activities and building materials like concrete and steel. Last year, in Altoona, Iowa, we began piloting the use of electric construction equipment, such as the Cat D6XE, the world's first electric drive dozer which uses 25 percent less diesel fuel compared to traditional bulldozers. We also piloted the Embodied Carbon Construction Calculator (EC3), a new online tool that design and construction teams can use to procure materials that reduce a building's overall carbon footprint.

For our Los Lunas, New Mexico data center located in a desert climate, we engineered a system that captures rainwater from the roof in an underground cistern and cuts in half the amount of potable water needed to irrigate the surrounding campus landscape.

Annual Data Center Power Usage Effectiveness (PUE)



Annual Data Center Water Usage Effectiveness (WUE)



Embedding Circularity

We prioritize embedding circularity principles into how we design, build, and operate our data centers to elevate resource efficiency and reduce our carbon footprint. In 2020, our five projects that earned LEED Gold diverted an average of 78 percent of construction materials from landfills. And to help reduce our overall waste footprint, we also collaborated with one of our major suppliers on an initiative to minimize the amount of packaging needed to ship fiber optic cables.

Our circularity principles also extend to the kinds of materials we use. To lower the carbon impact of concrete—one of the largest sources of global greenhouse gas emissions—we partnered with researchers from the University of Urbana-Champaign's civil engineering department to use artificial intelligence algorithms to develop low-carbon mix designs that use high amounts of byproducts from other industries as a replacement for cement. We hope to scale this pilot initiative to other facilities where possible in the coming years.

Economic Impact on Communities

Facebook is committed to investing in the vitality of communities where we develop data centers. When we build a data center in a community, Facebook drives job growth and contributes to economic and community development in the area.

According to our latest data center Economic Impact Report in the U.S., Facebook's direct investments from 2017 through 2019 in data center construction and operations contributed a cumulative $18.6 billion to the U.S. GDP and supported over 178,000 jobs. The study found that for every $1 million in capital expenditures, we support 14 jobs, and for every $1 million in operating expenditures, we support 18 jobs. When constructing data centers, we estimate more than 1,000 construction workers are on-site at peak. Once completed, a data center usually supports over 100 jobs to manage facility and site operations. In EMEA, our data center spending in Ireland from 2015 to 2018 drove a total of €721 million (approximately $875 million) of sales activity and €188 million (approximately $228 million) of GDP in the country's construction sector.

In addition to driving economic impact, Facebook is also committed to supporting the vitality of local communities by investing in schools, nonprofit organizations, and community projects through direct grantmaking and volunteering. Once a data center is operational, we launch our Community Action Grants program which provides grants focused on leveraging the power of technology for community benefit, helping people connect online or off and improving local science, technology, engineering, and mathematics (STEM) education on an annual basis.

Moving Industry Standards Forward

We work closely with industry organizations and experts to help shape the industry's standards for high-performance data centers. We continue to collaborate with the United States Green Building Council to shape design and construction standards and best practices, deepening our collaboration through our involvement in technical committees.

And through our Open Compute Project (OCP), we connect with other leading technology innovators to exchange products and designs around data center infrastructure and hardware with an open source community. In 2020, the OCP Incubation Committee, a working group dedicated to establishing the foundational and operational aspects of the OCP, outlined key strategies to enable greater circularity within the data center industry.

Workplaces

We are proud to design, build, and operate some of the most sustainable workplaces in the world.

Operating Sustainably

At Facebook, enhancing employee well-being and maintaining sustainable workplaces are key aspects to the way in which we operate our facilities. Our workplace sustainability philosophy is centered around occupant health, resource efficiency, and responsible supply chain management.

To achieve this, we implement stringent sustainability standards, as well as follow third-party green building certifications, when designing and operating our global facilities. We aim to achieve LEED Gold certification at our larger offices globally—and strive beyond that where possible, including earning LEED Platinum at our Menlo Park headquarters, with pursuit underway at additional locations across the U.S., U.K., Brazil, and India. In 2020, we completed our first offices slated for WELL and Fitwel® certification—two industry frameworks focused on promoting the health and wellbeing of building occupants. Beyond this, we continued to ensure that our major EMEA campuses continuously drive energy efficiency by achieving ISO 50001 Certification.

Our Dublin Ballsbridge Campus in Ireland is slated for WELL® Platinum Certification.

A key way Facebook is able to meet these rigorous industry standards is through our Healthy and Sustainable Materials Program. Since first introducing the program in 2013, we have ensured that the building materials and furnishings used within our facilities meet the highest standards for health and environmental impact. The program focuses on ingredient disclosure, reducing embodied carbon, and avoidance of worst-in-class "chemicals of concern," such as certain phthalates, flame retardants, heavy metals, and fluorinated chemicals. The program serves as an important foundation for how we promote sustainability through responsible procurement practices.

In an effort to further align our facility operations to our broader net zero emissions commitment, in 2020 we mapped out a 2030 Workplace Carbon Reduction Action Plan. Over the next 10 years, the plan aims to deliver a 50 percent carbon reduction across our workplaces' top contribution to GHG emissions, including: electricity use, natural gas use, waste generation, employee commute, food consumed on-site, and the embodied carbon of our building materials. As part of this strategy, we will reduce our carbon impact through projects such as energy efficiency upgrades, installing on-site renewables, integrating circular economic practices to reduce waste, and delivering low-impact commute solutions.

Reducing our workplace resource consumption in 2020

22%
Average design energy use reduction

50%
Average design water use reduction

79%
Average construction waste recycling rate

Supporting Local Community Environments

We are committed to helping build and preserve strong, resilient communities in the places we call home by actively engaging with our neighbors and making investments that support community needs and align with our core values. In addition to supporting investments in data center communities, local teams at our global offices leverage Facebook's resources to drive a positive impact on communities across key pillars of economic opportunity, food and housing access, and environmental sustainability.

One example of our efforts to support community environmental stewardship is our partnership with GRID Alternatives, a California-based nonprofit installing solar systems on homes in underserved communities. To date, we have provided grants to install 80 photovoltaic systems in communities near our Menlo Park headquarters in California, which are expected to help avoid 3,370 tons of GHG emissions over their lifetime and help reduce energy bills for under-resourced families. Over the past three years, we have also partnered with Build It Green and Franklin Energy in the San Francisco Bay Area through the Healthy Home Connect initiative, which uses multiple funding sources to deliver energy and healthy home upgrades to benefit the community's most vulnerable populations.

Additionally in 2020, we supported the construction of the Ravenswood Bay Trail, a project by Midpeninsula Regional Open Space District, to help close a critical gap in the otherwise continuous, 80-mile section of the Bay Trail in the San Francisco Bay Area. This new trail segment increases community access to the bayfront, is a setting for wildlife viewing and environmental education, as well as provides a commute alternative for cyclists.

We are proud to support the Ravenswood Bay Trail that provides access to the bay for Menlo Park and East Palo Alto communities in California.
Photo credit: Mike Kahn, Midpeninsula Regional Open Space District

Changing How We Engage Employees

Despite the COVID-19 pandemic, our employees remained engaged during key internal moments. We are so grateful for our global teams and internal Green@ chapters for their commitment and support in advancing Facebook's sustainability commitments.

As our employees adjusted to working remotely in 2020, we launched our Sustainability@Home educational program to provide resources on leading a more sustainable lifestyle. The program included an educational video series highlighting actionable steps employees can take to reduce their personal carbon footprint, as well as strategies to promote wellbeing while working from home.

Last year, we held our two largest events—Earth Week and Sustainability Summit—virtually on Workplace, increasing accessibility to our global employee base. Over five days during Earth Week, we hosted 68 virtual events, posts, and livestreams to celebrate Facebook's sustainability commitments and activate our employee base. To develop Earth Week content, we drew from the expertise of our global sustainability community, including members from 27 teams across 23 offices on three continents. By streaming all content through our internal Sustainability channels, we increased global awareness of this celebration—with over 7,100 viewers tuning in to the livestreams.

In September 2020, we launched a new internal sustainability event to align with UNGA/Climate Week: our inaugural Sustainability Summit. The goal of this one-day virtual conference was to highlight Sustainability programming across the company and celebrate the cross-functional teams that make this work a reality. We held employee sessions on our efforts to build and operate sustainable workplaces, partner with NGOs on water restoration projects, develop a Net Zero 2030 roadmap, and sustainable platform projects.

Appendix

Electricity Use (MWh)

	2016	2017	2018	2019	2020
Altoona, IA	342,000	500,000	612,000	853,000	980,000
Clonee, Ireland	1,000	1,000	200,000	382,000	487,000
Forest City, NC	339,000	433,000	547,000	614,000	595,000
Fort Worth, TX	16,000	189,000	461,000	695,000	941,000
Luleå, Sweden	295,000	301,000	337,000	373,000	369,000
New Albany, OH	not yet online	not yet online	not yet online	38,000	270,000
Odense, Denmark	not yet online	not yet online	4,000	128,000	343,000
Papillion, NE	not yet online	not yet online	5,000	178,000	519,000
Prineville, OR	327,000	426,000	488,000	573,000	686,000
Henrico, VA	not yet online	not yet online	not yet online	10,000	204,000
Los Lunas, NM	not yet online	not yet online	26,000	289,000	571,000
East Coast Leased Data Center Facility	317,000	359,000	432,000	674,000	795,000
Other Data Center-Related Facilities	118,000	135,000	133,000	113,000	206,000
Data Centers Total	**1,756,000**	**2,360,000**	**3,245,000**	**4,918,000**	**6,966,000**
Offices Total	**74,000**	**102,000**	**181,000**	**222,000**	**204,000**
Total Electricity Use	**1,830,000**	**2,462,000**	**3,427,000**	**5,140,000**	**7,170,000**

Power Usage Effectiveness

	2016	2017	2018	2019	2020
Annual Data Center PUE	**1.10**	**1.10**	**1.11**	**1.11**	**1.10**

Electricity mix [3]

	2016	2017	2018	2019	2020
Renewable	**44%**	**51%**	**75%**	**86%**	**100%**
Non-Renewable	56%	49%	25%	14%	0%

Greenhouse Gas Emissions by Scope (metric tons CO_2e) [4,5,6,7]

Market-Based	2016	2017	2018	2019	2020
Scope 1	9,000	25,000	42,000	44,000	29,000
	1%	2%	4%	1%	1%
Scope 2	545,000	591,000	314,000	208,000	9,000
	77%	54%	31%	5%	<1%
Scope 3	156,000	480,000	652,000	4,078,000	4,029,000
	22%	44%	65%	94%	99%
Total	**710,000**	**1,096,000**	**1,008,000**	**4,330,000**	**4,067,000**
Carbon Removal [8]					**-145,000**
Net Total	**710,000**	**1,096,000**	**1,008,000**	**4,330,000**	**3,922,000**

Location-based	2016	2017	2018	2019	2020
Total	**789,000**	**1,387,000**	**1,983,000**	**6,295,000**	**7,550,000**

Operational Greenhouse Gas Emissions (market-based scope 1 & 2 metric tons CO_2e) [9]

	2016	2017	2018	2019	2020
Altoona, IA	1,000	1,000	1,000	2,000	1,000
Clonee, Ireland	0	<500	<500	<500	1,000
Forest City, NC	116,000	136,000	53,000	9,000	<500
Fort Worth, TX	<500	1,000	1,000	1,000	<500
Luleå, Sweden	<500	<500	<500	<500	<500
New Albany, OH	not yet online	not yet online	not yet online	<500	2,000
Odense, Denmark	not yet online	not yet online	0	<500	<500
Papillion, NE	not yet online	not yet online	<500	<500	3,000
Prineville, OR	239,000	293,000	137,000	1,000	3,000
Henrico, VA	not yet online	not yet online	not yet online	<500	<500
Los Lunas, NM	not yet online	not yet online	1,000	1,000	<500
East Coast Leased Data Center Facility	115,000	98,000	102,000	188,000	0
Other Data Center-Related Facilities	45,000	40,000	17,000	4,000	2,000
Data Centers Total	**516,000**	**568,000**	**314,000**	**207,000**	**14,000**
Offices Total	**39,000**	**48,000**	**42,000**	**44,000**	**24,000**
Total Operational GHG Emissions	**555,000**	**616,000**	**356,000**	**252,000**	**38,000**
Reduction From 2017 Baseline		Baseline	42%	59%	94%

Market-Based vs. Location-Based Scope 2 Facilities GHG Emissions (metric tons CO_2e)

	2018		2019		2020	
	Market-based	Location-based	Market-based	Location-based	Market-based	Location-based
Altoona, IA	0	346,000	0	483,000	0	555,000
Clonee, Ireland	0	82,000	0	143,000	0	159,000
Forest City, NC	52,000	201,000	8,000	208,000	0	202,000
Fort Worth, TX	0	212,000	0	295,000	0	399,000
Luleå, Sweden	0	7,000	0	6,000	0	7,000
New Albany, OH	not yet online	not yet online	0	20,000	0	157,000
Odense, Denmark	0	1,000	<500	18,000	0	57,000
Papillion, NE	0	3,000	0	101,000	0	294,000
Prineville, OR	137,000	145,000	0	167,000	0	200,000
Henrico, VA	not yet online	not yet online	0	3,000	0	69,000
Los Lunas, NM	0	12,000	0	135,000	0	266,000
East Coast Leased Data Center Facility	102,000	128,000	188,000	193,000	0	223,000
Other Data Center-Related Facilities	17,000	44,000	1,000	41,000	2,000	62,000
Data Centers Total	**308,000**	**1,181,000**	**197,000**	**1,813,000**	**2,000**	**2,650,000**
Offices Total	**6,000**	**60,000**	**8,000**	**72,000**	**7,000**	**68,000**
Total Facilities GHG Emissions	**314,000**	**1,241,000**	**205,000**	**1,885,000**	**9,000**	**2,718,000**

Greenhouse Gas Intensity (market-based scope 1 & 2 metric tons CO_2e / monthly active person)

	2016	2017	2018	2019	2020
Annual GHG Intensity	**0.00030**	**0.00029**	**0.00015**	**0.00008**	**0.000012**

Value Chain Greenhouse Gas Emissions (scope 3 metric tons CO_2e) [10,11,12]

	2016	2017	2018	2019	2020
Category 1: Purchased Goods & Services [10]	data not available	data not available	data not available	1,428,000	1,846,000
				35%	46%
Category 2: Capital Goods [10]	data not available	data not available	data not available	1,671,000	1,837,000
				41%	46%
Category 3: Fuel & Energy-Related Activities	data not available	data not available	data not available	264,000	56,000
				6%	1%
Category 6: Business Travel [11]	64,000	246,000	397,000	529,000	129,000
				13%	3%
Category 7: Employee Commuting [12]	36,000	43,000	71,000	90,000	61,000
				2%	2%
Other Applicable Categories [10,12]	data not available	data not available	data not available	96,000	100,000
				2%	2%
Total	**156,000**	**480,000**	**652,000**	**4,078,000**	**4,029,000**

Water Withdrawal (cubic meters) [13]

	2016	2017	2018	2019	2020
Altoona, IA	87,000	106,000	139,000	145,000	151,000
Clonee, Ireland	not yet online	10,000	188,000	395,000	615,000
Forest City, NC	123,000	129,000	99,000	85,000	68,000
Fort Worth, TX	14,000	98,000	269,000	322,000	300,000
Luleå, Sweden	32,000	66,000	53,000	58,000	49,000
New Albany, OH	not yet online	not yet online	not yet online	33,000	35,000
Odense, Denmark	not yet online	not yet online	not yet online	266,000	360,000
Papillion, NE	not yet online	not yet online	not yet online	62,000	108,000
Prineville, OR	70,000	172,000	160,000	208,000	445,000
Henrico, VA	not yet online	not yet online	not yet online	not yet online	42,000
Los Lunas, NM	not yet online	not yet online	25,000	92,000	140,000
East Coast Leased Data Center Facility	400,000	473,000	533,000	1,011,000	645,000
Other Data Center-Related Facilities	98,000	85,000	264,000	54,000	42,000
Data Centers Total	**825,000**	**1,139,000**	**1,730,000**	**2,731,000**	**3,000,000**
Offices Total	**305,000**	**470,000**	**638,000**	**699,000**	**726,000**
Total Water Withdrawal	**1,129,000**	**1,609,000**	**2,367,000**	**3,430,000**	**3,726,000**
Recycled Water	426,000	469,000	673,000	854,000	643,000

Water Consumption (cubic meters)

	2016	2017	2018	2019	2020
Total Water Consumption	data not available	**838,000**	**1,279,000**	**1,971,000**	**2,202,000**

Water Usage Effectiveness

	2016	2017	2018	2019	2020
Annual Data Center WUE [14]	**0.21**	**0.24**	**0.27**	**0.27**	**0.30**

Water Withdrawal Intensity (cubic meters / monthly active person)

	2016	2017	2018	2019	2020
Annual Water Intensity	**0.000607**	**0.000755**	**0.00102**	**0.00120**	**0.00113**

1 Values are rounded and totals are calculated before rounding throughout this report.

2 "Other data center-related facilities" includes facilities where Facebook used less than 100,000 MWh of electricity in the reporting year, such as warehouses or colocation facilities. Owned data centers are always reported by site, even if they were below this threshold.

3 In owned and leased data center facilities included in scope 2 and 3 emissions, Facebook has matched building operations with renewable energy.

4 Facebook's methodology for calculating greenhouse gas emissions can be found here.

5 Scope 1, 2, and 3 greenhouse gas emissions are calculated annually based on the WRI/WBCSD Greenhouse Gas Protocol.

6 (a) Scope 1 includes emissions from diesel, natural gas, and refrigerants from offices and data centers and from diesel and gasoline in the transportation fleet owned and controlled by Facebook.

(b) Scope 2 includes emissions from electricity of offices and warehouses leased, controlled, and owned by Facebook; electricity of data centers owned and leased (IT load) by Facebook; natural gas of offices and warehouses leased and serviced by Facebook; and purchased heat. Because Facebook does not control building operations in leased data center facilities, as of 2017, only emissions associated with its IT load electricity are included in Scope 2 emissions.

(c) Scope 3 emissions are indirect emissions throughout Facebook's value chain. Starting in 2019, Facebook included emissions from all relevant categories in Scope 3. Scope 3 emissions for 2015 to 2018 include business travel, employee commute, and construction.

7 To ensure accurate tracking towards Facebook's 75% operational emissions reduction target, any material changes are also applied to the 2017 base year, at minimum.

8 Prior to 2020, Facebook invested in avoided emissions offsets which are not considered carbon removal.

9 In the 2019 reporting year, three updates to reporting were applied to 2017 (baseline year) and later inventories:

(a) Vehicles operated by the Transportation team in support of commuting and inter-campus travel were previously counted in Scope 3 – Employee commute. After re-visiting Facebook's operational control of these vehicles, it was determined that they should be accounted for in Scope 1.

(b) It was determined that Facebook overestimated natural gas emissions by including estimates for offices which do not in fact use natural gas. Recalculations have been applied to the inventory to remove these inaccuracies.

(c) Fugitive emissions from refrigerant losses at offices not under Facebook operational control were moved from Scope 2 to Scope 3.

10 In the 2020 reporting year, two emission factors updates have significantly impacted the GHG inventory:

(a) Economic-Environmental Input-Output emission factors were updated and applied to relevant categeories. 2019 numbers have been updated to reflect these new emission factors.

(b) Waste emission factors have been updated and applied starting in 2020.

11 In the 2020 reporting year, two updates to the methology were applied:

(a) A new business travel methodology was developed, which was applied to 2019 and updated. Air travel still includes radiative forcing starting from 2017.

(b) Employee commuting now includes telecommuting, or work-from-home, emissions starting in 2020, for which the electricity portion is matched with renewable energy.

12 This includes the following categories in Scope 3: upstream and downstream transportation and distribution, waste generated in operations, upstream leased assets, use of sold products, and end-of-life treatment of sold products

13 Notes on Facebook's 2020 water withdrawal:

(a) 17% is recycled water, 1% is ground and off-site water, and the remainder is provided by local utilities. All unconsumed water is returned to utility-owned wastewater treatment plants.

(b) 25% of water withdrawal occurs in high water stress areas (determined using WRI's Aqueduct tool and Facebook knowledge on local water stress).

(c) Not included in these figures are an additional 388,000 cubic meters of water withdrawn for the construction of Facebook data centers.

14 Water Use Effectiveness (WUE) is calculated based on best available data, including internal flow meters, design estimates, and utility bills where applicable.

Facebook's Greenhouse Gas Accounting Methodology

At Facebook, our sustainability work helps us to operate efficiently and responsibly in our mission to build community and bring the world closer together. As a global company, we recognize the tech industry's environmental impact and role to play in addressing climate change. We embrace the responsibility to understand the full scope of our footprint and be transparent and accountable in our mission to reduce our emissions. Identifying the source of our emissions on an annual basis enables us to prioritize emissions reduction where we can make the most meaningful progress on our path to net zero emissions across our value chain in 2030.

Facebook's Greenhouse Gas Emissions

Facebook's Greenhouse Gas (GHG) footprint includes the emissions associated with running our business and data centers, as well as the indirect emissions created upstream from our operations and downstream in our products. These emissions correspond to Scope 1, Scope 2, and Scope 3 emissions as defined by the Greenhouse Gas Protocol.

Operational Emissions

Scope 1 and 2 emissions are considered our operational emissions. Scope 1 emissions come from our direct operations, such as combustion of natural gas to heat our offices and the fuel burned in our employee shuttles. Scope 2 includes indirect emissions from purchased energy, such as the electricity powering our data centers.

Scope 1 emissions direct emissions from our data centers, offices, and transportation fleet	• Stationary combustion (e.g., natural gas consumed at our Menlo Park campus for heating) • Mobile combustion (e.g., diesel emissions from our intercampus shuttles) • Fugitive emissions (e.g., refrigerants)
Scope 2 emissions indirect emissions from purchased energy for our data centers and offices	• Purchased electricity • District heating • Stationary combustion from leased sites

In 2020, Facebook reduced our operational emissions by 94% from a 2017 baseline and addressed the residual emissions with high-quality carbon removal projects. As a result, Facebook's operations produce net zero emissions.

Full Value Chain Emissions

Scope 3 emissions come from sources within our full value chain beyond our operations and comprise the largest component of our footprint. Scope 3 includes:

1. Upstream emissions, such as the emissions from manufacturing our data center servers or emissions from employee commutes; and
2. Downstream emissions, such as the emissions associated with people using our Portal or Oculus devices.

Scope 3 emissions our value chain emissions upstream and downstream of our operations

Upstream:

- Purchased goods and services (e.g., upstream emissions from purchased office supplies)
- Capital goods (e.g., server hardware)
- Fuel and energy-related activities
- Upstream transportation and distribution of purchased and sold products
- Waste generated from our operations
- Business travel
- Employee commuting (including telecommuting)
- Upstream leased assets

Downstream:

- Downstream transportation and distribution of sold products
- Direct use of our sold products
- End-of-life treatment of sold products

How We Calculate Our GHG Emissions

Facebook is committed to the Science Based Targets initiative and takes a scientific, standardized approach to calculating its GHG emissions in accordance with the GHG Protocol. Furthermore, Facebook's GHG data undergoes a third-party review each year to verify our emissions and methodology. This is completed annually to ensure that only the most accurate and up-to-date data is publicly reported.

We quantify our GHG emissions via activity data, life cycle assessments (LCAs), and financial data. We prioritize calculating our emissions through activity data which directly measures an activity that results in GHG emissions, such as kilowatt hours (kWh) of electricity. Due to the complex nature of our business and value chain, we use other methods to help calculate our emissions when activity data is not available.

We measure our emissions by metric carbon dioxide equivalent, or CO_2e, units. CO_2e is used to standardize the emissions from different greenhouse gases based on their global warming potential.

Activity Data

For activity data, we take the quantity of a specific measured activity and multiply it by an associated emission or life cycle factor to calculate the total emissions from that activity. For example, if we take the kWh of electricity consumed at a Facebook site and apply the appropriate International Energy Agency's country-specific emission factors, we could calculate the total emissions from that site's electricity use. We use activity data to calculate for:

- Scope 1 and Scope 2
- Fuel and energy-related activities
- Waste generated in operations
- Business travel (including radiative forcing)
- Employee commuting (including electricity and natural gas from telecommuting employees)
- Downstream transportation and distribution of sold products
- Direct use of sold products
- End-of-life treatment of sold products

Life Cycle Assessment (LCAs)

To understand cradle-to-gate emissions and/or upfront emissions that are released before certain assets are used (e.g., the emissions released from the production of concrete before it is poured), we conduct third-party LCA studies or utilize LCA tools to measure our impact. This is applicable in our 2020 inventory for the following emissions:

- Upfront emissions associated with the materials used in construction of our data centers
- Upfront emissions of materials in office renovations and new construction
- Cradle-to-gate emissions from the packaging found in sold products, such as Portal and Oculus devices

Financial

Our Environmentally Extended Input Output (EEIO) method utilizes financial spend data and applies it to industry-specific emission factors (e.g., kg CO_2e per dollar spent on electronic manufacturing) published by the U.S. Environmental Protection Agency (EPA) to get "cradle-to-gate" emissions. We apply the EEIO method to the following:

- Purchased goods and services
- Capital goods not related to construction
- Upstream transportation and distribution
- Upstream leased assets

Improving Our Methodology

As Facebook decarbonizes our value chain over the next decade, the data and methodology that drives our climate work will evolve and improve each year. We have disclosed our Scope 1 and 2 emissions for the last 10 years. We began reporting on some Scope 3 categories in 2015, and have reported on every relevant category defined by the GHG Protocol since 2019. As techniques to calculate our emissions improve, we will apply those methods to previous years to get a better sense of our footprint. For example, in 2020 we used the EPA's updated EEIO emission factors for our Scope 3 calculations and updated our 2019 data accordingly.

Going forward, we will focus on increasing accuracy and granularity of our data. We will use activity data for more emissions categories as methods to do so become available. We will continue reporting and updating our emissions boundaries as our business grows on our path to net zero emissions.

Thank you

We look forward to sharing more of our sustainability progress with you through future reports.

For more information, please visit:

sustainability.fb.com