



Walmart's pathway to a zero-emissions future

By focusing on four strategic decarbonization pillars, we are targeting zero emissions across our global operations by 2040. Efforts to scale renewable energy, shift to low-impact refrigerants, move away from combustible stationary fuels and electrify our transportation fleet are underway. Coupled with our work alongside our supply chain partners in reducing their own emissions, we aim to reach the zero-emissions mark without carbon offsets, a decade in advance of the net zero by 2050 ambition of the Paris Agreement on climate change.

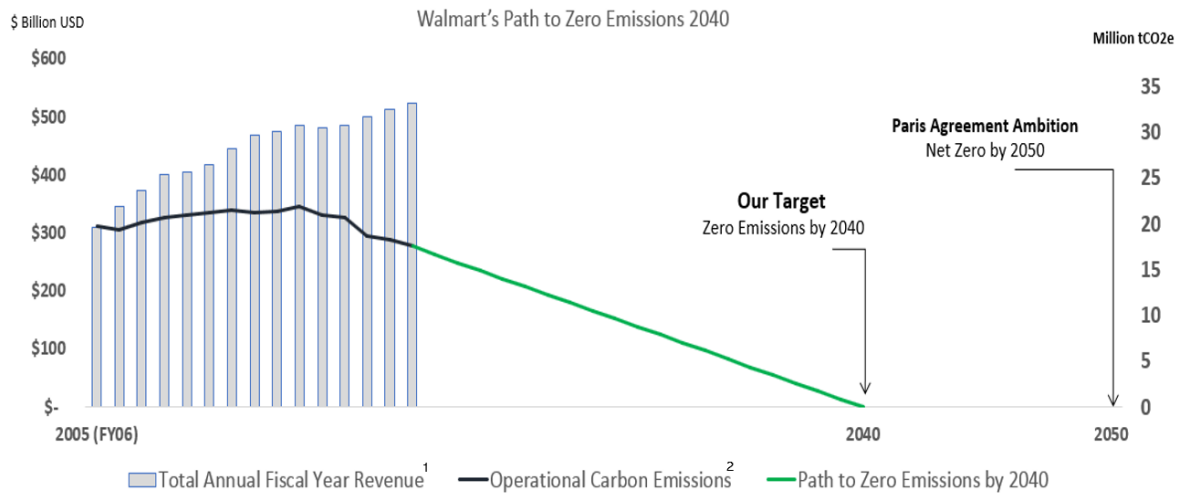
Zero emissions by 2040

Climate change is one of the greatest challenges of our time. According to the U.S. government's [Fourth National Climate Assessment](#), by the end of the century, warming at the current trajectory will cost the American economy hundreds of billions of dollars from crop damage, lost labor and the consequences of extreme weather.

As a large omnichannel retailer with hundreds of millions of customers worldwide and a global sourcing footprint, we seek to galvanize collective action to reduce emissions, while taking steps to strengthen the resilience of our business against the effects of climate change.

Walmart has called for public and private sector engagement in climate action, and we have [reaffirmed our own commitment](#) through science-based targets for emissions reduction and Project Gigaton – our initiative for working with suppliers to reduce or avoid 1 gigaton of emissions in our supply chain by 2030.

We have endorsed the [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. This action is also in accordance with the Paris Agreement on climate change. We have and continue to believe that as the world's largest retailer, sitting between consumers and producers, we have an important role to play in addressing climate change.



Our aim is to decarbonize our direct and indirect operations and transportation network without the use of carbon offsets or removals to cover the remainder. See this [video](#) for details on how we plan to get there.

Our approach to decarbonization

We have reset [our science-based target](#) to align with the 1.5°C trajectory, the highest ambition of the Science-Based Targets initiative. Our interim target is to reduce absolute scopes 1 and 2 GHG emissions 35% by 2025 and 65% by 2030 from a 2015 base year. Beyond that we will work to achieve zero emissions by 2040. To achieve this goal, we will need innovation in technology, policy and additional infrastructure.

We are not sitting idle, waiting for solutions to come to us between now and 2040. Our emissions reduction plan includes improvements in direct and indirect emissions across our global operations; electricity use; transportation fuels for our vehicles; refrigerants used in refrigeration equipment; and stationary fuels use for heating and backup electricity generation at our facilities. These changes will be rolled out to 11,000+ retail locations, hundreds of distribution and fulfillment

[1] Total Annual Fiscal Year Revenues correspond with the Total Revenues results in the Walmart Annual Reports.

[2] Operational Carbon Emissions correspond to the Total Annual Scopes 1 and 2 GHG emissions results we disclose in response to the annual CDP Climate Change questionnaire and can be downloaded from the CDP website. The methodology is in accordance with the GHG Protocol Corporate Accounting and Reporting Standard, meaning we use the latest available emissions factors for energy grids at the time of annual reporting to CDP. As a result, emissions reported to CDP in any given year are subject to the grid factors available in the year of reporting. Lucideon CICS independently verified Walmart's reported Scope 1 and Scope 2 emissions, pursuant to ISO 14064-3 (the international standard for verification of GHG inventories). For more details, please refer to Walmart's Greenhouse Gas Inventory Methodology attached to our CDP disclosures.

centers, data centers and our [home office](#). Here is more detail on the four key areas we aim to decarbonize by 2040.

Renewable energy

The largest contributor to our operational carbon emissions is electricity consumption and transitioning the source of this electricity is the biggest lever we have to reduce emissions. In 2005, Walmart was among the first companies to set an aspirational goal to be supplied 100% by renewable energy. We aim to achieve that goal by 2035.

Today, our 11,000+ facilities worldwide consume upwards of 27 million megawatts of electricity each year. Decarbonizing our electricity supply certainly isn't easy – we will need to build new, affordable renewable resources and support the development of cost-effective zero carbon generation technologies.

We will continue building our renewable energy portfolio with a wide range of structures that enable us to participate in projects close to the communities where we operate and serve customers. This includes the development of both onsite and offsite projects using direct investment, long term power purchase agreements (PPAs), wholesale purchases, virtual PPAs and other structures such as utility green tariffs, depending on what options are preferable and available in a given area.

We continue to be very involved in unlocking new opportunities to bring new, cost-effective renewable generation capacity into markets by working with utilities, regulators, energy market operators, trade associations and others to accelerate those options. While options for corporate buyers of renewables have grown and matured over the last decade in the U.S. market, there is significant room for growth of cost-effective options outside the U.S. In Mexico, for example, we have a strong portfolio of renewable projects, but many other countries' options for cost-effective, large-scale renewables procurement remain limited.

We continue to follow and participate in coalitions like the [Renewable Energy Buyers Alliance \(REBA\)](#), [RE100](#) and others to help shape energy policies in the regions where we operate, with the aim of creating more conducive conditions that advance opportunities for cost-effective sustainable options for developers, corporate buyers and all consumers.

Refrigerants

Walmart works every day to deliver affordable, fresh produce to millions of people in a pleasant shopping environment around the world. Doing so requires the use of refrigeration and air-cooling equipment across our supply chain from our suppliers' operations to our distribution centers, to

our delivery vehicles, and to our stores and clubs. We recognize these systems require a considerable amount of energy and refrigerants. Much of these refrigerants still rely on HFCs (hydrofluorocarbons) to operate. HFCs are potent greenhouse gases with high global warming potential (GWP) and contribute to our carbon footprint.

In order to achieve our target, we must phase out high GWP refrigerant gases, including HFCs, to refrigerant gases with low- and ultra-low GWP for new systems as they become commercially viable in each market where we operate. For example, in the U.S. and internationally, we already operate hundreds of facilities (stores and distribution centers) that utilize ultra-low GWP refrigerants including carbon dioxide (CO₂), glycol and ammonia (NH₃) with more on the way. We, along with our industry-leading design consultants, continue to use these facilities, along with other laboratory-based tests, to inform the design of our future systems.

As we work through our transition plan by 2040, we will continue our work to reduce refrigerant use and improve the performance of our existing systems by using best practices for leak detection, repair, maintenance, refrigerant reuse and innovation. These measures have resulted in an average leak rate across our U.S. operations that is less than half of the E.P.A. stated supermarket industry average of 25%.

We will continue to work with our equipment and refrigerant manufacturers on the necessary changes these new systems will require both in systems design as well as the service industry to support the technical training and parts necessary to adequately maintain these new technologies. We will also continue to advocate for consistent, science-based, environmentally effective and commercially viable policies on HFCs and other refrigerants.

Stationary fuel

The path to zero emissions will require equipment using fossil fuel combustion in its operation to be replaced with a sustainable zero-emission fuel or electrified so that it can be powered by a renewable source. In our business, stationary fuels include natural gas, propane, kerosene, gasoline and diesel. These gaseous fuels are combusted primarily for heating of air, water or food in the kitchens while the liquid fuels and some gases are used in backup power generation for resiliency situations such as natural disasters and peak load management.

Transportation

The transportation industry is the [second largest sector](#) of anthropogenic emissions in the world. As a global retailer with a growing omnichannel business, transportation is, and will continue to be, a critical part of our business and our service to customers.

For years we have focused on reducing the amount fuel we use. Walmart [has doubled the efficiency](#) of our truck fleet – which means we can deliver more than twice the volume of product per gallon of diesel than we could in 2005. While we are proud of our industry leadership and the [recognition](#) of our private fleet’s sustainability efforts, we know efficiency isn’t enough. Transportation-related emissions make up a large portion of our total operational emissions and have the potential to grow as our business grows.

Our plan is to transform our transportation network into one that is powered by emission-free sources. This is our most ambitious fleet commitment to date. To achieve this, we need the support of many others, including the evolution of necessary infrastructure to support the common business use of advancements in electrification and other zero-emissions technologies.

Zero emission vehicles are a new technology, and we are working to pilot a variety of applications to make sure we find the right fit for our needs. We remain technology agnostic and believe our networks and the unique demands of our business will likely require a portfolio of different technologies, including but not limited to renewable diesel, electric battery and hydrogen fuels. We have already started piloting vehicles in the U.S. and our businesses in India and China currently deliver items almost exclusively on electric motorcycles in many areas. Additionally, Flipkart [announced recently](#) its aim to use 100% electric vehicles by 2030.

When it comes to long-haul/heavy-duty Class 8 tractors, the future is not as certain. Nonetheless, we are excited about the innovation potential here. Even though the capabilities of some of the emerging technologies are still in early stages, Walmart is committed to being part of the solution. We will work with our trusted equipment manufacturers and others on finding and testing solutions as soon as they are available. We also know that infrastructure to support these vehicles is not currently in place.

We will continue to work with policymakers, utility companies, transportation working groups and other organizations to align on a common future, articulate the necessary changes and work collectively towards our vision of a zero-emission transportation system. This is going to be challenging, but we feel it is necessary to take a leading role in the advancement of these sustainable solutions.

Project Gigaton

Mitigating the effects of climate change will require worldwide collective action to reduce GHG emissions. Because most emissions in the retail sector lie in product supply chains rather than in stores and distribution centers, we have committed to pursue substantial emissions avoidance and reduction not only in our own operations but also across product supply chains by catalyzing and supporting initiatives among suppliers, NGOs, customers and others at scale.

In 2017, we started Project Gigaton – our initiative to engage suppliers in climate action along with NGOs and other stakeholders. Project Gigaton aims to avoid one billion metric tons (a gigaton) of greenhouse gases from the global value chain by 2030 by inviting suppliers to set targets and take action in six areas: energy use, sustainable agriculture, waste, deforestation, packaging and product use. The [Project Gigaton](#) platform includes a variety of resources, including calculators to help set and report on goals within the initiative, workshops on best practices and links to additional resources and initiatives (for example, packaging playbook and supplier summit, food waste calculator, Higg Index adoption and fertilizer optimization).

We proudly work with a number of leaders to develop the Project Gigaton platform and related resources, including the World Wildlife Fund (WWF), the Environmental Defense Fund (EDF), Conservation International, The Nature Conservancy, the Sustainable Packaging Coalition, the World Resources Institute (WRI) and CDP.

Moving forward

Walmart plans to continue publicly reporting progress toward our targets in our annual [CDP climate change disclosure](#) as well as our annual [ESG report](#).

Getting to zero by 2040 won't be easy, but climate change is one of the greatest challenges of our time and we must act NOW.