

Climate Change

SASB: CG-MR-130a.1, CG-EC-410a.2, FB-FR-110b.1

GRI: 3-3, 201-2, 302-1, 302-4, 305-1, 305-2, 305-3, 305-4, 305-5

TCFD: See table

UN SDGs: 7, 11, 13

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Our Aspiration

Walmart has committed to science-based targets for emissions reduction, including achieving zero emissions in our operations by 2040 and engaging suppliers through our Project Gigaton initiative to reduce or avoid supply chain emissions by 1 billion metric tons by 2030. We aim to galvanize collective action across the retail and consumer goods sector through our advocacy, supplier engagement, philanthropy, and innovation in product supply chain practices, while taking steps to strengthen the resilience of our business against the effects of climate change.

Key Goals & Metrics

Metric	FY2020	FY2021	FY2022	FY2023
Goal: Achieve zero emissions across global operations by 2040:				
Annual greenhouse gas (GHG) emissions (million metric tons carbon dioxide equivalent – MMT CO ₂ e) ²	CY2019 Total: 17.20 Scope 1: 6.85 Scope 2 (market-based): 10.35	CY2020 Total: 15.93 Scope 1: 7.25 Scope 2 (market-based): 8.68	CY2021 Total: 13.99 Scope 1: 7.37 Scope 2 (market-based): 6.62	CY2022 Forthcoming
Percent change in annual scopes 1 & 2, compared to 2015 baseline ³	CY2019 11.3% decrease	CY2020 17.8% decrease	CY2021 23.2% decrease	CY2022 Forthcoming
Percent change in scopes 1 & 2 annual emissions (vs. previous year) ³	CY2019 2.7% decrease	CY2020 7.3% decrease	CY2021 6.6% decrease	CY2022 Forthcoming
Carbon intensity (scopes 1 & 2) (MT CO ₂ e per \$M revenue) ^{2,4}	CY2019 32.83	CY2020 28.49	CY2021 24.42	CY2022 Forthcoming
Percent change in carbon intensity, per revenue (vs. previous year) ^{2,4}	CY2019 4.8% decrease	CY2020 13.2% decrease	CY2021 14.3% decrease	CY2022 Forthcoming

Estimated percentage of global electricity needs supplied by renewable sources ⁵	CY2019 29%	CY2020 36%	CY2021 46%	CY2022 Forthcoming
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cumulatively since CY2017				
Reduced or avoided emissions reported by suppliers in reporting year	>136 million MT	>186 million MT	>158 million MT	>175 million MT
Number of suppliers reporting	>1,000	>1,500	>2,500	>3,000
Percentage of U.S. product net sales dollars represented by reporting suppliers ⁹	Not available	60%	>70%	~75%

Relevance to Our Business & Society

Climate change is one of the greatest challenges of our time, profoundly affecting all regions of the world and all sectors of society. Without mitigation or adaptation, climate effects such as warming, flooding, drought, extreme weather events, and rising sea levels are projected to reduce agricultural yields, force people from their homes, endanger livelihoods, and destroy infrastructure in the coming decades.

To avoid the worst effects of climate change, the [Intergovernmental Panel on Climate Change](#) (IPCC) has called for the world to reduce global greenhouse gas (GHG) emissions to net zero by 2050. Achieving this moonshot goal requires immediate and sustained action from all parts of society, including business. Companies need to be part of the solution to manage physical and transition risk, maintain societal license to operate and create value for business and society through mitigation and adaptation initiatives that draw on unique business capabilities.

As a large omni-channel retailer with millions of customers worldwide and a global sourcing footprint, Walmart is able to lead by reducing emissions in our operations and supply chain while galvanizing collective action across our industry. We believe a strong climate action strategy will help us manage the physical and transition risks associated with climate change, strengthen the resilience of our business, and help us create value for stakeholders.

Walmart's Approach

We seek to lead on climate action. We focus on achieving our science-based targets for emissions reduction in our global operations and supply chain in ways that strengthen the performance and resilience of our business. We also advocate for and support initiatives to accelerate progress toward net zero by 2050 across the industry—and society more broadly—by drawing on our capabilities as an international retailer: our ability to engage suppliers across many categories, our retail and supply chain expertise, our digital capabilities, our leadership role in industry and multi-stakeholder coalitions and forums, and strategic philanthropy through Walmart.org. Our efforts include:

- Governing our climate strategy through accountable leadership and assessing climate risk
- Mitigating emissions to achieve approved science-based targets, covering our global operations (aiming to achieve zero emissions by 2040) and product supply chain (through our Project Gigaton initiative, Scope 3 footprinting, analyses, and target-setting)
- Adapting our business (e.g., facilities and sourcing) to be more resilient in the face of climate risk
- Advocating for 1.5°-C-aligned public policy through direct advocacy, engagement with trade associations and consortia, and corporate communication
- Reporting on our progress with transparency, verifiable data, and science-based methodologies, as well as encouraging our suppliers to set ambitious targets and report on their progress

Key Strategies & Progress

[Governance](#) | [Climate Risk Assessment](#) | [Mitigation](#) | [Adaptation](#) | [Advocacy](#) | [Reporting](#)

Governance

Management Oversight

Climate strategy is a key part of Walmart's Environmental, Social and Governance (ESG) strategy. Walmart's corporate sustainability team leads the development of the company's climate strategy, working with a cross-functional team including finance, real estate, operations, merchandising, strategy, legal, and public policy. Our climate strategy is reviewed at least annually by the Walmart executive leadership team.

The company assesses climate risk annually as part of our Enterprise Risk Management process. Periodically, we conduct an in-depth, scenario-based climate risk assessment (first completed in 2017; last updated in 2020). We also continue to monitor ongoing physical and transition risks (discussed in more detail below). Merchandising leaders have goals that support our climate mitigation and adaptation strategies, including emissions reduction initiatives.

Board Oversight

The [Nominating and Governance Committee](#) (NGC) of the Board of Directors oversees Walmart's climate strategy. In 2022, the NGC and management discussed recent trends, risks, and laws relevant to our climate work, Walmart's climate strategy (including our focus on energy transformation) and current progress towards our goals, our climate policy positions, advocacy strategy and external engagement, and philanthropic investments that enable climate action more broadly. Highlights of the committee's discussions with management are shared with the full Board of Directors.

Climate Risk Assessment

To inform the company's climate mitigation and adaptation strategies, Walmart periodically conducts a scenario-based climate risk

assessment, aiming to align with the scenario guidance set forth by the [Task Force on Climate-related Financial Disclosures](#) (TCFD). We updated the physical risk analysis in 2020 with the help of a third-party consultant, considering climate-related risks in the short-,

Scope of Analysis		
Physical Risk Assessment (RCP 8.5)		
Modeled Risk	Climate Variables	Considerations for Mitigation and Adaptation
Retail Stores and Retail-Related Facilities <ul style="list-style-type: none"> Increased heating and cooling cost Damage to buildings and inventory 	<ul style="list-style-type: none"> Heat Extreme wind Extreme precipitation Flooding (riverine and coastal) 	<ul style="list-style-type: none"> Disaster preparedness and response Energy initiatives Refrigeration maintenance and conversions Real estate: facilities siting; construction specifications
Supply Chain <ul style="list-style-type: none"> 11 commodities (avocados, animal feed, milk, oranges, rice, coffee, cocoa, cotton, beer hops, almonds, and shrimp) considered at-risk from climate change Commodity shortages due to temporary or permanent yield reductions (e.g., coffee, cotton, and cocoa) Disruption in production and distribution of products reliant on agriculture (e.g., cotton textiles) 	<ul style="list-style-type: none"> Heat Drought Extreme wind Extreme precipitation Flooding (riverine and coastal) 	<ul style="list-style-type: none"> Surety of supply initiatives Local sourcing efforts Country of origin assessments Resilient produce sourcing Sustainable commodities initiatives
Communities <ul style="list-style-type: none"> Displaced associates and customers, reducing their proximity to retail stores Physical and mental health impacts Financial well-being 	<ul style="list-style-type: none"> Flooding (riverine and coastal) Heat Extreme wind 	<ul style="list-style-type: none"> Disaster preparedness and response Selection of sites for future stores Public policy advocacy
Transition Risk Assessment		
Cost of scope 1 & 2 emissions	Price on carbon	Zero emissions
Read more about the additional transition risk factors we considered qualitatively but did not formally model below.		

Methodology & Findings

To assess physical risk, we used Representative Concentration Pathway (RCP) 8.5, a GHG concentration scenario adopted by the IPCC that assumes the absence of further decarbonization on the planet (and is therefore an indicator of the inherent/unmitigated risk of climate change). We analyzed the impact of five associated climate effects—flood (riverine and coastal), heat, drought, extreme precipitation, and extreme winds—across five key geographies (Canada, China, India, Mexico, and the United States) for 2030 and 2050. We evaluated direct impacts of climate change on Walmart's physical assets (retail stores and retail-related facilities), supply chain, and communities.

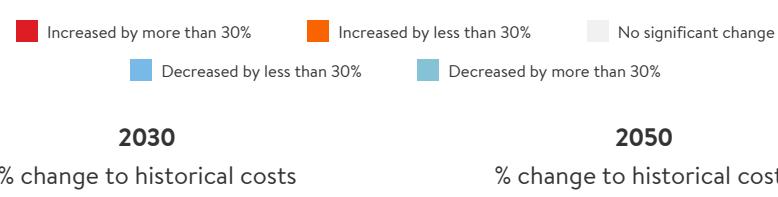
Such climate risks and potential impacts are not unique to Walmart; they will affect food and general merchandise retailers as well as other businesses and communities around the world. While the limitations of the analysis¹⁰ mean it cannot be used to predict the net impact on Walmart's financial results of operations or business operations, and the improbable nature of the RCP 8.5 scenario means that it can't be used to make materiality determinations, it nevertheless provides helpful insights into the relative impact of various climate effects and the relevance of Walmart's mitigation and adaptation strategies. And while no single climate risk appears to be consequential for Walmart due to Walmart's relatively large scale, diversified product and service portfolio, and the long-term nature of the risks, taken together, they paint a sobering picture of potential impact to people and the planet and underscore the need for immediate business action to help prevent the worst effects of climate change.

Insights provided by the climate risk assessment help us set long-term strategy and drive innovation. Leaders from across the company, including merchandising, real estate, operations, and supply chain, discussed the results of the physical risk assessment and incorporated findings into their operating plans.

Retail Stores & Retail-Related Facilities

The climate risk assessment identified potential variables that could affect Walmart's facilities over the next three decades: flooding and extreme storms, with potential damage to buildings and inventory; and temperature changes, which the modeling suggests could increase heating and cooling costs in two-thirds of Walmart locations by 2030 and 80% of locations by 2050. These underscore the relevance of Walmart clean energy initiatives and other mitigation and adaptation efforts.

Predicted Changes Historical Location Heating and Cooling Costs¹⁰





Supply Chain

By 2050, climate change's impact on weather patterns, including increasing the likelihood of heat waves, heavy rainfall, and droughts, is likely to affect the production, distribution, and (in some cases) the viability of food and other consumer products. We analyzed the potential climate exposure of 25 commodities relevant to our business. For the 11 commodities that face the highest overall impact from climate change, we assessed three factors: land suitability, farming conditions for animal products, and heat stress for people. The analysis suggested that some commodities (e.g., coffee, cocoa, and cotton) may face significant challenges due to future climate effects, while others (e.g., avocados, animal feed, milk, oranges, and rice) may remain largely unaffected. Our merchants and global sourcing teams are working with suppliers to implement more sustainable practices that promote resilience, such as cultivating heat resistant crops to prevent future sourcing challenges (see Adaptation section below for more information). The analysis underscores the relevance of Walmart sustainable commodity initiatives and other initiatives focused on enhancing the resilience of supply chains.

Communities

We modeled the potential impact of several climate variables on Walmart U.S. store communities: flooding (from either coastal or riverine sources), extreme wind (e.g., hurricanes), and heat. Our analysis suggests that approximately 50% of communities currently served by Walmart U.S. facilities may face significant, long-term disruption by 2050. If these areas become less habitable, people could be forced to relocate—creating challenges to physical, financial, and emotional well-being for our customers and associates, and potentially requiring shifts to our stores and distribution/fulfillment network. The financial well-being of a community may deteriorate due to the loss of jobs and homes after a hurricane, and in some vulnerable U.S. counties, there could be an up to 230% increase in household power costs.

Our analysis also suggests that climate change has the potential to disproportionately impact vulnerable populations, including communities of color. A [New York Times](#) analysis found that summer temperatures in cities such as Dallas, Miami, and New York can be warmer in poorer neighborhoods than in wealthier ones, where populations are generally whiter. We continue to advocate for climate solutions that advance equity. For example, in Florida, we worked with utility companies, advocates and regulators to help negotiate the largest shared solar program in the country, which authorizes nearly 40 megawatts of clean energy for low-income Floridians.

Additional Potential Transition Risks

Regulation and legislation

Examples

- Changes to carbon pricing regimes (e.g., RGGI, CA AB 32, WCI and country level carbon taxes)
- State and federal level energy targets and requirements (e.g., Renewable Portfolio Standard (RPS), clean energy standards)
- Changes to HFC refrigerant regulations (e.g., Kigali Agreement, U.S. American Innovation and Manufacturing Act, California Air Resources Board HFC Reduction Measures Act, E.U. F-Gas)
- Policy targets, fuel and engine standards, subsidies and incentives associated with increasing usage of zero emissions vehicles and infrastructure (CA ACT rule, Interstate ZEV MOU, federal vehicle emissions standards)
- Changes to energy and water efficiency standards for buildings and equipment
- Changes to subsidies and incentives related to demand-side energy management and renewable energy generation (e.g., U.S. ITC, CPUC Net Energy Metering 3.0 proceeding, PTC, feed-in-tariffs)
- Introduction of product taxes, labeling regulations, and design standards for carbon- or water-intensive product categories (e.g., meat, dairy, nuts, produce, appliances)

Approaches to managing risk

- Policy monitoring and modeling, integration into business and financial planning
- Engagement in stakeholder forums associated with regulatory processes and rulemaking
- Advocacy on climate policy proposals and creation of policy principles to assess and endorse position statements developed by external partners
- Emissions reduction initiatives; energy efficiency, renewables, phasing out of HFC refrigerants, transitioning to zero emission vehicles, Project Gigaton

Technology

Examples

- Advances in fossil-fuel mining and petroleum production that keep fossil-fuel prices low, thereby adversely affecting the economics of emission reduction initiatives
- Changes in low-carbon technology and manufacturing that cause existing assets to decrease in value, competitiveness or become obsolete (e.g., onsite EV chargers become underutilized if hydrogen becomes dominant for passenger vehicles)
- Advances in low-carbon and renewable generation and manufacturing that bring down the levelized cost of energy (LCOE) making existing long-term power purchase agreements less valuable in comparison (e.g., older generation wind farms)

Approaches to managing risk

- Monitoring technology trends and forecast scenarios
- Building flexibility into infrastructure changes
- Leasing assets rather than investing directly
- Advocating for technology-neutral emission reduction policies

Legal

Examples

- Patchwork of disparate city or state level regulations (e.g., energy regulations) rather than consistent national regulations, making compliance more complex and costly
- Risk of events in the wake of climate-related extreme weather events, such as looting, harm to employees or customers and shareholder concerns

Approaches to managing risk

- Monitoring and assessing regulations and legal risks on an ongoing basis

[View additional information about our approach to managing climate-related risks and opportunities.](#)

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Examples

- Changes in energy and commodity prices driven by climate-related weather events, consumption behaviors and policies, resulting in higher costs
- Changes in refrigerant pricing and supply volumes affecting costs and availability
- Changes in consumer demand for low carbon products and services
- Changes in demand for gasoline and automotive replacement parts (e.g., motor oil) due to shifts in transportation technology mix (e.g., rising penetration of electric vehicles)
- Prolonged climate-related events affecting macroeconomic conditions with knock-on effects on consumer spending and confidence
- Changes in investment preference toward companies with leading environmental and emissions performance

Approaches to managing risk

- Monitoring market trends
- Emission and energy reduction initiatives; energy efficiency, renewables, phasing out of HFC refrigerants, transitioning to zero emission vehicles
- Scenario modeling as part of energy/emissions opex and capex planning
- Closely monitoring consumer trends
- Report climate and environmental performance to investors

Reputation

Examples

- Customer perception of climate issues and Walmart's climate action, including how we design and run our stores and the products we offer, affecting customer loyalty
- Stakeholder perception of Walmart's response to climate-related crisis (e.g., hurricanes, floods, fires, power outages) at community and national levels
- Stakeholder perception of Walmart's engagement in climate-related policies, affecting license to operate
- Associate perception of Walmart climate action and management of climate-related issues, affecting our ability to recruit and retain talent

Approaches to managing risk

- Monitoring customer, investor and stakeholder sentiment via digital and traditional media engagement and coverage
- Engaging regularly with stakeholders to understand and address their perspectives, building awareness regarding climate strategy into communications and marketing initiatives
- Continuously improving Walmart capabilities in climate mitigation and adaptation

Continuing to Monitor Physical and Transition Risks

We consider these risks as part of the company's annual Enterprise Risk Management (ERM) process that encompasses strategic, operational, reputational, financial, and regulatory and compliance risks. The process includes development of mitigation plans against critical risks; ongoing or new issues are addressed through the strategic planning process. The results of these assessments are shared with Walmart's Governance Risk Committee (GRC) and with the Audit Committee of the Walmart Board of Directors.

Business segments and functions also consider climate-related policy issues as part of developing their annual strategic and operating plans. Walmart has established policy councils to assess emerging legislation and regulations within and across key markets. The policy councils include internal stakeholders from various parts of the organization (e.g., Government Affairs, Legal, Real Estate, Communications, and Compliance).

Climate-related regulations and legislation can affect costs and create growth opportunities for our business, including our clean energy and transportation initiatives. The [Inflation Reduction Act of 2022](#) (IRA), for example, seeks to reduce carbon emissions by roughly 40% by 2030 through measures that include financial incentives of nearly \$400 billion to jump-start R&D and the commercialization of clean energy and clean transportation technologies. Similarly, the [2021 Infrastructure Investment and Jobs Act](#) provides billions of dollars towards the expansion of renewables and clean energy, including EV charging capacity.

Because stakeholder views can differ regarding climate risk, mitigation and adaptation measures, our Corporate Affairs team monitors stakeholder sentiment and engages them to inform the development of Walmart business initiatives.

Read more about our ongoing climate risk assessment in our [CDP Response](#).

Mitigation

Walmart's climate change mitigation strategy centers on achievement of ambitious targets:

- Achieve zero emissions across our global operations (Scopes 1 & 2) by 2040
- Help reduce or avoid one billion metric tons (a gigaton) of greenhouse gases by 2030 through engagement with our suppliers targeting areas of emissions reductions that can impact key Scope 3 categories

Emissions From Our Global Operations (Scopes 1 & 2)

In 2020, we raised our aspiration to reduce emissions in our operations (Scopes 1 & 2) by realigning our science-based target to a 1.5-degree Celsius trajectory, the most aggressive trajectory approved by the SBTi. Our goal is to achieve zero emissions across Walmart's global operations by 2040, which includes our SBTi-approved interim goal of reducing absolute Scopes 1 and 2 GHG emissions by 35% by 2025 and by 65% by 2030 from our 2015 base year. We were the first U.S. retailer to make a [zero emissions commitment](#) that does not rely on carbon offsets. We achieved a 23.2% reduction in combined Scopes 1 and 2 emissions between our 2015 calendar year baseline and 2022.³

While Scope 2 emissions in 2021 declined by 19% over 2020, 2021 Scope 1 emissions increased by approximately 9%³. The primary driver of the increase in Scope 1 emissions was increases in onsite refrigerants. Our plans to address these factors are addressed below.

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reduced our carbon intensity by 40.9%, as measured by MT CO2e per \$M revenue.



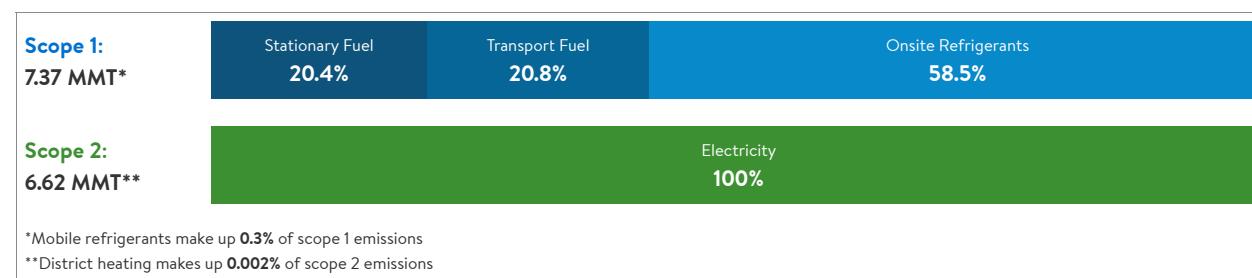
Despite the continued rise in Scope 1 emissions, momentum in Scope 2 reductions has meant that, through CY2021, our combined Scope 1 and 2 emissions reduction has tracked the downward trajectory of our science-based target. This may not be the case each year, as the pace and scope of our investments in emissions reduction and realized reductions are not linear. To continue to move toward our science-based target, we continue to work toward reducing our emissions through five primary workstreams:

- Renewable energy
- Energy efficiency
- Transportation
- Stationary fuels
- Onsite refrigerants

While the relative contribution of each workstream toward emissions reductions will vary over time based on operational, financial, and technological considerations, they all matter for us to achieve our zero-emissions ambition and interim targets.

Walmart's Annual Emissions

Million metric tons (MMT) CO2e²



1. Renewable Energy

Electricity is the biggest contributor to our operational emissions, accounting for nearly 100% of our Scope 2 emissions and approximately 47% of our overall operational emissions in 2021. To achieve our overall goal of zero emissions across global operations by 2040, we aspire to power 50% of our global operations with renewable sources of energy by 2025 and 100% by 2035. In 2021, an estimated 46% of our global electricity needs were supplied by renewable sources.⁵ Walmart directly procured an estimated 28% of our global electricity needs through Renewable Energy contracts in 2021.⁶

We make progress through onsite generation, power purchase agreements, utility partnerships, policy advocacy, and other clean energy investments. Examples include:

- **Onsite generation:** As of the end of 2021, we had more than 600 onsite and offsite renewable energy projects in operation or under development in over 10 countries.⁵ We are also incorporating renewable energy projects into our [new home office](#) – including building solar panel-ready rooftops for our layout center. Walmart was recently ranked number 4th overall and 3rd in onsite on the [2022 Solar Means Business Report](#) issued by the Solar Energy Industries Association, which tracks commercial solar installations in the U.S.
- **PPAs:** In 2021, we contracted to purchase additional renewable energy, including 50 MW of a 129 MW community solar project in New York that will supply renewable energy to 36 facilities. According to the [U.S. EPA Green Power Partnership Top 30 Retail Ranking](#), Walmart was the top retail partner in terms of annual green power usage in the U.S. as of January 2023. We were also number 4 on the [EPA Green Power Partnership National Top 100](#) for the same time period.
- **Clean energy investments:** In 2021, Walmart invested in Bay Tree Solar, a 70 MW solar project developed by Cypress Creek Renewables. Bay Tree has been operational since January 2022 and is expected to produce over 150,000 megawatt hours of electricity annually, delivering enough clean energy to power approximately 14,000 households in North Carolina.
- **Policy advocacy:** We participate in and support coalitions like the [Clean Energy Buyers Association](#), [RE100](#), and others to help shape renewable energy policies and advance cost-effective sustainable options in the regions where we operate (see below for more information on coalitions and read the [Engagement in Public Policy](#) brief for a broader view of our policy work).

Walmart's Inaugural Green Bond and Green Financing Framework

In September 2021, Walmart issued a \$2 billion, 10-year green bond, the first under our [Green Financing Framework](#). The Framework outlines the types of sustainable financing Walmart can issue and eligible spend categories to which proceeds may be allocated, including renewable energy, high-performance buildings, sustainable transport, zero waste and circular economy, water stewardship, and habitat restoration and conservation.

During FY2021-FY2022, we allocated \$1.1 billion towards the following:

- Solar and wind PPAs, solar and wind virtual PPAs, and onsite solar and wind
- Efficient lighting and HVAC upgrades, sustainable building materials and refrigeration retrofitting
- General recycling of cardboard, organics and other materials
- Hydrogen forklifts
- Conservation and restoration projects through our Acres for America program
- Water treatment plants and irrigation monitoring

Our [2021 Green Bond Impact Report](#) contains the first impact report following the bond issuance. Additional reporting on the allocation and impact of bond proceeds can be found on our [Investor Relations site](#).

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2. Energy Efficiency

Our energy efficiency strategy includes energy management, facility retrofits, and new facility design and construction. For example:

- We use technology to enable real-time monitoring and optimization of energy use in our buildings, and have installed energy meters at thousands of our facilities around the world. We aim to equip all U.S. stores with this technology by the end of FY2024.
- As our existing buildings and equipment age, we aim to replace or upgrade older equipment with the latest in high-efficiency technology.
- We are incorporating efficiency into new store designs in lighting, heating, ventilation and air conditioning (HVAC), refrigeration, and other categories such as plug loads.
- We are also incorporating energy efficiency projects into our [new home office](#), including a central utility plant with energy-efficient cooling towers and heat recovery chillers, and LED lighting throughout.



3. Transportation

Our fleet (transport fuel and mobile refrigerants) contributed approximately 21% of our Scope 1 emissions (and approximately 11% of our overall operational emissions) in 2021. Electrifying and enhancing our fleet and reaching net-zero emissions from all our vehicles and transportation network, including long-haul trucks in the U.S. and Canada, are key priorities for reaching our zero-emissions target.

In 2021, Walmart received the U.S. EPA's [SmartWay Excellence Award](#), which honors top shipping and logistics company partners for superior environmental performance. This was the fifth year Walmart was honored.

Enhancing our fleet: While truck fleet efficiency remains a focus, we are working within our fleet to evaluate potential solutions to help us substantially reduce our emissions, including testing heavy-duty zero-emission vehicles, battery electric vehicles, and hydrogen fuel cell vehicles. We test certain new technologies through conversion to low-carbon fuels and technologies—such as transitioning diesel-operated forklifts to electric ones. These conversions are facilitated by Low Carbon Fuel Standard credit programs, such as those in California and Oregon, which provide a financial benefit for transitioning equipment.

Last mile: As much as possible, we are seeking to electrify our last-mile offerings to customers. In 2022, Walmart U.S. began deploying 1,100 Ford E-Transit electric vans, and aims to complete this deployment in 2023. Walmart U.S. also [announced an agreement](#) with Canoo in 2022 to reserve the option to purchase 4,500 all-electric delivery vehicles over the next five years. These vehicles will be part of our growing last-mile delivery fleet. In India, our Flipkart business joined the EV100 initiative and committed to using electric vehicles for delivery by 2030.

Class 8 heavy-duty and yard truck innovations: We believe multiple technologies will play a role in decarbonizing long-haul/heavy-duty Class 8 tractors and yard trucks, including renewable diesel, electric battery, and hydrogen fuels. We support the development of these technologies by participating in feasibility testing and providing feedback to manufacturers to ensure vehicle technology meets the needs of Walmart's fleet and other large fleets. For example:

- Walmart Canada announced that it has [reserved](#) 130 electric Tesla Semi trucks.
- In January 2023, we placed our first all-electric Class 8 truck—the [Freightliner eCascadia](#)—into service in the U.S.
- We utilize multiple electric yard trucks with a plan to increase the number of these trucks in operation by the end of 2023.

Currently, our electric yard trucks are estimated to provide approximately 50% emissions reduction compared to diesel trucks.

Public policy: Walmart supports public policy that will create an enabling environment for the development, adoption and scaling of zero-emission commercial transportation fleets. Recent examples include:

- Releasing a set of [public policy principles](#) (in collaboration with PepsiCo) to convey to federal and state policymakers the types of policy interventions, planning and guidance that can support the efficient and economical transition to zero-emission commercial transportation fleets. These principles reflect our business strategy, promote efficiency and optimization as a reduction pathway and take a technology-neutral approach so that we can align our distribution network outcomes with environmental and community benefits.
- Supporting our trade associations in their engagement with the U.S. Department of Transportation to consider the retail sector during its planning for the implementation of the National Electric Vehicle Infrastructure (NEVI) Formula Program.
- Working directly with U.S. state coordinators on their electric vehicle charging plans.

Investing in EV Charging Infrastructure

We are investing in clean energy infrastructure in the U.S. to make electric vehicle (EV) ownership more accessible, reliable, convenient and affordable for our customers. By 2030, we aim to build our own EV fast charging network at thousands of Walmart and Sam's Club locations coast to coast. As of March 2023, we have nearly 1,300 EV fast charging stations that are already available at over 280 stores and clubs across the U.S.

Read more: [Zero Sum: How Walmart Transportation is Working to Reduce Emissions Now and in the Future](#)

4. Stationary Fuels

Stationary fuels, including fossil fuels used for heating, cooling, and backup power, contributed approximately 20% of our Scope 1 emissions (and approximately 11% of our overall operational emissions) in 2021. A key part of our decarbonization strategy is to reduce our dependence on these fuels by increasing efficiency, transitioning to cleaner fuels, and electrifying equipment. For example, at our

U.S. stores we have added electrical connection points to power units (such as our refrigerated trailers), which provide temporary storage capacity during peak seasons.

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Delivering affordable and safe fresh and frozen food to millions of people in pleasant shopping environments requires refrigeration and air-cooling equipment that uses considerable amounts of energy and refrigerants. Onsite refrigerant emissions contributed approximately 58% of our Scope 1 emissions (and 31% of our overall operational emissions) in 2021. Global Scope 1 onsite refrigerant emissions increased 17% from 2020 to 2021, largely due to leaks from refrigeration equipment using R-404A, a widely used refrigerant introduced in the mid-1990s as a replacement for ozone-depleting refrigerants.¹¹ We are addressing these emissions in three ways:

1. Managing leaks: We continue working to minimize refrigerant gas leakage through repairing and maintaining our existing equipment, as well as by working with industry-leading consultants to implement innovative solutions for reuse. Such efforts have resulted in an average leak rate across our U.S. store operations that is lower than the supermarket industry average stated by the U.S. Environmental Protection Agency (EPA).

2. Implementing low GWP systems: Most of our facilities use higher-GWP systems prevalent at the time of construction. As our equipment ages and is retired from service, we are replacing it with lower Global Warming Potential (GWP) alternatives, balancing the investment and replacement schedule with our zero emissions commitments. We anticipate a continued rise in onsite refrigerant emissions until more of this equipment is converted. We are also experimenting with and installing low GWP systems in new facilities.

In the United States, for example, we operate more than 200 facilities that fully or in-part utilize ultra-low GWP refrigerants including carbon dioxide (CO₂), glycol and ammonia. These systems are used in new construction where commercially available. For example in November 2021, we opened a store in Yaphank, New York that is the first to fully utilize CO₂ technology for the store's refrigeration needs. We are also utilizing lower GWP systems in our international stores and clubs, including in Canada, Central America, China, and Mexico.

3. Advocacy to support scaled adoption of low-GWP technology: Walmart supports federal policy that would require the phasing out of high-GWP refrigerants, as that would support market changes necessary to implement low-GWP systems at scale and at reasonable cost. Examples include:

- We engaged lawmakers on implementation of the American Innovation and Manufacturing (AIM) Act and Kigali Amendment to the Montreal Protocol—an international agreement to gradually reduce the consumption and production of hydrofluorocarbons (HFCs). AIM requires a 15-year phasedown of HFCs at the national level.
- We joined members of the Air-Conditioning, Heating, and Refrigeration Institute in endorsing a petition to the EPA regarding the adoption of rules to prohibit the use of refrigerants with high-GWP, and submitted a letter to the EPA supporting regulatory actions for stationary refrigeration equipment that are environmentally effective (e.g., limiting new commercial systems with charges over 50 lbs. to use refrigerants with a GWP of 150 or less) and nationally consistent.

Value Chain Emissions (Scope 3)

In 2016, Walmart became the [first retailer to set an approved Science-Based Target for emissions reduction](#), which includes a goal to help reduce, avoid, or sequester 1 billion metric tons (a gigaton) of CO₂e in global product value chains by 2030—equivalent to a ~30% cumulative reduction¹³ in Walmart's total annual Scope 3 emissions (as estimated at the time we set the goal).

To catalyze immediate, significant, and sustained effort toward this goal, we worked in consultation with World Wildlife Fund, Environmental Defense Fund (EDF), and CDP to develop Project Gigaton: a program to engage suppliers, NGOs, and others in reducing major concentrations of emissions in global value chains, including actions in the following arenas: energy, transportation, product design, waste, packaging, and nature.

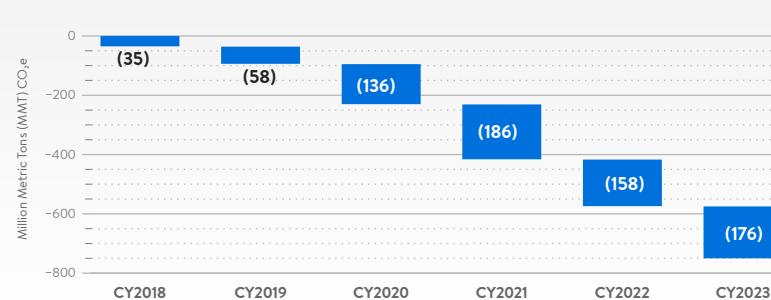
Since launching in 2017, participating suppliers have reported more than 750 MMT of cumulative emissions reduced, avoided, or sequestered through initiatives focused on decarbonizing product value chains—ahead of pace to achieve the 2030 goal. Over 5,200 suppliers have signed up, making Project Gigaton one of the largest private sector consortia of its kind. In FY2023, more than 3,000 suppliers reported having reduced, avoided, or sequestered more than 175 MMT of CO₂e.¹⁴

Project Gigaton Progress^{7,8,15}

MMT CO₂e Emissions Reported Reduced, Avoided, or Sequestered

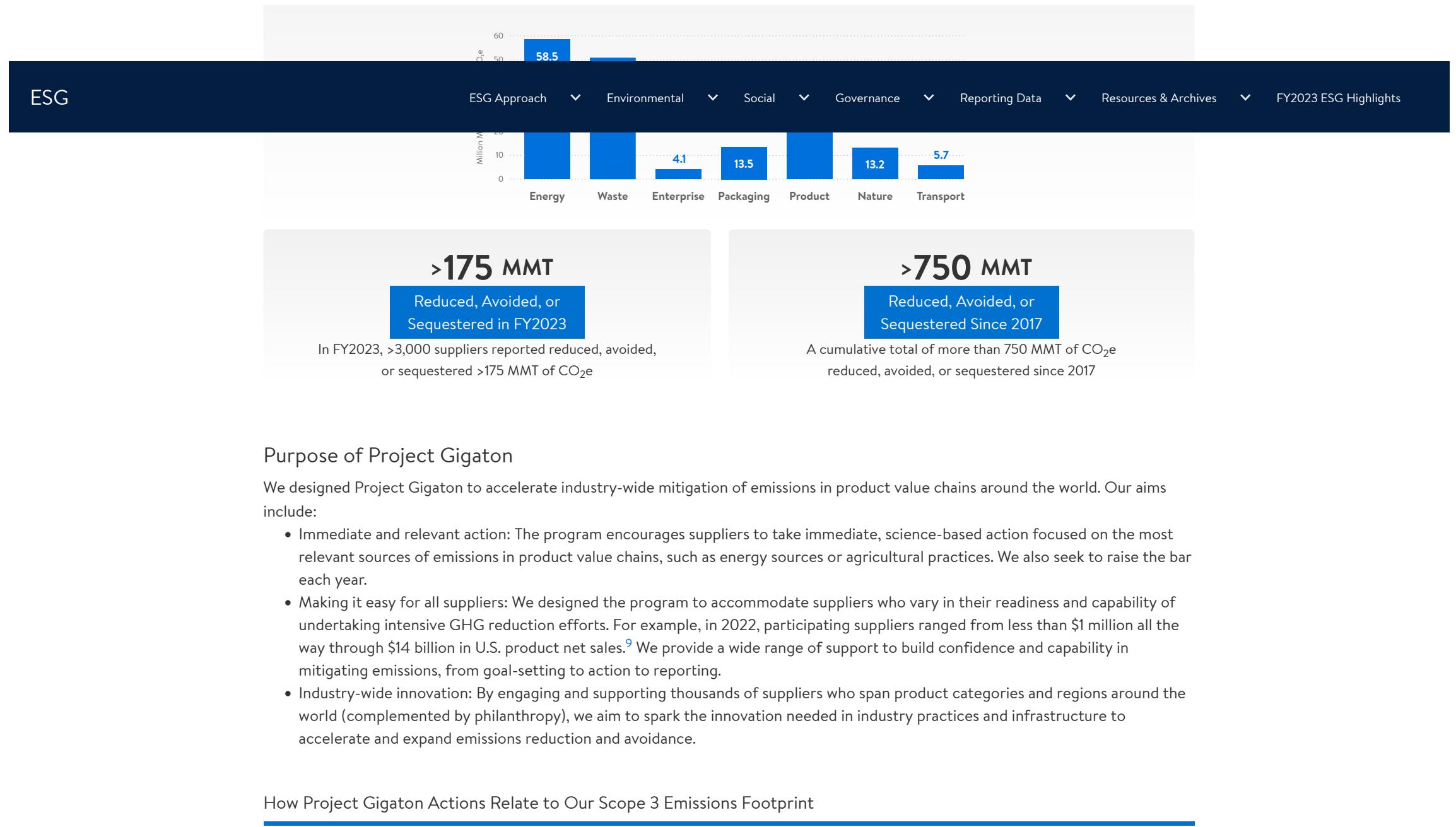
Emissions Reduced

Cumulative emissions reduced, avoided or sequestered (MMT CO₂e)



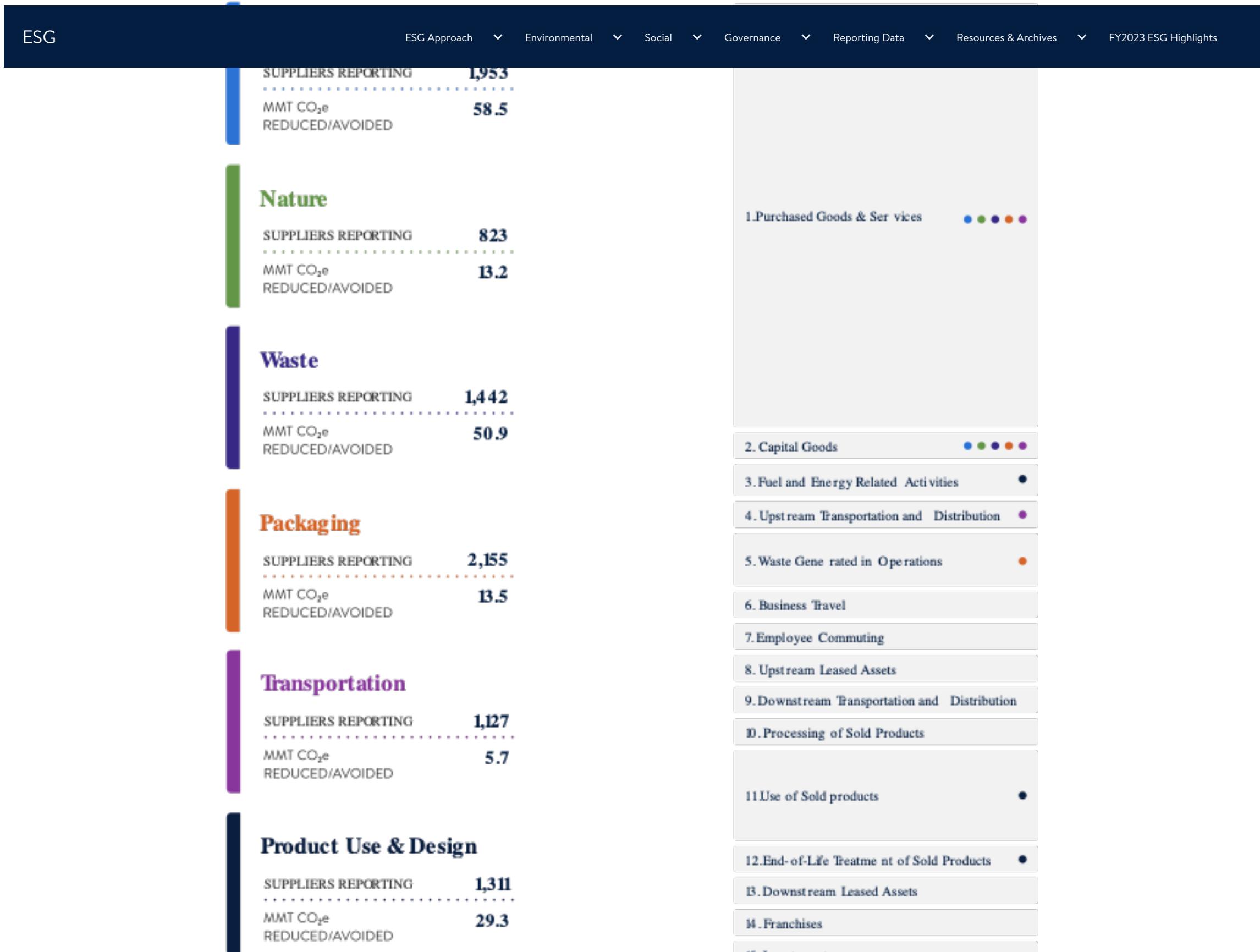
Project Gigaton Action Areas (FY2023)

Million Metric Tons (MMT) CO₂e Reduced/Avoided by Action Area



Project Gigaton Action Areas FY2023

GHG Scope 3 Categories



Project Gigaton Action Areas FY2023

Energy

SUPPLIERS REPORTING
1,953



MMT CO₂e

58.5

REDUCED/AVOIDED

GHG Scope 3 Categories

1. Purchased Goods & Services

2. Capital Goods

Nature

SUPPLIERS REPORTING
823



MMT CO₂e

13.2

REDUCED/AVOIDED

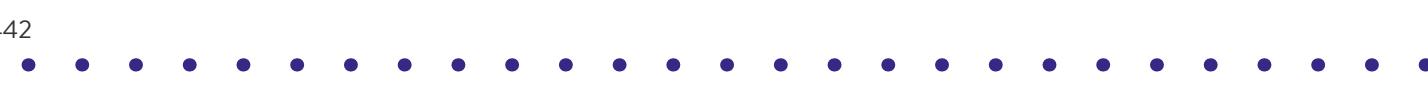
GHG Scope 3 Categories

1. Purchased Goods & Services

2. Capital Goods

Waste

SUPPLIERS REPORTING
1,442



MMT CO₂e

50.9

REDUCED/AVOIDED

GHG Scope 3 Categories

1. Purchased Goods & Services

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GHG Scope 3 Categories

1. Purchased Goods & Services

2. Capital Goods

5. Waste Generated in Operations

Transportation

SUPPLIERS REPORTING

1,127



GHG Scope 3 Categories

1. Purchased Goods & Services

2. Capital Goods

4. Upstream Transportation and Distribution

Product Use & Design

SUPPLIERS REPORTING

1,311



GHG Scope 3 Categories

3. Fuel and Energy Related Activities

11. Use of Sold Products

12. End-of-Life Treatment of Sold Products

How Project Gigaton Works

Through Project Gigaton, Walmart encourages and supports suppliers to set emissions goals, take action, and report results on emissions reduction and avoidance efforts. The initiative offers resources such as guidance on goal-setting and reporting, workshops and playbooks on best practices, and other resources that help companies get started and increase their ambition and action over time.

Setting Goals

Project Gigaton encourages suppliers to set goals and take action across six action areas (pillars) that are among the most critical for mitigating emissions in product supply chains, as well as relevant to our suppliers' businesses: energy use, nature, waste, packaging, transportation, and product use and design (see table below).

For each pillar/action area, we worked with WWF and EDF to develop emissions “[calculators](#)” that suggest opportunities for emissions reduction and avoidance as well as help suppliers calculate the emissions impact of their initiatives (e.g., transitioning factory energy supply from fossil fuels to renewables; altering packaging material).

We have refined our pillars/action areas over time to help improve relevance, increase comprehensiveness, and facilitate adoption.

Examples of recent enhancements include:

- In 2021 we added a new Transportation pillar and combined the Agriculture and Deforestation pillars into a new Nature pillar.
- In 2022 we refined the Nature pillar to help suppliers identify the calculators most relevant to their business based on the commodities they supply to Walmart.

Project Gigaton Pillar	Relevance for lowering emissions	Actions we encourage suppliers to take	Examples of Walmart support
Energy	Energy generation and procurement is often a key source of a business' greenhouse gas emissions.	Avoid energy-related emissions in two ways: 1) reduce energy demand through optimization and efficiency and 2) transition to energy sources that are renewable and generate little to no carbon emissions.	<ul style="list-style-type: none"> • Calculators • Tools/playbooks (e.g., Factory Energy Efficiency tool) • Programs (e.g., Gigaton PPA) • Advocacy and engagement in consortia (e.g., Better Buildings Alliance, Clean Energy Buyers Association)
Nature	Scientists estimated that restoring, renewing and replenishing nature can provide one-third of the solution to climate change.	Help protect, more sustainably manage, or restore forests through certification, monitoring, sustainable sourcing regions, collaborative action, and advocacy. Adopt regenerative agriculture and best practices in agriculture, such as soil management, methane emissions from animals' digestive processes management, feed management and other activities, including efficient fertilizer use in crop production.	<ul style="list-style-type: none"> • Calculators • Product specifications and standards (e.g., Forest Policy, Pollinator Health Position, certification requirements) • Best practice forums (e.g., Beef Summit, Row Crop Summit, Seafood Summit) • Programs (e.g., Nature Map to take in and share information on place-based

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Waste	from landfills can have a significant impact on GHG emissions, increase operating efficiency and in some cases, lower costs.	Address food, product and material waste that come from factories, warehouses, distribution centers and farms and contribute to GHG emissions.			(e.g., “10x20x30” initiative, Consumer Goods Forum Food Waste Coalition)	• Philanthropic investments (e.g., forest traceability/monitoring tools)	
Packaging	Reducing unnecessary packaging and using more efficient materials reduces manufacturing needs, thus reducing GHG emissions.	Reduce unnecessary packaging, use better packaging materials and increase packaging reuse and recycling. Walmart is taking specific aim at plastics with expanded waste reduction commitments for our U.S. private brands.			• Calculators • Packaging standards and specifications • Best practice forums (e.g., Packaging Innovation Summit) • Tools and playbooks (e.g., Walmart Recycling Playbook , Plastic IQ) • Programs (e.g., Circular Connector) • Advocacy and engagement in consortia (e.g., CGF Plastics Coalition, Polypropylene Recycling Coalition, Closed Loop Partners’ Beyond the Bag)		
Transportation	Fossil-fuel powered vehicles produce greenhouse gas emissions during their operation and are typically a major source of value chain emissions.	Improve fleet efficiencies, optimize routes and introduce zero-emission vehicles to avoid carbon emissions in the supply chain.			• Calculators • Advocacy (e.g., collaboration with PepsiCo on public policy principles for zero-emission commercial transportation fleets)		
Product Use & Design	Product use and design impacts several key scope 3 categories, including use of sold products and end-of-life treatment of sold products.	Design products to reduce emissions throughout the product lifecycle, from use of raw materials in manufacturing the product (e.g., incorporating recycled content) through consumer use (e.g., LED lightbulbs).			• Calculators • Tools and playbooks (e.g., Sustainable Packaging Playbook , Golden Design Rules) • Advocacy and engagement in consortia (e.g., CGF principles on Extended Producer Responsibility) • Philanthropic investments (e.g., Accelerating Circularity - reduce textile waste)		

Taking Action

Through Project Gigaton we engage our suppliers to understand and design interventions to mitigate emissions in particularly challenging and GHG-intensive categories (e.g., beef, dairy, soy supply chains). Our engagement ranges from individual merchant-supplier discussions as part of joint business planning to webinars and large-scale summits. To inspire action and innovation, we provide useful science-based resources, including calculators (described above), workshops, playbooks, and programs. The chart above provides examples of these resources, which include:

- **Providing calculators**, which help suppliers identify relevant opportunities to mitigate emissions as well as calculate emissions impact of their initiatives. For example, suppliers can answer a series of questions about packaging changes, and our calculators will help them determine the appropriate emission factor as well as provide data to spark ideas for additional improvements.
- **Setting product standards and requirements** (for example, [Forest Policy](#); certification requirements) to help guide suppliers on practices relevant for mitigating emissions.
- **Hosting webinars and summits** to provide training and share best practices. For example, we provide coaching from NGOs on how to best use Project Gigaton calculators to further their emissions reduction efforts; and our topical summits (e.g., beef, row crops) share best practices on production practices (e.g., grazing, fertilizer optimization) to avoid or reduce emissions.
- **Offering programs to help accelerate impact**. For example, with Ørsted and Schneider Electric, we co-created a [collaborative Power Purchase Agreement](#) (Gigaton PPA) open only to Walmart suppliers. The first cohort of Gigaton PPA is expected to generate approximately 250,000 MWh annually of new renewable power. Our [Circular Connector](#) highlights third parties offering packaging solutions. Our [Nature Map](#) initiative helps suppliers and others learn about place-based sourcing projects that support conservation, restoration and better management of commodity production.
- **Providing tools and playbooks**. For example, we developed a Factory Energy Efficiency tool to assist factories in becoming more energy efficient, tracking renewable energy and efficiency projects and associated benefits; over 1,300 factories have signed up for this tool to date, with over 1,000 factories reporting completed projects.
- **Helping provide access to financing the transition**. We worked with [CDP](#) and [HSBC](#) to provide an early-payment program for suppliers who set science-based targets or have achieved certain score thresholds from CDP.
- **Advocating for policies and engaging in consortia** to help companies make progress on mitigating emissions (e.g., the [Department of Energy’s Better Buildings Alliance](#) and the [Clean Energy Buyers Association](#)).

Reporting and Recognition

Project Gigaton is designed to encourage increased ambition and reporting or progress. After signing up, setting goals, and taking action, suppliers are encouraged to achieve "Sparking Change" status, then "Giga Guru" status; criteria for meeting these thresholds have increased over time. Walmart [publicly recognizes](#) suppliers achieving these milestones to thank them for their efforts and to inspire others to join and increase their ambition.

- **Sparking Change**: Suppliers that have set SMART (Specific, Measurable, Achievable, Relevant and Time-limited) goals, agreed to share them publicly and reported reducing or avoiding emissions in the most recent reporting year. In the FY2023 reporting year, more than 900 suppliers were recognized for Sparking Change.
- **Giga Gurus**: Suppliers that have set SMART goals in three pillars, agreed to share them publicly and reported reducing or avoiding emissions in three pillars during the most recent reporting year. To keep the level of ambition high, in 2021 we increased the requirements to qualify for Giga Guru status from setting goals and reporting in a single pillar to setting goals and reporting in three pillars. In the FY2023 reporting year, we recognized more than 1,500 suppliers as Giga Gurus.

Walmart has aligned Project Gigaton with CDP to help facilitate the reporting process by enabling suppliers to leverage their CDP disclosures to report to Project Gigaton.

In 2023, we are asking suppliers to report on their Scope 1 and 2 emissions footprints (in addition to their emissions mitigation initiatives) through Project Gigaton.

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Walmart Scope 3 Footprint Analysis and Target-Setting

Project Gigaton focuses on pursuing and reporting on specific initiatives to mitigate emissions in retail product supply chains. Project Gigaton's emissions calculators (including emissions factors and formulas to translate specific actions into emissions impact) are designed to help measure the emissions impact of specific activities undertaken at a particular scale in particular places.

Estimating the entire Scope 3 emissions footprint of a multi-category retail business like Walmart is a different story. It requires reliance on broad estimates of all activities of thousands of supplier (e.g., their farming and manufacturing practices, energy sources and uses, transportation, waste, product and packaging materials) and hundreds of millions of customers (e.g., do they cook their food using gas or electricity; how many times do they wash their clothing and do they do it in hot water or cold; do they waste food, in which case the food may elevate emissions by off-gassing in a landfill). As a result, estimates of Scope 3 footprint in retail tend to be very high-level, order-of-magnitude estimates.

Estimates can also vary widely based on changes in methodology and assumptions that do not necessarily reflect changes in actual emissions.

For example, in 2017, when we set our Project Gigaton Science-Based Target, methodologies for calculating value chain emissions were nascent. Based on our 2015 estimated Scope 1 and 2 emissions of 21.04 MMT CO₂e (originally reported to CDP) and a very broad assumption from CDP that Scope 3 emissions represent 95% of total retail emissions, we estimated our Scope 3 emissions to be approximately 400 MMT CO₂e. With the development of more sophisticated and comprehensive emissions methodologies under the GHG Protocol—as reflected in our latest CDP reporting—our more recent estimates suggest a Scope 3 footprint significantly lower than our original 2015 estimate: approximately 171 MMT CO₂e¹² (as reported for CY2020, which we used the supplier extrapolation method with a focus on purchased goods and services globally; the drawback of this method is that it relies on a small sample of suppliers and does not reflect all categories) to approximately 243 MMT CO₂e¹² (as reported for CY2021, where we used the industry average spend-based method with a focus on estimates including Walmart U.S., Sam's Club, and additional parts of our business for purchased goods and services; the drawback of this method is that it relies on industry average emissions per category, so does not reflect the actual emissions mitigation efforts of our suppliers through Project Gigaton, does not necessarily reflect Walmart's specific assortment and supplier mix, and does not decouple emissions from revenue growth).

As accounting standards (e.g., GHG Protocol) and SBTi target-setting expectations continue to evolve, we are updating our Scope 3 emissions estimates and target to further enhance comprehensiveness, quality, and actionability. Working with stakeholders, we aim to develop an approach to measurement that reflects improvement in Scope 3 emissions through efforts like Project Gigaton while relying on enhanced estimation methodologies for the remainder of Walmart's Scope 3 footprint.



Adaptation

Our climate strategy includes adapting our operations and sourcing to enhance resilience in the face of factors related to climate change, including warming, drought, and extreme weather events.

Disaster Resilience

In [2021](#), more than 40% of Americans — some 130 million people — were living in a county struck by a climate related disaster, and in [2022](#) the U.S. experienced 18 separate billion-dollar weather and climate disasters.

Walmart's Global Emergency Management team—staffed by Walmart associates with experience in meteorology, emergency management, and resilience planning—uses data from past weather events and data from the National Oceanic and Atmospheric Administration's National Hurricane Center and Weather Prediction Center to assess weather risks. The Global Emergency Management team oversees preparation and response efforts, including preparedness, business continuity, crisis planning, emergency operations, and recovery. Walmart's Emergency Operations Center serves as the central command center for preparation and response activities, continually monitoring and coordinating response. In preparation, Walmart has deployed mobile generators to power stores, clubs, and distribution centers while grid electricity is unavailable and rescheduled and rerouted merchandise.

When designing facilities in storm-prone locations, we incorporate certain precautionary measures to help our facilities withstand storms and recover as quickly as possible with minimal disruption in service. To help sustain access to electrical power when we need it most, we have invested in a fleet of permanent and mobile generators to support our distribution centers, stores and clubs during hurricanes, wildfires, winter storms and day-to-day power surges. For example, given the probability of storms impacting stores in the U.S. Gulf Coast and along the Eastern Seaboard, nearly all stores within a certain range of the coast have a generator or quick connects for mobile generators. Because permanent generators are not financially justifiable at all stores, we also take other measures, including staging mobile generators, to reduce the time it takes to respond to power outages. In 2022, mobile generators kept stores, clubs, and distribution centers powered for more than 8,314 hours while grid electricity was unavailable. These measures not only enable us to serve customers when we would otherwise need to close stores, but also help to reduce food loss by avoiding powerless refrigeration systems.

Walmart and the Walmart Foundation also work to build capacity for preparedness and response in vulnerable communities through engagement of stakeholders, best practice sharing and philanthropic investments. For example, in FY2022 the Walmart Foundation granted \$3 million to build capacity in underrepresented and vulnerable communities to help them prepare and mitigate against the impact of disasters, including to BIPOC-led organizations like the Institute for Diversity and Inclusion in Emergency Management.

Read more: [Disaster preparedness & response](#)

Energy-Efficient Operations

Energy is one of our top operating expenses. A few degrees of rise or fall in average temperature can translate to considerable costs, as

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technology to monitor and optimize energy use in our buildings.

Sourcing: Surety of Supply

Managing Day-to-Day Disruptions

Our merchants and sourcing teams use a variety of tools to manage volatility and surety of supply day-to-day. Our sourcing teams manage food commodity supply risks by building upstream capacity, diversifying our sourcing regions, and exploring new technology and innovation. For example, our merchants use predictive weather data to adjust product deployment and replenishment rates in the short term, as well as leverage historical data on sales performance and customer buying patterns to inform product assortment shifts over time. This helps ensure that as the climate changes, we continue to offer the right products for our customers at the right time.

Country of Origin Strategies

While Walmart relies on locally-sourced products (for example, about two-thirds of what Walmart U.S. spends on products comes from items made, grown, or assembled in the U.S.), we depend on globally sourced products to complete our assortment. Walmart's global sourcing team, leveraging our climate risk assessment of various products, works with merchants to build a resilient global network of supply, identifying source geographies of excellence for product categories to enable trust, value, and resilience for our customers.

Transforming Product Supply Chains for Long-Term Sustainability

Because agricultural commodities can be especially susceptible to severe weather events and to climate change, Walmart has prioritized strategic initiatives to enhance commodity supply chain sustainability and resilience. Walmart's efforts include setting sourcing requirements and product specifications for suppliers, engaging suppliers in measurement and best practice sharing, supporting industry collaboration, engaging our customers, public policy advocacy, and philanthropy.

Read more: [Product Supply Chains: Sustainability Overview](#)

Advocacy

We believe a strong climate strategy across government, business and civil society will help everyone manage the physical and transition risks associated with climate change, contributing to the resilience of our business and the communities we serve. We advocate for climate policy through engagement of policy makers, industry associations and multi-stakeholder coalitions, as well as through corporate communications.

Governance and Transparency

Climate Policy Priorities

Walmart's Board-approved [Statement on Climate Policy](#) frames our advocacy around achieving 1.5° Celsius-aligned, science-based national and international climate policies that are consistent with achieving net-zero emissions by 2050 and that equitably address the needs of all stakeholders.

We believe market-based and economy-wide emissions-reduction policies, like a price on carbon, are critical to achieving ambitious reductions in greenhouse gas emissions while supporting economic prosperity. We also recognize that market-based, technology-neutral approaches for hard-to-decarbonize sectors can play a valuable role in the absence of economy-wide action.

Climate Policy Oversight

By [charter](#), the Nominating and Governance Committee (NGC) of the Walmart Inc. Board of Directors – a Board committee comprised of independent directors – oversees our public policy strategies and activities, including those related to climate change. Management provides regular updates at least annually to the NGC concerning the company's public policy strategy and highlights of the committee's discussions with management are shared with the full Board of Directors. In 2022, NGC/management discussions included Walmart's planned U.S. federal government affairs and policy priorities for 2022-2023 and a review of 2021-2022 activities, including engagement with and through key trade associations on climate change and other priority topics.

Walmart's [Government Relations Policy](#) governs the company's interaction with elected officials and legislative and regulatory bodies at all levels. As relevant to climate advocacy, the policy:

- Delineates roles and responsibilities with regard to interactions with public officials and legislative bodies
- Sets parameters on the use of funds for political purposes
- Defines the criteria for evaluation of trade association memberships in light of their policy positions and/or political advocacy
- Commits the company to annual discussions between management and the NGC
- Commits Walmart to annual reporting on policy priorities, strategies, activities and trade association memberships

Transparency

Walmart is committed to transparency regarding public policy activities, including climate advocacy. Our disclosures include:

- Quarterly [reporting](#) on lobbying activities and expenditures, which include climate advocacy

- Discussions regarding our public policy priorities, advocacy strategy and engagements in our ESG reporting (since 2013)
- State and federal lobbying information on our [Investor Relations website](#) (since 2015)

Our full disclosure on lobbying information can be found in our [Annual Sustainability Milestone](#).

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Government Relations Policy

Read more: [Engagement in Public Policy](#)

Direct Engagement of Policy Makers

Walmart directly engages U.S. policy makers on climate-related policy in line with our [Statement on Climate Policy](#). We employ federal and state registered lobbyists and registered lobbyist consultants and engage in lobbying contacts as defined under the U.S. Lobbying Disclosure Act (LDA). Our [quarterly reports to Congress](#) include lobbying expenditures, the specific legislative items and public policy issues that were the topics of communication and the registered lobbyist who lobbied on behalf of the company. Review of Walmart's reports discloses direct advocacy on climate and other environmental-related topics.

Recent examples of our direct public policy advocacy on major climate policy debates at the federal level in the U.S. include:

- Meeting with key lawmakers and advocating support for the climate provisions of the Inflation Reduction Act (IRA), as well as assisting our key trade associations to develop constructive positions on these climate provisions. Prior to the IRA, we [shared our views](#) and engaged lawmakers directly to emphasize the importance and urgency of the climate provisions in the Build Back Better legislation, as well as conveyed support for carbon pricing and sector-based, technology-neutral approaches to decarbonize sectors like agriculture
- Engaging the U.S. Securities and Exchange Commission (SEC) directly, and via business coalitions and trade associations, on the SEC's proposed regulation of climate disclosures
- Engaging lawmakers on implementation of the American Innovation and Manufacturing (AIM) Act and Kigali Amendment to the Montreal Protocol. AIM requires a 15-year phasedown of HFCs at the national level and, along with the Kigali Amendment, is [expected to create 150,000 direct and indirect U.S. jobs](#), including 33,000 new manufacturing jobs
- Engaging lawmakers to support the Infrastructure Investment and Jobs Act, which our major trade associations also supported, and which includes federal investments in the energy and transportation sectors to support climate resilience
- Supporting our trade associations in their engagement with the U.S. Department of Transportation to consider the retail sector during its planning for the implementation of the National Electric Vehicle Infrastructure (NEVI) Formula Program
- Working directly with U.S. state coordinators on their electric vehicle charging plans
- Releasing a set of transportation-related [public policy principles](#) (in collaboration with PepsiCo) to convey to federal and state policymakers the types of policy interventions, planning and guidance that can support the efficient and economical transition to zero-emission commercial transportation fleets. These principles reflect our business strategy, promote efficiency and optimization as a reduction pathway and take a technology-neutral approach so that we can align our distribution network outcomes with environmental and community benefits

Walmart continues to advocate for Paris-aligned climate policy on the global stage. In November 2022, at COP27, Walmart supported a business call for countries to take necessary action to keep global temperature rises to 1.5°C. Walmart was also a member of the International Chamber of Commerce's (ICC) delegation at COP27 supporting the business voice in ongoing climate negotiations. We participated in business dialogues during COP26 and represented the official business observer groups in encouraging support and action on measures to solidify global carbon market rules and other policy elements in the Glasgow Climate Pact.

Prior to COP26 in November 2021, we joined two key public-private sector initiatives led by U.S. Special Presidential Envoy for Climate John Kerry. The first, [Glasgow is Our Business](#), showcased strong CEO-level sector support for a successful COP26 agreement. The second, the [Clean Energy Demand Initiative](#), works to convey demand and policy signals from large private sector buyers to drive clean energy investment in crucial global markets.

Corporate Communications

Through corporate communications, Walmart regularly engages the public to make the case for climate action and encourage others to raise their ambitions. Recent examples include:

- Engaging reporters in 2022 to discuss our climate efforts, including conversations with Financial Times, the Wall Street Journal and Reuters
- Authoring [blogs](#), [op-eds](#) and [articles](#) advocating for consistent climate policy
- Sharing climate [stories](#), [articles](#) and [milestones](#) via company and key leaders' social media
- Hosting events such as the [Annual Sustainability Milestone](#) to engage with key stakeholder groups
- [Participating in videos](#) and [podcasts](#) with media and industry experts
- Engaging in regular forums with the NGO community including WBCSD, EDF, WRI, Conservation International, and The Nature Conservancy (see [Regeneration of Natural Resources](#) for more)
- Engaging in forums such as UN COPs, the Fortune Global Sustainability Forum, Reuters Responsible Business Summit, The Economist's Climate Risk Summit, the Aspen ESG Summit, Concordia's Annual Meeting, and World Economic Forum's Davos events

Engagement Through Trade Associations

Beyond direct advocacy on climate-related policy, Walmart is also a member of trade associations and coalitions that the company believes can assist us in achieving our long-term strategic objectives. These organizations and coalitions allow us to work with other companies on issues that impact the retail sector and beyond.

Walmart's Approach to Engaging Trade Associations

Walmart supports trade associations for many reasons, including development and sharing of best practices on matters important to the industry, advocacy on behalf of industry interests, promotion of public policy and/or general support for an organization's mission.

Walmart's engagement model depends on the role the trade association plays in helping Walmart achieve its strategic objectives, and may include varying levels of financial support, involvement at the board and/or with key committees or targeted financial support for

key initiatives within a broader organization.

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- **Engagement:** We communicate our strategic priorities and perspective on matters of public policy with our trade associations, policymakers and—as appropriate—the public so that our positions are known. For example, we have shared our views on climate policy with key trade associations, the public and lawmakers (see below).
- **Membership and financial support reviews:** We periodically review our memberships in trade associations and determine if any adjustments are needed in our membership status or the financial support we provide to the organization. Where we generally support the organization’s priorities and the positions the organization has taken on major issues, we may maintain general membership in the organization while working to influence the organization’s direction as necessary. For example, we maintain general membership in the Business Roundtable and work to influence the organization as described elsewhere in this brief. In other instances, we may elect only to provide financial support for particular organizational initiatives. For example, we do not pay general membership dues to the U.S. Chamber of Commerce but financially support certain specific U.S. Chamber of Commerce initiatives including the Institute for Legal Reform, Rule of Law Coalition and Workforce Freedom Initiative. If a relationship — on balance — does not align with our priorities, we would end ties with the organization altogether.

Engagement with Major Trade Associations on Climate Policy

We have not identified any material misalignments with our [key trade associations](#) with respect to climate policy matters. Nevertheless, in line with the overall approach described above, we engage trade associations on climate and related policy issues to help them understand our perspective. Examples include:

- **Business Roundtable:** Business Roundtable promotes the U.S. economy and expanded opportunities for Americans through sound public policies. We have endorsed Business Roundtable’s call for a [U.S. national climate policy solution](#) to reduce U.S.-based emissions by at least 80% by 2050 through a market-based mechanism that includes a price on carbon. Walmart worked with Business Roundtable on its statement expressing support for the climate provisions in the Inflation Reduction Act and to craft a global statement on climate action that was endorsed by business groups in Canada, Mexico, the European Union and Australia.
- **National Retail Federation:** The National Retail Federation (NRF) is the largest retail trade association in the U.S., representing large and small retailers with a variety of business models. NRF represents the retail industry across a broad range of policy areas including taxes, workforce and sustainability. In January 2022, in partnership with Walmart and other leading retailers, NRF released the [Retailers Reaching for Net-zero](#) guide, a document developed with the NRF Sustainability Council (of which Walmart is a member). The guide makes the business case for reducing greenhouse gas emissions, provides a pathway for setting science-based greenhouse gas emission reduction targets and provides an extensive resource list to assist retailers in reaching their own sustainability goals. In January 2022, Walmart U.S. President and CEO John Furner [was elected chairman](#) of the board of NRF. In this capacity he will further the engagement of the association in priority policy areas, including climate.
- **Retail Industry Leaders Association:** The Retail Industry Leaders Association brings together the nation’s leading retailers to advance the industry through public policy advocacy, operational excellence and innovation. In April 2021, [RILA released a set of climate priorities](#) that summarized the member perspective and considerations on greenhouse gas emission reduction strategies and categories that receive policy attention at the state and federal levels. Walmart provided insights to RILA to help develop this report and supported its release. In January 2022, RILA released its Retail [Climate Action Blueprint](#), which provides guidance applicable to retail organizations’ climate action strategies. Walmart provided feedback on the Blueprint and was [quoted](#) in the press release announcing its release.
- **International Chamber of Commerce:** The [International Chamber of Commerce](#) (ICC) promotes international trade, responsible business conduct and a global approach to economic regulation. ICC has been the official Focal Point for Business in the United Nations Framework Convention on Climate Change (UNFCCC) process since its inception in 1992. Walmart is a [Vice Chair of the Global Environment and Energy Commission](#) and was part of the ICC delegation at COP27. Walmart also engaged and supported the Business and Industry NGO group (BINGO) at COP27 managed by ICC.
- **Business at OECD:** Recognized as the voice of business at the Organization for Economic Cooperation and Development (OECD), [Business at OECD](#) (BIAC) conveys business perspectives and expertise to policymakers on a range of economic and policy issues. Walmart is a Vice Chair of the [Environment and Energy Committee](#), which helps OECD guide member governments to design and implement evidence-based policies that address environmental challenges and promote green growth. BIAC has provided feedback to the OECD in support of international discussions on climate, including the UN Framework Convention on Climate Change (UNFCCC), the G7 and the G20.
- **World Economic Forum (WEF):** Walmart is a [member](#) of WEF’s [Global Future Council on Trade and Investment](#), where we advise leaders on the role of trade and investment in creating sustainable, resilient and equitable companies, economies and societies. We also sit on the steering committee for WEF’s Climate Trade Zero initiative.



Multi-Stakeholder Coalitions

In addition to working to shape climate strategies and advocacy within the groups discussed above, we are members of other coalitions advocating for an enabling policy environment, including:

- **We Are Still In:** We are a [signatory](#) to the coalition, which demonstrates our long-standing commitment to the Paris Climate Agreement. We also signed the [We Mean Business/Ceres](#) letter that supports a U.S. goal to cut emissions by at least 50% by 2030 and achieve net zero emissions by 2050. The group also endorsed the bipartisan Growing Climate Solutions Act, which reflects a valuable strategy for increasing carbon sequestration opportunities in the agricultural supply chain.
- **Clean Energy Buyers Association (CEBA):** Walmart currently sits on the [board](#) and is a long-time [member](#) of CEBA (formerly the Renewable Energy Buyers Alliance), a collaboration of clean energy buyers, energy providers and service providers that, together with NGO partners, seek a transition to a zero-carbon energy future. The group advocates for policies such as wholesale energy market expansion, flexible financing for renewables, retail access and a federal carbon-free green grid. We advised and endorsed CEBA’s statement on the Inflation Reduction Act, which emphasized market and policy-based measures to decarbonize the grid.
- **Business for Nature (BFN):** We are members of BFN, a global coalition that brings together business and conservation organizations to call for governments to adopt policies to reverse nature loss in this decade. Walmart is a participant of the Strategic Advisory Group (SAG) which provides input on direction and focus areas and helps BFN aggregate action across nature, climate, development, and food system agendas.
- **LEAF Coalition:** Walmart.org [participates in the LEAF Coalition](#), a coalition bringing together the private sector and governments to provide finance for tropical and subtropical forest conservation commensurate with the scale of the climate change challenge, to learn along with our peers.

Read more: [Engagement in public policy](#); [Walmart Key Trade Associations and Member Organizations](#)

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We believe that transparency cultivates trust, helps hold ourselves accountable and – we hope – inspires others to act. We provide an annual update on our climate progress through our ESG Reporting. In our Annual Report on [Form 10-K](#), we highlight climate change as an ESG priority, and discuss certain potential impacts on our business of severe weather driven by climate change. We also [report to organizations such as CDP](#). Walmart estimates its Scopes 1, 2, and 3 GHG emissions in accordance with the [GHG Protocol Corporate Accounting and Reporting Standard](#) and has disclosed this and other climate-related information annually since 2006. See our [third-party assurance statement](#) for our CY2021 Scope 1 and 2 emissions verification report for more information.

We encourage suppliers to report to CDP and have integrated CDP and Project Gigaton to make it easier for suppliers to report on metrics. We also support the [Taskforce for Climate-related Financial Disclosure](#) (TCFD) and use its reporting and guidance for climate risk assessment.

CDP Climate Change Questionnaire	Year				
	2018	2019	2020	2021	2022
Walmart Inc.: Response Score	A-	A	A	A-	C
Walmart Inc.: Supplier Engagement Rating (SER)		A	A	A	

Challenges

- Climate change is one of the greatest challenges of our time, profoundly affecting all regions of the world and all sectors of society. While Walmart can play a leading role in its own business, supply chain and beyond, achieving the Intergovernmental Panel on Climate Change (IPCC) goal of reducing global greenhouse gas (GHG) emissions to net-zero by 2050 requires action from all parts of society.
- Uncertainties around federal regulation of climate-related disclosures and shifting stakeholder expectations for ever greater commitments, action, and reporting create tensions that are difficult to navigate and may leave some stakeholders unsatisfied.
- Certain factors beyond Walmart's control impact Walmart's ability to achieve its own targets, including changes to local energy grids; our physical presence in geographic areas without available necessary technology, equipment or capabilities; and weather patterns increasing the number of days requiring facility heating and cooling.
- Achieving our targets will require innovation and technology that is not available or fully scalable today, including the evolution and accessibility of refrigeration, electric vehicle (including Class 8, heavy-duty, long-haul tractors), renewable energy, manufacturing and agricultural technologies. A critical mass of potential consumers of these new technologies is a necessary precondition to their development, deployment and scaling.
- Walmart is dependent on the cooperation and performance of certain third parties, including business partners providing clean/green services and suppliers' capacity and willingness to implement emissions reductions projects, and measure Scope 1, 2, and 3 emissions can pose challenges to our meeting targets.
- Shifting inventory methodologies (e.g., GHG Protocol Corporate Standard, Land Sector and Removals Guidance, etc.) can complicate calculation efforts and can pose challenges to our meeting targets.
- Public policies may not support actions aligned with Walmart's Science-Based Targets or the ambitions of the Paris Climate agreement, including by not encouraging the development and deployment of low-carbon or low-emissions technologies at scale and public policies that can negatively impact the supply or cost of renewable energy projects at scale.
- Walmart's business will continue to evolve and grow. This growth and changes in our model may require additional facilities and/or an expansion of our footprint, which may create pressure on our targets.
- The capital and operating costs of implementing projects will remain a challenge for the foreseeable future (e.g., transitioning to low-GWP refrigerants, innovative electric vehicles). Low market prices and volatility of the price of fossil fuels can complicate the cost/benefit analyses.
- Value chain (Scope 3) emissions measurement and reporting remains an immature field; lack of standardized approaches and comprehensive data sets limit the ability to generate comparable, reliable, and decision-useful information. Please see our discussion above in Scope 3 Footprint Analysis and Target-Setting.
- National and global catastrophic events (e.g., pandemics, recessions and economic downturns, natural disasters, geopolitical instability) can exacerbate many of the above factors.

[About Our Reporting](#)

Additional Resources

- [Walmart's Pathway to a Zero-Emission Future](#)
- [Walmart Sustainability Hub](#)
- [Walmart Recycling Playbook](#)
- [CDP Response Archive](#)
- [Climate Policy](#)
- [Environmental Sustainability Statement](#)
- [Deforestation Policy](#)
- [Gigaton PPA](#)
- [ESG Oversight & Management](#)
- [Waste: Circular Economy](#)
- [Disaster Preparedness & Response](#)
- [Engagement in Public Policy](#)
- [Product Supply Chains: Sustainability Overview](#)
- [Regeneration of Natural Resources: Forests, Land, Oceans](#)

Endnotes

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2. Annual Scopes 1 and 2 GHG emissions and carbon intensity metrics are updated from time to time in this ESG Climate Change Brief to account for changes in emission factors or the availability of more accurate activity data. Flipkart emissions data is excluded from Walmart's Scope 1 and 2 emissions footprint and progress calculation. We believe excluding Flipkart's data will have negligible impact on the overall reporting.

Our emissions footprint in CO₂e and carbon intensity per revenue are calculated to include emissions for our operations for the period which we owned the operations in the reporting year. This may result in updated emissions reported in the ESG Climate Change Brief not corresponding to results reported to CDP for our annual Climate Change questionnaire.

We engage Lucideon CICS to independently verify Walmart's reported Scope 1 and scope 2 emissions as reported to CDP annually, pursuant to ISO 14064-3 (the international standard for verification of Greenhouse Gas inventories). The GHG Protocol outlines three emissions sources (referred to as "scopes") that provide the framework for operational boundaries. The three scopes are:

Scope 1, "Direct Emissions," represent emissions from the combustible fuels and other sources that occur directly on sites (e.g., refrigerants,) and mobile emissions sources.

Scope 2, "Indirect Emissions," represent emissions that occur off-site to produce electricity or steam purchased for use at corporate locations.

Scope 3, "Other Indirect Emissions," represents emissions from activities down or upstream from a company's core business such as product use, waste disposal, commuting, and business travel.

3. Annual Scopes 1 and 2 GHG emissions are updated from time to time for changes in emission factors or activity data when more accurate information become available. This may result in updated emissions reported in the ESG Climate Change brief that may not correspond to results reported to CDP for our annual Climate Change questionnaire. Flipkart emissions data is excluded from Walmart's Scope 1 and 2 emissions footprint and progress calculation. We believe excluding Flipkart's data will have negligible impact on the overall reporting.

We engage Lucideon CICS to independently verify Walmart's reported Scope 1 and 2 emissions as reported to CDP annually, pursuant to ISO 14064-3 (the international standard for verification of Greenhouse Gas inventories). We follow Walmart's Greenhouse Gas Inventory Methodology in calculating our GHG emissions, which is consistent with the principles and guidance of the World Resources Institute and the World Business Council for Sustainable Development's Greenhouse Gas Protocol Initiative ("The GHG Protocol") for corporate GHG accounting and reporting. Scope 2 (market-based) emissions include the carbon reduction value of renewable electricity procured from onsite and offsite projects. To account for structural changes in our business, we strive to adjust our emission reduction progress on Scope 1 and 2 emissions to add or subtract emissions for entities acquired or divested in the year the acquisition or divestiture took place, including adjusting for previous years (including the baseline year).

4. Carbon intensity (Scope 1 and 2 per revenue) calculation is based on calendar year emissions (January 1-December 31) and normalized by total annual revenues as measured by Walmart's fiscal year (February 1-January 31).

5. This includes generation from active renewable and low-carbon projects. It considers the combined contribution of power generated from on-site and off-site projects as well as renewable energy generation feeding into the grids where our sites are located. Third-party-verified energy consumption data is one year in arrears for the CY2019 and CY2020 years. For CY2021, the latest energy consumption data was used. This was used in combination with the electricity procured from our renewable energy projects and the most recent grid fuel mix information obtained from the International Energy Agency for the regions where we operate. This estimate does not include energy data for our Flipkart business. We believe excluding Flipkart data will have a negligible impact on our estimate.

6. Calculated in accordance with the [RE100 technical criteria](#). RE100 defines renewable electricity consumption as the ability to make unique claims on the use of renewable electricity generation and its attributes.

7. Calculated in accordance with Walmart's Project Gigaton Accounting Methodology, available on the Walmart Sustainability Hub. Suppliers submit information during a Project Gigaton reporting season; figures reported are for the reporting season that took place during the corresponding fiscal year.

8. Because Walmart does not restrict suppliers to reporting only on emissions avoidance and reduction efforts that are attributable to the suppliers' business with Walmart, actions taken and reported through Project Gigaton cannot be used to measure Walmart's Scope 3 emissions, either absolutely or in year-over-year reductions.

9. The U.S. product net sales figure used for the calculation includes Walmart U.S. and Sam's Club product net sales for the previous four quarters (Q3 through Q2) prior to the start of the survey reporting window. The percentage represents U.S. product net sales of suppliers that reported to Project Gigaton in the reporting year versus all U.S. product net sales. The calculation excludes Walmart International segment product net sales from the calculation.

10. We considered each climate variable in isolation; we did not adjust for second- or third-order effects or interdependencies with other variables. We also did not consider potential offsetting impacts of new technologies, mitigating actions, or new business opportunities.

11. For additional information, see the [R-404A Refrigerant Fact & Info Sheet](#).

12. For more information on the assumptions, methodologies and scopes used to prepare these estimates, see Walmart's original CDP submissions (linked under Additional Resources at the end of this page). Walmart reserves the right to employ different methodologies in the future and may restate these figures retroactively. Walmart has not estimated its full, global Scope 3 emissions for all Scope 3 categories but has estimated Scope 3 emissions for certain categories including certain jurisdictions or businesses.

13. Calculated from cumulative emissions reduction from 2015 (base year) until 2030.

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15. Sum of single year reported emissions may not add up to cumulative reported emissions due to rounding.



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