Walmart, Inc. - Climate Change 2018

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Walmart Inc. (NYSE: WMT), or "Walmart," serves customers and members close to 265 million times per week in 11,200 retail units under 55 different banners in 27 countries and through our websites globally. Walmart was built on the foundation of saving people money so they can live better. With fiscal year 2018 (Feb. 1, 2017 – Jan. 31, 2018) sales of $500.3 billion, and more than 2.3 million associates worldwide, Walmart continues to be a leader in sustainability, corporate philanthropy, and employment opportunity. Additional information about Walmart can be found by visiting https://corporate.walmart.com and Twitter at http://Twitter.com/Walmart. Online merchandise sales are available at www.walmart.com and www.samsclub.com.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1 2017	December 31 2017	No	<Not Applicable>
Row 2	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 3	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 4	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

C0.3

(C0.3) Select the countries/regions for which you will be supplying data.

Argentina
Brazil
Canada
China
Costa Rica
El Salvador
Guatemala
Honduras
India
Japan
Mexico
Nicaragua
Puerto Rico
South Africa
United Kingdom of Great Britain and Northern Ireland
United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

Operational control

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Board/Executive board	The Nominating and Governance Committee of the Walmart Board of Directors provides oversight and guidance on Walmart's social, community, and sustainability initiatives, including ESG strategies, commitments, and progress covered in the 2018 Global Responsibility Report (including climate-related issues) (https://corporate.walmart.com/2018grr/). The committee was chosen because it responsible for assisting the Board on implementing sound corporate governance principles and practices. The committee charter is available on our corporate website. (http://stock.walmart.com/investors/corporate-governance/board-of-directors-committee-information/nominating--governance-committee/).

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding risk management policies Monitoring and overseeing progress against goals and targets for addressing	The Nominating and Governance Committee of the Board of Directors meets in conjunction with all regularly scheduled Board meetings. Climate-related issues are discussed at least once a year as part of a discussion of social, community, and sustainability initiatives, including ESG strategy, commitments and progress to date.

C1.2

(C1.2) Below board-level, provide the highest-level management position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Sustainability Officer (CSO)	Both assessing and managing climate-related risks and opportunities	Annually
Other, please specify (EVP, Corporate Affairs)	Both assessing and managing climate-related risks and opportunities	Annually
Risk committee	Assessing climate-related risks and opportunities	Annually

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored.

Carbon-related initiatives continue to be managed at the executive leadership level. Walmart's Chief Sustainability Officer reports to the Executive Vice President of Corporate Affairs and provides oversight of Walmart's publicly-stated global sustainability initiatives and goals, including those specifically related to greenhouse gas reductions in our operations and supply chain. The CSO also assesses the risks and opportunities that climate-related issues pose for the company. The CSO engages the business units to identify the potential impacts to their areas of the business and to develop management strategies in response. The CSO position was selected because of their access to executive leadership and business unit leaders who can act on the opportunities and risks identified. Climate-related issues are monitored in a number of ways from measuring and reporting greenhouse gas (GHG) emissions in our own operations and value chain, to tracking the frequency and magnitude of severe weather-related events and the effects they have on our operations and the communities in which our associates and customers live.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

Yes

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues.

Who is entitled to benefit from these incentives?

Corporate executive team

Types of incentives

Recognition (non-monetary)

Activity incentivized

Emissions reduction target

Comment

Walmart's corporate executive team incorporates global responsibility goals into their annual objectives and performance evaluations. Walmart's global responsibility agenda includes targets for emission reduction in our own operations and supply chain, renewable energy use, and increasing transparency and trust by integrating environmental criteria into the purchasing decisions of our buyers and customers. Progress across the company (by market and by division) is reported to the members of the executive team at least once a year. Individuals are held accountable for supporting progress on the global responsibility agenda within their areas of the business as part of their annual evaluation. The Walmart executive team includes segment CEOs, functional EVPs, and their reports (whose responsibilities directly or indirectly affect energy and emissions performance, for example). These include the President and CEO of Walmart US, President and CEO of Sam's Club, President and CEO of Walmart International, CEO of Global eCommerce, the EVP and CFO, EVP of Global Governance and Secretary, and EVP of Corporate Affairs.

Who is entitled to benefit from these incentives?

Chief Sustainability Officer (CSO)

Types of incentives

Monetary reward

Activity incentivized

Other, please specify (Multiple targets.)

Comment

commitments (including emissions reduction, sustainably sourcing food commodities and increasing trust and transparency with customers; see 2018 Global Responsibility Report for full set of commitments). The CSO's performance evaluation and compensation depend in part on the performance of her team and that of the company in delivering on this agenda each year.

Who is entitled to benefit from these incentives?
Energy manager

Types of incentives
Monetary reward

Activity incentivized
Other, please specify (Efficiency and renewables targets.)

Comment
Designated associates in each of our global markets have responsibility for measurement, management, and reduction of energy consumption and associated greenhouse gas emissions through design, construction, maintenance, monitoring, and operations. The individuals that bear direct responsibility for accomplishment of these functions are held accountable for progress.

Who is entitled to benefit from these incentives?
Environment/Sustainability manager

Types of incentives
Monetary reward

Activity incentivized
Other, please specify (Multiple targets.)

Comment
Designated associates in each of our global markets have responsibility for measurement, management, and reduction of energy consumption and associated greenhouse gas emissions through design, construction, maintenance, monitoring, and operations. The individuals that bear direct responsibility for accomplishment of these functions are held accountable for progress on our greenhouse gas goals.

Who is entitled to benefit from these incentives?
Other, please specify (Suppliers)

Types of incentives
Recognition (non-monetary)

Activity incentivized

We engage our direct suppliers on GHG emissions and climate change in a number of ways, including meetings, written correspondence and questionnaires, collaboration projects, participation in industry association working groups and supplier summit meetings. In 2012, Walmart began asking suppliers to use the Sustainability Index. Walmart analyzes the Index results to help engage suppliers in continuous improvement, targeted sustainability projects and helping drive a more sustainable product portfolio. We continue to find different ways to recognize the suppliers that the Index indicates are performing well in their categories. Recognition takes many forms including highlighting leading suppliers with sustainability awards during summits, offering speaking opportunities during Walmart sustainability meetings, sharing stories in our Global Responsibility Report and featuring supplier stories on our website and in other communications. A recent example of our work with suppliers was the launch of Project Gigaton in 2017. Project Gigaton is a new supplier engagement platform designed to catalyze and recognize emissions reductions across global value chains. During our first reporting cycle, our suppliers reported avoided emissions that totaled over 20 million metric tons from their initiatives implemented in 2016.

C2. Risks and opportunities

C2.1

(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.

	From (years)	To (years)	Comment
Short-term	0	3	
Medium-term	3	10	
Long-term	10	30	

C2.2

(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	

C2.2b

(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.

Climate issues are addressed within the company's risk management processes at several levels.

First, at an enterprise level, on an annual basis, the company's Corporate Strategy Team conducts an enterprise risk assessment that considers strategic and operational risks to date. On a more continual basis, other types of risks including reputational, regulatory and compliance risks are assessed within the teams responsible for these areas of the business (e.g., corporate affairs and compliance). As part of these assessments, we consider climate and other environmental issues. The results of these assessment are shared with the senior management's Ethics, Compliance and Risk Committee (ECRC) and with the Walmart Board, and issues are prioritized for management action (see below).

Second, individual business segments/functions also assess climate-related issues as part of developing their annual strategic and operating plans. For example, the real estate team considers implications of storm intensity and temperature changes on strategies to enhance the resilience and energy efficiency of facilities. The produce team considers the impact of drought on sourcing strategies and technology innovation. These and other functions (for example, Walmart's Emergency Operations Center) also continuously monitor near-term weather effects for impact on facilities and product availability, distribution routes, etc. In general, our segment/function teams regularly monitor their operating environment (including climate-related factors), drawing on a range of sources including Home Office and field associates, industry contacts, consulting firms, government and non-government

Third, the Sustainability team conducts a periodic sustainability stakeholder materiality review which helps Walmart prioritize opportunities as well as risks for the company to pursue at both the enterprise and segment/function level. Our first formal materiality review was completed in 2014. This review included discussions with our major institutional investors, listening tours and engagement surveys of thousands of Walmart associates from frontline to the C-suite, surveys of over 2,000 customers, and interviews with 50 leaders of grassroots organizations and international NGOs, sustainability reviews with our top 20 suppliers and a literature review. It confirmed a broadening of priorities that Walmart had already begun to more strongly emphasize issues affecting people – including climate change. We validated and further refined our sustainability agenda in 2016, including an ambitious emissions reduction plan that was approved by the Science-based Target initiative making Walmart the first North American and global retailer to achieve such recognition. This target was a direct result of our ongoing climate-related risk assessments and how our processes have influenced our business strategy.

Over the past decade Walmart has periodically engaged outside experts to analyze physical and transitional risks over long-term horizons; this year, we conducted our first formal climate risk assessment. This assessment was conducted by an independent third-party consultant, and aimed to align with the scenario guidance set forth by the Task Force on Climate-related Financial Disclosures (TCFD). This assessment included analysis of climate-related physical hazards and transition risk sensitivity analysis (e.g., IEA 450) under multiple climate change scenarios (e.g., RSP 8.5 and 2.6) over multiple time horizons (2030 and 2050). The objective was to understand the order of magnitude of potential impacts and resulting financial exposure that these climate-related issues could have over the long-term. The assessment and conclusions were developed and discussed with the company executive management and divisional management responsible for relevant aspects of Walmart's business strategy and team, by our Chief Sustainability Officer. We will also share the findings and recommendations with management's Ethics, Compliance and Risk Committee (ECRC) and with the Walmart Board of Director's Nominating and Governance Committee this fall.

Definition of material and substantive impact: For the purposes of evaluating our mitigation plans associated with climate risk for the CDP survey, what constitutes material impact, also referred to as substantive impact, can depend on a number of factors. In the context of climate-related issues and this response, a substantive impact can be described as a measurable financial impact that may be on the order of one or more percentage points of the company's annual net income and then evaluated against attenuating factors. These factors could include expected time horizon it will likely occur, the range of uncertainty in its magnitude, the likelihood of occurrence, and our ability to mitigate the risk.

C2.2c

(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Current regulation often affects costs in our operations and value chain. For example, reviewing current carbon pricing mechanisms (e.g. carbon taxes, tariffs and cap-and-trade schemes) in the markets where we operate is important in order to understand our current exposure and plan strategies in the near-term to reduce risk or capitalize on opportunities.
Emerging regulation	Relevant, always included	We follow emerging regulations at the international, federal, state and even city level to understand the possible future implications for our costs and ability to operate. For example, we incorporate the expected future price of carbon in future regulatory scenarios, each with different implications for costs and return on investment.
Technology	Relevant, sometimes included	Technology risks are an important consideration in how we determine our ability to manage costs and emissions in our operations and value chain. One example of how we incorporate technology into assessments is by modeling the emissions emitted and or avoided by choosing different new assets and retrofits of current assets (e.g., evaluation and testing of electric vehicles and electric charging infrastructure within our transport fleet).
Legal	Relevant, always included	As with regulatory risk, Walmart monitors and assesses regulations and legal risks on an ongoing basis. As a global company, legal teams within and across markets follow emerging issues, addressing implications for Walmart and in some cases for our supply chains.
Market	Relevant, always included	Understanding market trends (for example, the potential evolution of the China energy market) helps us assess markets cost exposure and make more informed decisions for long-term renewable energy contracts and capital investments. We work with consulting and market analysts to understand relevant trends and add data into scenario analysis.
Reputation	Relevant, sometimes included	Reputation is an important consideration for any consumer-facing company. Our corporate affairs teams continuously monitor reputational risks and opportunities. We take stakeholder perspectives (e.g., views of our customers, investors, associates) into account when developing our approach to climate issues. In general, we find most stakeholders support climate action, while they have mixed feelings about specific proposals related to carbon pricing.
Acute physical	Relevant, always included	We consider acute physical risks, such as those caused by severe weather events (e.g., hurricanes, tornadoes, and floods) in our assessments as they can pose a threat to our assets and supply chain. Potential impact of physical risks can include costs of maintenance and repair of damaged buildings, loss of sales from store closures, inventory loss from damage and spoiled food during power outages, and increased transportation costs to meet store needs during storms. To the extent possible we track the damages caused by such events each year and incorporate findings into future scenario planning.
Chronic physical	Relevant, always included	Our climate effects assessment includes chronic physical risks such as temperature changes due to climate change. For example, the gradual increase or decrease in temperature could affect our energy costs by requiring our air conditioning and refrigeration systems to work harder or longer – using more energy to maintain comfortable temperatures in our facilities.
Upstream	Relevant, always	The upstream surety of supply is critical for any retailer and so we do assess the potential impact climate-related issues could have on our suppliers and distribution routes. For

	Relevance & inclusion	Please explain
Downstream	Relevant, sometimes included	Downstream risks are sometimes included in our assessments. These could include our ability to transact with our customers due to either our inability to deliver to their homes or for them to come to us. This could also include the changing economic situation of our customers following acute or chronic physical or transition risks impacting them. For instance, customers being left without power or income after severe storms or longer-term threats of sea level rising and forcing our customers to relocate or suffer property loss.

C2.2d

(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

Enterprise level

As noted above, at the enterprise level, the company conducts an annual enterprise risk assessment that considers strategic and operational risks to date. On a more continual basis, other types of risks including reputational, regulatory and compliance risks are assessed within the respective teams responsible for these areas of the business (e.g., corporate affairs and compliance).Major issues coming out of these annual enterprise-level risk assessments get assigned to business teams to address (mitigate, adapt, etc.) and report back to Walmart Ethics, Compliance and Risk Committee (ECRC) and/or Walmart Board. Enterprise-level climate-related risks to date have not arisen from this process; however, the company does have enterprise-level commitments, approved by the Executive Committee and overseen by the Board, related to emissions and energy. These include Walmart's commitments to be supplied 100% by renewable energy and our science-based target to reduce absolute Scope 1 and 2 emissions by 18% by 2025 and 1 billion metric tons from global value chains by 2030. Walmart business teams, within real estate for example, have been tasked with carrying out these directives related to our own operational footprint. We also have established enterprise-level policy councils that monitor and address emerging policy/regulatory issues and transition risks related to climate as described in detail in the case study below.

Segment/function level

At the segment/function level, segments/functions pursue initiatives to manage risks and capture opportunities, including climate-related, in their three-year and annual operating plans. These initiatives are cascaded down through the organization through team goals and individual performance goals and evaluations and day-to-day operations management processes. For instance, Walmart's Emergency Operations Center (EOC) monitors minute-by-

physical hazards (e.g., hurricanes, floods). Similarly, our apparel merchants use predictive weather data to manage and adjust product assortment, replenishment rates in response to climate-related phenomena and our food sourcing teams manage commodity supply continuity risks (e.g., droughts and changes in temperatures) using a combination of technology innovation and sourcing diversification.

Asset level

At the asset level, a variety of specialists focus on managing specific impact areas, such as facility energy consumption, transportation routing of commodities and products, and local regulatory and physical risks for selected asset types or regions. Assets are generally managed centrally in each market, which allows specialists to prioritize the highest risk areas.

Criteria for Prioritizing

Risks are generally prioritized based on the immediacy of the risk and the potential impact to the company's operations of taking action versus taking no action. For example, an immediate regulatory requirement mandating a certain level of carbon emission performance requires immediate action to ensure compliance. A potential regulatory change that may have impacts years into the future, but that does not currently impact our facilities, is monitored but does not necessarily drive short-term actions.

Case study for transition risk

While climate-related policies such as carbon taxes, cap-and-trade carbon markets and incentives for renewable energy policy can generally speed the transition to a low-carbon economy, such policies can raise transition risks. Walmart has established policy councils to assess potential new legislation/regulations and commitments within and across key markets. The policy councils include internal stakeholders from various parts of the organization (e.g., gov't affairs, legal, real estate, communications, compliance). For example, the Energy and Environment Policy Council (EEPC) is tasked with evaluating climate-related market policies. Individual policies can impact different areas of the business or value chain differently (e.g., carbon tax). Over the past couple of years, this approach was used to evaluate the Clean Power Plan, the Paris Agreement and a number of proposed state and federal carbon pricing policies in the U.S.

Case study for physical risk at the asset level: The droughts across South Africa's East and

use; investing in atmospheric water generating units, and transitioning to waterless cleaning and sanitation alternatives where appropriate.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

No

C2.3b

(C2.3b) Why do you not consider your organization to be exposed to climate-related risks with the potential to have a substantive financial or strategic impact on your business?

	Primary reason	Please explain
Row 1	Risks exist, but none with potential to have a substantive financial or strategic impact on business	Walmart's climate-risk assessment suggested that in the long term (2030, 2050), the company faces multiple physical and transition risks such as increased days requiring heating/cooling of facilities, commodity shortages due to drought, facilities damage due to more intense weather events, and rising carbon taxes. These risks are not unique to Walmart but would affect most food and general merchandise retailers around the world. While these risks are relevant to the business and substantive for individual teams (e.g., the risk of drought is relevant for the produce sourcing team), none of the risks is financially material at the aggregate level for Walmart because of our scale and scope (in the range of $500 billion in revenue across 27 countries and hundreds of product categories).* It is also difficult to project the ultimate consequences of specific climate risks (such as impact of drought on availability of lettuce or corn) considering potential second- and third-order effects (e.g., drought may affect commodity pricing as well as shortages, and/or it could result in demand substitution that reduces impact of shortages), preventive and mitigating measures taken by Walmart and many other stakeholders in the system (e.g., shifting production to other regions; implementing water-saving technology), and offsets from positive impacts elsewhere in the system (e.g., increased production of crops in regions with more water). Walmart's approach to managing climate risk is to take actions today that can do our part in lowering emissions in our own operations and supply chain and strengthen the resilience of our facilities and product supply chains to help avoid or mitigate negative consequences of potential climate effects. One example of how specific risks can be relevant to business teams but not "substantive" or financially material at the total company level is the cost of damage from intense storms. During the 9-year period from 2004-2012 Walmart U.S. files insurance claims averaging $20 million per year due to severe weather. Even if this doubled due to increased storm intensity under climate scenarios the cost is immaterial at the total Walmart level (revenue in FY18 exceeded $500 billion). The same can be said about transition risks. In contrast, companies with only a handful of facilities, could find these to be material impacts.

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

No

C2.4b

(C2.4b) Why do you not consider your organization to have climate-related opportunities?

	Primary reason	Please explain
Row 1	Opportunities exist, but none with potential to have a substantive financial or strategic impact on business	While climate effects may create opportunities for individual business teams in particular regions, we do not anticipate opportunities that could be considered financially material at the aggregate level for Walmart overall. For example, changes in average temperature and precipitation could increase crop yields in particular regions that previously had short growing seasons or limited water resources. However, as noted in the discussion above on drought risk and commodity availability, increased (or decreased) yield of any one commodity does not result in a material financial impact for Walmart overall. As well, many factors influence global commodity availability and pricing beyond crop yields in a particular growing region (see above). Our approach to capturing opportunities resulting from climate effects mirrors our approach to managing risk, described above. We aim to innovate our approaches to sourcing in particular to strengthen the resilience of supply chains with respect to temperature, drought, storm intensity, and other factors. In particular, through our sourcing initiatives and our philanthropy, we aim to support farmers in adopting more sustainable farming practices, helping them to increase crop yields, lower costs, and improve livelihoods. We also aim through such efforts to improve food security for customers and communities.

C2.5

(C2.5) Describe where and how the identified risks and opportunities have impacted your business.

	Impact	Description

	Impact	Description
Products and services	Impacted for some suppliers, facilities, or product lines	Some product lines will likely be impacted by physical and transition risk in terms of sales and availability. For example, as more regions respond to drought with water restrictions and water price increases, consumers may increase consumer demand for drought tolerant plants and grass variations in our garden centers and low-flow fixtures in our home furnishing department, while lowering demand for items that use significant water. While changes to individual item sales may be significant, they will likely be offsetting – we do not anticipate significant sales increase or decrease at the total store level. As another example, drought may reduce yields or cause price increases in crops such as cotton or nuts. By taking these factors into consideration and planning accordingly (diversifying sourcing, encouraging supplier innovation in production technology), product merchants are able to limit the impact of these risks at the shelves. Finally, we expect that environmentally conscious customers are more likely to prefer products that are produced with lower environmental and climate impacts. For example, in 2017, Anheuser-Busch InBev added a "Made with 100 percent Renewable Electricity" label to their world-famous Budweiser brand beer recognizing their commitment to sourcing 100 percent of their electricity needs from renewable energy sources such as wind.
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	Parts of our supply chain and value chain have been affected by both physical and transition risks from climate-related issues. For example, climate-related severe weather events such as hurricanes have affected product availability as trucks and cargo vessels need to be rerouted or are cut off from supplies or destinations (as in 2017 in Houston, Florida, and Puerto Rico – which is still experiencing logistics challenges). Many farmers in Florida's agricultural central region experienced fields cleared of crops and fruit trees that, in some cases, will take years to recover. In relation to our logistical supply chain we are beginning to experience transition risk as states and countries begin to implement regulatory and carbon pricing schemes. These measures on emissions typically have some effect on our vehicles from fuel costs to emissions control equipment or standards that impact the choices we make on our trucks and other vehicles. The magnitude of this impact is still minimal in comparison to the overall business but it is expected to increase as the frequency of and severity of storms is expected to increase.
Adaptation and mitigation activities	Impacted for some suppliers, facilities, or product lines	Climate-related considerations have, to some extent, led to increased focus on adaptation and mitigation activities within our operations and produce business. Within our operations we continue to focus on mitigating our emissions impact through energy efficiency, refrigerant management and renewable energy sourcing. We have also invested in backup power infrastructure for stores and support facilities in hurricane-prone areas of the U.S. and in atmospheric water generating units, capable of producing up to 5,000 liters of water a day, at high priority sites in drought stricken areas along the East and Western Capes of South Africa. In our food business we are working with produce suppliers on resiliency plans that include both adaption and mitigation strategies to increase the surety of supply in the face of changing climates. These strategies include greenhouses and other practices that allow better control of growing conditions while reducing needs for fertilizers and pesticides. The magnitude of impact of these measures is still minimal but has increased in recent years as we work to build a more sustainable and resilient business.
Investment in R&D	Impacted for some suppliers, facilities, or product lines	More investment in R&D in response to climate-related issues is likely occurring in our suppliers' operations. Walmart's R&D efforts in this area include innovations in equipment designs to reduce energy demand or fuel use in our facilities and trucking fleet. These are cost-saving measures that have been given more focus due to their benefit in reducing our direct and indirect GHG emissions. Our suppliers' R&D investments may be more centered on creating new products in response to consumer demand and/or regulatory pressure to reduce energy and emissions in the manufacture and use of their products. One primary example of this is the recent focus by chemical companies including the global giant Honeywell to invest in finding ultra-low global warming potential (GWP) refrigerant alternatives to the high-GWP Hydroflourocarbons (HFC) that dominate the refrigeration systems today. The magnitude of impact on R&D is significant in some industries and will continue to be important for many companies to remain relevant as governments align on the transition to a low-carbon world.

	Impact	Description
Operations	Impacted	As mentioned previously, there are few areas of our operations that have been impacted by acute physical effects (e.g., storms) and nearly all of our operations are affected by chronic physical effects (e.g., average temperature rise) due to climate change. It is well-known that the global average temperature has been increasing. And in the U.S. we have observed record breaking average temperatures for consecutive years. These increases in temperature, while only a few degrees, are impacting our operations energy use and costs as they force our air conditioning, refrigeration and other systems to compensate, running harder and longer in order to maintain comfortable and safe temperatures in our stores and refrigerated cases. Such phenomena reinforce the need for us to continue working on energy efficiency and renewable energy sourcing.
Other, please specify	Please select	

C2.6

(C2.6) Describe where and how the identified risks and opportunities have factored into your financial planning process.

	Relevance	Description
Revenues	Not yet impacted	While there are some risks and opportunities that could affect revenues, including inventory loss and sales loss from power outages caused by weather events, or changes in prices for specific product categories due to carbon pricing within our COGs, they have not impacted the financial planning process for revenues at this time. As the severity of these risks grows over the long term, these factors may start to be taken into consideration especially at the individual category planning level.
Operating costs	Impacted	Operating budgets include utility and energy costs. Walmart's operating budget planning process includes forecasts that factor in anticipated changes in energy consumption and costs rates. These factors, to the extent possible and relevant, include considerations for physical and transitional risk such as average temperatures and the price of carbon that is embedded into utility rates. The magnitude of these impacts will be immaterial at the enterprise level. Abnormal seasonal temperature swings (e.g., warmer-than-usual summers or polar vortexes during winters) can adversely impact our ability to meet plan. The more these can be assessed and forecasted during the planning process, the more accurate our financial plans will be.
Capital expenditures / capital allocation	Impacted	Capital expenditure/allocation processes have been influenced by our company's objectives to reduce and mitigate GHG emissions and control costs affected by transition risk. The capital we use to retrofit buildings with the latest in efficient lighting and HVAC equipment are examples of these investments in capital. The magnitude of these impacts will be immaterial at the enterprise level compared to other capital expenditures.
Acquisitions and divestments	Not impacted	The company's decisions regarding acquisitions and divestments are based on a number of factors and at this time climate-related issues are not among them. Climate-related issues have not been found to be material to the profit potential of an acquisition.
Access to capital	Not impacted	Climate-related risks are not factored into our ability to access capital because lenders aren't asking are not considering them at this time and we don't expect them to be in the near future

	Relevance	Description
Assets	Impacted for some suppliers, facilities, or product lines	The decisions related to certain assets, including facilities and equipment located in storm-prone locations of the world, are impacted by climate-related risks. For example, we have invested in permanent power generators and generator quick-connects equipment for many locations that statistically have the most power outages due to season whether events. For these individual facilities the impact could be material if these measures are not taken.
Liabilities	Not yet impacted	Climate-related risks and opportunities are not factored into the planning of the company's liabilities at this time and we do not expect them to be affected in the near or long term.
Other	Please select	

C3. Business Strategy

C3.1

(C3.1) Are climate-related issues integrated into your business strategy?

Yes

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?

Yes, qualitative and quantitative

C3.1c

(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

Walmart serves millions of customers globally by providing convenient access to safe,

four key priorities: making life easier for busy families; operating with discipline; changing the way we work; and being the most trusted retailer. We serve our customers, associates and shareholders in a way that creates value for our business and society. This includes helping customers save money on every day essentials, as well as creating job opportunities for our associates, helping our suppliers grow their business and supporting local communities where we operate. Delivering on our purpose in a way that creates economic opportunity, sustains the environment and strengthens local community not only mitigates risk—it can generate significant, lasting value for our business and for society.

Our journey in Sustainability began over 13 years ago when we recognized that we could leverage our scale, and strengths to help others and drive impact beyond our own operations. At that time, we set out three ambitious goals – to be powered by 100% Renewable energy, to create zero waste, and to sell products that are good for people and the environment. We have made significant progress against these goals and have learned over the past decade that investing in Sustainable practices can strengthen our business, and at the same time create environmental impact. We have also learned that our customers and stakeholders expect Walmart to use our strengths and assets to make a difference on environmental and social challenges and that these actions in turn help us to build trust.

One of the key elements of our Sustainability strategy since we announced our vision in 2005 has been our efforts to address climate change. We have set an ambitious long-term goal to be supplied by 100% Renewable energy and have worked to reduce emissions throughout our operations and global value chains. We have found that our work to reduce emissions in our operations has resulted in cost savings and efficiencies for our business, as well as reducing GHG emissions. In addition, working with our suppliers to reduce emissions in their supply chains has resulted in cost savings for our suppliers, and strengthened surety of supply. Beyond our climate strategy within our sustainability agenda, we are also focused on strengthening communities when they are affected by climate related events such as hurricanes, fires and floods and work globally to enhance disaster response in time of need and improve preparedness.

Building on our focus on climate and long-term goal of 100% renewable energy, in 2016 Walmart became the first retailer to set a science based emissions target. This includes our goal to reduce own emissions by 18% in our own operations by 2025, to be powered by 50% renewable energy by 2025, and to challenge our suppliers to avoid or reduce emissions by 1 billion metric tons across our value chain. In order to achieve our emissions goals in our operations, we have incorporated emissions targets into our strategy in our operating segments and we are measuring our progress to report and drive accountability annually. Programs that we are implementing to ensure we achieve our emissions targets in our operations include investments in energy optimization initiatives such as installing LED lighting and energy management systems, installing more efficient HVAC, increasing our use of more sustainable refrigerants, scaling new technologies and operational practices to reduce trucking fleet impacts, installing onsite renewable energy generation and purchasing of offsite

In addition to incorporating climate goals in our operations, Walmart is working across our entire value chain with our suppliers to measure, and to reduce emissions. Walmart launched Project Gigaton in April of 2017 to engage suppliers to commit to emissions reductions across pillars including energy, waste, packaging, deforestation and product use. Collectively, these actions can help us to achieve our science-based emissions target and to reduce emissions throughout our value chain by 1 billion metric tons by 2030. Additionally, Walmart has been a leader in measurement of supply chain GHG emissions with our suppliers for many years. Walmart implemented the Sustainability Index with our suppliers in 2012, and has also supported CDP supply chain with our top suppliers for more than 5 years. The annual Sustainability Index supplier survey measures progress by participating suppliers across all product categories on relevant environmental KPI's, including GHG. Walmart analyzes the index reports to help engage suppliers in continuous improvement, targeted sustainability projects and helping drive a more sustainable product portfolio. In fiscal 2017 we reached our goal of buying 70 percent of our U.S. goods from suppliers that participate in the Sustainability Index, in categories where the Index is available, representing over $200 Billion in annual revenue.

Within our business day to day, and over the longer term, we monitor impacts related to weather and the changing climate in our operations and supply chains. For example, Walmart is constantly monitoring weather conditions and taking action to ensure that we are prepared for weather related events and risks. These actions include investing in back-up power generation in hurricane and flood prone facilities, working with suppliers to ensuring consistent product supply for customers in time disaster, and monitoring transportation routes that may be affected by weather risks. We are also incorporating drought risk and weather conditions into our sourcing and procurement decisions for weather sensitive categories such as produce. This past year Walmart also conducted our first long term climate effects risk analysis to better understand the impacts of the changing climate on our operations and supply chains in 2030 and 2050. This analysis was conducted in line with the taskforce on climate risk and financial disclosure and included four climate effects on our operations and for select product supply chains.

Case example of influence on business decision:

In our own operations we have rolled out glass doors for multi-deck refrigerated cases in several markets including the U.S. which will help mitigate physical and transition risks in our markets. These medium temperature cases use to be open; the doors help maintain cooling in the cases by reducing heat gain by 50-80% (according to the U.S. Department of Energy) causing the cases to run less, and using less energy as a result. These investments will be increasingly important as average temperatures and the cost of electricity increases due to climate-related issues.

(C3.1d) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenarios	Details
Other, please specify (RCP 8.5)	Scenario and rationale: We chose to use Scenario 6 (RCP8.5) from the IPCC Representative Concentration Pathway (RCP) because it is referenced by the TCFD. This scenario is widely accepted as the business-as-usual scenario and it is consistent with a future where no policy changes have been implemented to reduce emissions. This scenario is characterized by increasing GHG emissions leading to high atmospheric concentrations of greenhouse gases and resulting in a global temperature increase of less than 4oC by 2100 according to the IPCC. Inputs: Revenue, category mix, location of assets, energy consumption, commodity sourcing regions, and direct import regions and volumes. Assumptions: The analysis was limited to four primary physical hazards based on which hazards could potentially have the greatest impact to our operations and value chains – temperature change, extreme weather events, drought/water stress, and sea level rise. The areas of the company considered for this scenario include: Walmart retail operations, direct imports, and food (five commodities – bananas, corn, lettuce, tomatoes, and wheat) and non-food categories (cotton). Analytical Methods: Temperature - For temperature impacts on energy expenses we used historical annual energy costs per format by state and non-US countries, and applied the percentage increase in energy cost as determined by the heating/cooling days analysis, assuming a 1 to 1 relationship between change heating and cooling days and energy expenses.. Extreme Weather Events - For extreme weather impacts on operations we assessed the projections of the annual probability of occurrence for Cat 1 to 5 hurricanes and extreme gale force winds for 32 extreme weather regions covering the 7 major global hurricane basins and tornado valley in the US. Drought/water stress - Similar approaches were used to evaluate drought/water stress impacts on direct imports, food and non-food categories and pre-tax earnings were completed. An overlay of WRI's Aqueduct Water Stress projections and crop production areas and yields from EarthStat was performed. Sea Level Rise - Projections of sea level rise for the 2030s and 2050s were extracted from the NOAA sea level rise viewer. A proximity search of assets within a 2 mile radius was performed to identify potential vulnerable assets. Descriptions of the time horizons: The scenario analysis was run for two time horizons 2030 and 2050. These time horizons were chosen to be consistent with the climate model data sets and to make results comparable with other analysis. Summary of Results and Outcomes This analysis helped to confirm what we already knew from previous investigations and validated our current business strategies and initiatives around energy demand, commodity sourcing, value chain innovation, water management and resilience. This analysis was based on the latest climate model datasets and was intended to provide directional insights regarding future long-term climate conditions and implications for business operations. Based on these data sets, the physical hazards analysis concluded that none of the individual impacts were material for Walmart in aggregate in 2030 and 2050. Case examples: Two examples help highlight how initiatives Walmart already has underway are positively influencing this analysis and are reflected in Walmart's execution and business strategy. First, in our own operations we have rolled out glass doors for multi-deck refrigerated cases in several markets including the U.S. These medium temperature cases use to be open; the doors help maintain cooling in the cases by reducing heat gain. Second, in the value chain we established a process to track and report continuous improvement across environmental KPI's for 20 key agricultural commodities (e.g. tomatoes, corn, bananas, coffee, grapes etc.) by 2025.
RCP 2.6	One of the two scenarios we modeled was based the IPCC Representative Concentration Pathway Scenarios 2.6 (RCP 2.6) which is in line with the Paris Agreement's stated 2°C limit/1.5°C aim. This RCP is consistent with ambitious reduction of GHG emissions, which would peak around 2020, then decline on a linear path and become net negative before 2100. The scenario is referred to for TCFD analysis and aligns with the IEA 450 Transition Scenario described below. Of the two climate change scenarios that we employed, physical hazard analysis represented the "best-case" scenario as the physical risks were less than RCP 8.5. This scenario utilized the same inputs, approaches, and time horizons, results and outcomes described above for the RCP 8.5 Physical Hazard Scenario.

Climate-related scenarios	Details
IEA 450	IEA WEO 450ppm Scenario (projected to limit warming to 2°C) We used the International Energy Agency (IEA)'s World Energy Outlook (WEO) 450ppm Scenario (IEA450) as a scenario to understand transition risk. This scenario was identified and selected to be used to identify transition risks because it represented the most aggressive global response to climate action The WEO IEA 450 Scenario has become a widely-recognized benchmark for climate action and referred to for scenario analysis for TCFD. Inputs: Revenue, category mix, commodity sourcing regions, location of assets, direct import volumes, annual GHG emissions (Scopes 1, 2 and 3), energy consumption by type, and corporate emission reduction targets. Assumptions: The transition impact analysis was limited to regulatory carbon pricing schemes and did not include energy price impacts out to the time horizons. Carbon price impacts related to Scope 3 emissions from purchased goods and services reflected the top-10 import countries by volume and on available CDP data for selected suppliers. Scope 3 emissions data collected from CDP supply chain questionnaire represents suppliers with 40 percent of Walmart's total sales. CDP total emissions and revenue data for Walmart suppliers (17 percent of total sales) were used to estimate Walmart Scope 3 emissions based on relevant sales data. Analytical methods: The carbon price analysis evaluated a combination of scenarios considering the change in Walmart's emissions profile, projection in regulatory carbon price, and regulatory constraint of the electricity markets in emerging markets, such as China. The carbon price beyond 2017 considers the new policies scenario and 450 scenarios outlined in the International Energy Agency (IEA) World Energy Outlook 2016. The Impacts of a Global Carbon Price on Consumption and Value Creation report by the Carbon Pricing Unlocked partnership studied how carbon pricing affects global value chains by consumption categories. This was used to evaluate the likelihood of carbon price pass through from Walmart's suppliers based on the supplier's business activity group and relevant consumption categories. Descriptions of the time horizons: The scenario analysis was run for two time horizons 2030 and 2050. These time horizons we chosen to be consistent with the climate model data sets and to make results comparable with other analysis. Summary of Results: While this analysis was based on the latest publicly available carbon pricing datasets, there is enough uncertainty that we have assumed the results provide broad directional insights rather than point-estimate predictions of the future. The analysis suggests that increased global regulations related to carbon tax, cap-and-trade regimes, and GHG emissions limits could impact Walmart's operating expenses (however, not likely to be material at the aggregate level). Implications for Business Strategy: This outcome further validates the company's business strategy to manage its own emissions and work with suppliers to manage and reduce their emissions. These strategies are not only good for mitigating climate change but are important to avoiding costs in the future. Case example: For example, in 2012, Walmart set out to reduce energy use intensity per square foot by 20 percent for its stores, clubs and distributions centers. This was in anticipation of likely increases in energy costs, in part due to carbon price increases in many markets. Five years after setting this target and through the investment in energy-efficient technologies and practices, Walmart has reduced its energy intensity by 13 percent (since 2010). This reduction represents hundreds of millions of dollars a year in avoided costs to the bottom line.
Other, please specify (New Policies Scenario WEO)	EA WEO New Policies Scenario (projected to generate warming of 4°C) The "New Policies" scenario accounts for policy commitments and plans announced by countries under the Paris Agreement. It considers national commitments related to GHG emissions reductions and plans related to fossil fuel policies scheduled to be implemented. This is considered as the baseline scenario for the International Energy Agency (IEA) World Energy Outlook (WEO) and referred to for scenario analysis for TCFD. This scenario utilized the same inputs, approaches, and time horizons, results and outcomes described above for the IEA 450 Transition Scenario.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Absolute target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Scope

Scope 1 +2 (market-based)

% emissions in Scope

100

% reduction from base year

18

Base year

2015

Start year

2016

Base year emissions covered by target (metric tons CO2e)

19900802

Target year

2025

Is this a science-based target?

Yes, this target has been approved as science-based by the Science-Based Targets initiative

% achieved (emissions)

34.1

Target status

Underway

Approved by the Science Based Targets initiative in October and announced publicly in November 2016. Approved goal language is as follows: Walmart commits to reduce its absolute scope 1 and 2 emissions 18% by 2025, from 2015 levels. Walmart will also work to reduce CO2e emissions from upstream and downstream scope 3 sources by one billion metric tons between 2015 and 2030. As of 2017, Walmart had reduced its absolute Scope 1 and 2 emissions by 6.1%, equivalent to 1.22 million metric tons of CO2e annually compared to 2015. The main drivers being energy efficiency and renewables procurement.

C4.2

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.

Target
Engagement with suppliers

KPI – Metric numerator
Metric tons of avoided carbon dioxide equivalent emissions occurring in global value chains.

KPI – Metric denominator (intensity targets only)
n/a

Base year
2015

Start year
2016

Target year
2030

KPI in baseline year
0

KPI in target year
1000000000

% achieved in reporting year
2

Target Status
Underway

Please explain

between 2015 and 2030. This target is often referred to our Walmart's Gigaton Goal. Because it is a cumulative emissions reduction goal it does not require a % reduction and baseline year emissions.

Part of emissions target
This is part of our science-based target for our own operations (Abs 1)

Is this target part of an overarching initiative?
Science-based targets initiative

Target
Renewable energy consumption

KPI – Metric numerator
kWh of electricity consumed that was generated from renewable sources.

KPI – Metric denominator (intensity targets only)
kWh of electricity consumed annually.

Base year
2015

Start year
2016

Target year
2025

KPI in baseline year
0.25

KPI in target year
0.5

% achieved in reporting year
12

Target Status
Underway

Please explain
This target was announced in November 2016. The target is officially stated as follows: To power half of our operations worldwide with renewable energy by 2025.

Part of emissions target
Increasing the amount of renewable electricity used is part of our plan to achieve our emissions reduction target.

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation		
To be implemented*	11000	3000000
Implementation commenced*	1000	200000
Implemented*	3000	503000
Not to be implemented		

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Activity type
Energy efficiency: Building services

Description of activity
Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
175000

Scope
Scope 2 (location-based)

Annual monetary savings (unit currency – as specified in CC0.4)
18500000

Investment required (unit currency – as specified in CC0.4)
5550000

Payback period
1-3 years

Estimated lifetime of the initiative
6-10 years

Comment
We completed and commenced implementation of numerous energy efficiency initiatives in the US and internationally as we continue to work to reduce the energy intensity (kWh/sqft) of our facilities worldwide. With over 11,000 stores, clubs and distribution centers operating in 28 countries the amount of diversity of our facilities and level of technology saturation can vary greatly. In 2017 for example we completed Interior LED Lighting (TLED) upgrades at 450 stores.

Activity type
Energy efficiency: Building services

Description of activity
Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
36000

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
3800000

Investment required (unit currency – as specified in CC0.4)
11600000

Payback period
1-3 years

Estimated lifetime of the initiative
6-10 years

Activity type
Energy efficiency: Building services

Description of activity
Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
66000

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
5500000

Investment required (unit currency – as specified in CC0.4)
16700000

Payback period
1-3 years

Estimated lifetime of the initiative
6-10 years

Comment
Exterior LED Lighting upgrades completed at 592 stores.

Activity type
Energy efficiency: Building services

Description of activity
Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
8000

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
1000000

Payback period
1-3 years

Estimated lifetime of the initiative
6-10 years

Comment
Refrigerated door case lighting upgrades at 330 stores.

Activity type
Low-carbon energy installation

Description of activity
Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)
9900

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
1

Investment required (unit currency – as specified in CC0.4)
1

Payback period
<1 year

Estimated lifetime of the initiative
11-15 years

Comment
At Walmart, we have over 480 renewable energy systems installed in our stores, clubs and distribution centers worldwide. By the end of FY2018, Walmart U.S. had 364 onsite solar installations supplying energy to 353 sites, across 16 States and Puerto Rico, including more than 20 installations completed in 2017. Additionally, over the past two years, Massmart has installed four solar photo-voltaic plants across our Makro and Builders Warehouse divisions. This brings total renewable generation in South Africa to approximately 3 million kWh per year. The majority of these installations are enabled by Walmart engaging with systems developers through Power Purchase Agreements (PPAs). Under this arrangement Walmart does not own the system and therefore there is no direct investment but instead an obligation to purchase the power at an agreed upon rate over the term of the contract. This

Activity type
Low-carbon energy installation

Description of activity
Fuel Cells

Estimated annual CO2e savings (metric tonnes CO2e)
700

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
1

Investment required (unit currency – as specified in CC0.4)
1

Payback period
<1 year

Estimated lifetime of the initiative
11-15 years

Comment
Walmart U.S. added fuel cells to two additional sites in 2016 which we begin receiving low-carbon electricity from in 2017.

Activity type
Low-carbon energy purchase

Description of activity
Other, please specify (Wind)

Estimated annual CO2e savings (metric tonnes CO2e)
63000

Scope
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
1

Payback period
<1 year

Estimated lifetime of the initiative
11-15 years

Comment
In 2017, construction was completed on Akuo Energy's 150-megawatt Rocksprings Wind Farm in Southwest Texas near the town of Juno. Annually, this wind project produces enough renewable energy to supply power for thousands of households and avoids emissions of 285,624 tons of carbon dioxide. Through a 12-year power purchase agreement (PPA) with Akuo Energy, the Rocksprings Wind Farm will add new generation capacity to the grid and provide renewable energy to more than 69 Walmart stores, Sam's Clubs and distribution centers in Texas. Walmart is constantly working to scale our use of renewable energy and the supply we'll procure from the Rocksprings Wind Farm represents an important leap forward on our clean energy journey.

Activity type
Low-carbon energy purchase

Description of activity
Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)
74000

Scope
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
1

Investment required (unit currency – as specified in CC0.4)
1

Payback period
<1 year

Estimated lifetime of the initiative
16-20 years

Comment
Walmart worked with the utility Alabama Power on a long-term agreement that allowed the utility to build a 72 MW solar facility in Chambers County. The Alabama solar facility was

needed to serve 18,000 homes. Walmart contracted for the majority of renewable energy from the facility which is equivalent to 40 percent of the electricity needs for all of our stores and distribution centers in Alabama Power's service territory. We hope such deals will encourage other utilities to play a key role in helping meet the demand for renewable energy across the country.

Activity type
Low-carbon energy purchase

Description of activity
Other, please specify (Market Instrument Purchase)

Estimated annual CO2e savings (metric tonnes CO2e)
71000

Scope
Scope 2 (market-based)

Voluntary/Mandatory
Please select

Annual monetary savings (unit currency – as specified in CC0.4)
1

Investment required (unit currency – as specified in CC0.4)
1

Payback period
<1 year

Estimated lifetime of the initiative
<1 year

Comment
We purchased 203 GWh of renewable energy to cover a portion of our U.K. electricity demand in 2017.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with	Regulatory requirements drive investment in emission reduction activities across our

Method	Comment
Dedicated budget for other emissions reduction activities	Our fleet services division also has a dedicated budget to pursue low-emission R&D with OEMs. Walmart invests in the research; development and testing of technologies and equipment that will help improve the fuel economy of our equipment and/or the efficiency of our network that results in fewer loads or less miles. Walmart also regularly provides expertise, guidance and operational test environments to technology and system suppliers to support their development efforts.
Employee engagement	Employee engagement is critical to engage employees in continued emission reduction activities. For example, in our Mexico, Chile and U.K. operations, we have implemented a program to encourage employee identification of energy-saving opportunities in our stores aimed to ultimately reduce emissions.
Financial optimization calculations	Financial optimization is a critical part of our efforts to reduce emissions. Within each area of operations, we establish priority of emission-reducing projects based on their financial performance, along with their contribution toward greenhouse gas-related goals. All projects must meet internal rate of return thresholds, and typically we pursue projects that perform best according to internal financial guidelines to achieve optimum performance.
Internal finance mechanisms	Capital and operating budgets are required for many of our initiatives to reduce energy and greenhouse gas emissions. Financial resources are dedicated to priority initiatives each year based on a review of each project's anticipated financial performance.
Partnering with governments on technology development	Previous Walmart partnerships and collaborative research investigations with the U.S. Department of Energy (DOE) and U.S. Department of Transportation (DOT) have led to technological developments in the buildings and transportation sector.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation

Group of products

Description of product/Group of products

LED light bulbs: In 2013, we introduced Great Value™- and GE-brand LED light bulbs, starting at less than $10 for a 60-watt equivalent Great Value™ bulb. These bulbs reduce energy

Are these low-carbon product(s) or do they enable avoided emissions?
Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (2012 US DOE LCA of LED Lighting Products)

% revenue from low carbon product(s) in the reporting year
0

Comment
Select products sold in our stores globally have allowed our retail customers to reduce their energy use and the resulting greenhouse gases. We have been able to quantify results from a few of these products. We sold over 14 million LED light bulbs in 2015 which equates to around 12 million MT CO2e of avoided lifecycle GHG emissions over the lifetime of the bulbs. Key Assumptions: LED bulbs sold and wattage of each bulb (1-40 Watts), average life cycle lumen hours (20 million lumen hours), GHG savings factor for LEDs against baseline incandescent bulbs (0.78 MTCO2e/20 million lumen hours).

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start
January 1 2005

Base year end
December 31 2005

Base year emissions (metric tons CO2e)
5584171

Comment

Scope 2 (location-based)

Base year start

December 31 2005

Base year emissions (metric tons CO2e)
14194178

Comment

Scope 2 (market-based)

Base year start
January 1 2005

Base year end
December 31 2005

Base year emissions (metric tons CO2e)
14194178

Comment

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Row 1

Gross global Scope 1 emissions (metric tons CO2e)
6523390

End-year of reporting period

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Row 1

Scope 2, location-based

13187651

Scope 2, market-based (if applicable)

12155651

End-year of reporting period

<Not Applicable>

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source
Various ecommerce support facilities acquired.

Relevance of Scope 1 emissions from this source
Emissions excluded due to recent acquisition

Relevance of location-based Scope 2 emissions from this source
Emissions excluded due to recent acquisition

Relevance of market-based Scope 2 emissions from this source (if applicable)
Emissions excluded due to recent acquisition

Explain why the source is excluded
Over the past two years Walmart Inc. has acquired several ecommerce businesses (e.g. Jet.com, Moosejaw, Modcloth). These businesses will fall within our reporting boundary but are being excluded until we have complete information to report.

C6.5

(C6.5) Account for your organization's Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status
Relevant, calculated

Metric tonnes CO2e
49472163

Emissions calculation methodology
Walmart estimated a portion of its scope 3 emissions from purchased goods and services using the carbon emissions allocated to it by 670 suppliers (consumer goods manufacturers and service providers) that participated in CDP Supply Chain in 2017. The total amount of emissions of these suppliers Scope 1 and 2 emissions amounted to over 49,472,163 metric tons of CO2e. It is important to note the following: many of the allocated emissions were not verified by a third party, the level of uncertainty for the allocated emissions ranged from 1-25% and the suppliers used different approaches to estimate these allocations (i.e. allocations based on sales, volume, and units sold). While these emissions represent the scope 3 allocated to us from some of Walmart's largest suppliers it is not comprehensive.

one of the reasons why we focus on engaging actors in our supply chain to help manage and reduce emissions.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Explanation

Capital goods

Evaluation status

Relevant, calculated

Metric tonnes CO2e

645328

Emissions calculation methodology

Walmart calculated the emission from all newly constructed buildings in 2016 globally and from vehicles sourced for use in the US in 2016 for this category. Specific data on the number of newly constructed buildings globally and the specific square footage for each store was obtained from Walmart's real estate database. Ecoinvent was used to calculate the life cycle CO2-eq for the construction materials used in a building per square foot. This was then multiplied times the total square footage to get emissions in 2016. Specific data for the number of vehicles purchased was obtained from Walmart's fleet management team. This includes number of tractors, trucks, vans and trailers (refrigerated and dry). Each transportation equipment was calculated using Ecoinvent which includes specific life cycle emission factors for each equipment type. This was then multiplied by the number of equipment purchases per type.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

and distribution losses from energy or the energy production itself. Our strategy is to reduce our demand on energy and on fossil fuels.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

342577

Emissions calculation methodology

Walmart was able to estimate the emissions from our third party logistics coordinators in some of our markets using EPA emission factors for fuels in 2015. We were able to collect gallons of fuel used and fuel type to calculate the total emissions from fuels. Data was disaggregated into Road Freight, Air Freight and Sea Freight. For all sea freight consignments the average container vessel size was 4000 TEU, and so the emission factor for container vessel between 3000 - 4999 TEU was used. For all local land (road) freight it was stated that all transportation used articulated trucks between 7.5 - 30 tonnes in size and so the emission factor for a 3.5 - 33 tonne articulated truck was used for all emissions. The tonne.km method of emissions estimation was used for all three freight modes of travel.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO2e

967079

Emissions calculation methodology

In the US, we used the waste-type-specific method described in WRI's Technical Guidance for Calculating Scope 3 Emissions (p77). Walmart currently inventories data on all of its waste streams from its operations in the U.S. In 2017, Walmart's U.S. based operations generated 5.7 million tons of waste and uneaten food. Due to Walmart's comprehensive and very successful waste diversion programs Walmart was able to divert 80% of these materials. This means that only 1 million tons of waste ended up in landfills in 2017 with the majority being donated or recycled. We used the U.S. EPA's Waste Reduction Model (WARM) emission factors and proxy materials methodology to estimate emissions for both the waste that ended up in landfills (net emissions of 967079 mtCO2e – 1.9% increase since last year) and the diverted waste that was recycled/repurposed (net storage of 10,490,507 mtCO2e, a 3.4%

cycle studies and assume national average landfill operational characteristics (i.e. no gas capture, gas flaring, or waste to energy). The emission factors also account for the emissions from transportation vehicles and equipment to move the waste to landfills or recycling processing centers. The emission factors, provided in terms of MTCO2e per short ton, are as follows; Aluminum Cans = 0.04, Steel Cans = 0.04, Glass = 0.04, Corrugated Box = -0.05, Dimensional Lumber = -0.73, Fiberboard = -0.73, Food Waste = 0.69, Mixed Paper Board = -0.07, Mixed Paper – Office = 0.06, Mixed Metals = 0.04, Mixed Plastics = 0.04, Mixed Recyclables = -0.13 Mixed Organics = 0.28, Mixed MSW = 0.98, PCs = 0.04, Tires = 0.04. For more information about EPA's WARM program please visit http://epa.gov/epawaste/conserve /tools/warm/SWMGHGreport.html.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

73600

Emissions calculation methodology

We calculated air travel emissions from US-based and South Africa based travel. All flight data are provided by Walmart's corporate travel agent. These data represent global flights booked through the travel agency and are pre-aggregated by the travel agent based on flight lengths. The short, medium and long haul emissions factors— from the U.K.'s DEFRA reference source—are applied respectively to each data point to calculate emissions from Walmart employee business travel.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

Employee commuting

Evaluation status

Relevant, not yet calculated

Metric tonnes CO2e

Emissions calculation methodology

Explanation

With more than 2.2 million employees and as one of the world's largest employers, Walmart understands that while employee commuting may not be a relevant category from the perspective of size of emissions. Walmart has a commitment to our employees and empowering them to reduce their impact on the environment.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Walmart includes all assets that are leased under our scope 1 and 2 boundaries and therefore there are no additional significant emission sources to consider for this category.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

1431

Emissions calculation methodology

Massmart was able to calculate the impacts of downstream transport and distribution in the South African market. Where data was provided in kilometres driven the tone.km method was used (tonnes of freight multiplied by distance covered in kilometres) for a medium sized rigid truck. Distance-based emission factor from DEFRA, assuming 50% load, were used. Where data was provided in litres of diesel consumed the volume method was used to calculate emissions. Where litres of diesel were provided, the volume method was used to calculate emissions. We recognize that this preliminary investigation only estimates a small percentage of our global emissions from downstream distribution activity.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

Processing of sold products

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Walmart sells goods for resale rather than for further production. While some of our goods may be used to continue to create new goods such as restaurant meals and other products, we consider ourselves a retailer of final goods and therefore this category does not apply.

Use of sold products

Evaluation status

Relevant, not yet calculated

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

A portion of products sold at Walmart stores & clubs and affiliate stores worldwide require fuel or electricity to operate them or directly emit GHGs during use. However, Walmart has not been able to quantify this broadly. Within projects and goals such as the Sustainability Index and Project Gigaton, Walmart is working to reduce emissions during the use phase of products with a significant impact in the use phase. However, this is not scaled across all products at this time.

End of life treatment of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

130

Emissions calculation methodology

Massmart was able to calculate the impact of E-waste (Electronic Waste) generated as a result of e-consumer waste collection. From Massmart's assessment they determined the environmental impact from 18 stores by Desco Electronic Recyclers (DER). The metric tonnes of CO2e were provided by DER. In the future, Walmart hopes to expand this calculation globally.

Percentage of emissions calculated using data obtained from suppliers or value chain

Explanation

Downstream leased assets

Evaluation status
Relevant, calculated

Metric tonnes CO2e
135500

Emissions calculation methodology
Walmart leased approximately 50 vacant facilities to tenants in 2016. Since these facilities were once operating Walmart stores or Sam's Clubs and the new tenants do not have energy intensive operations (e.g. manufacturing) we assumed that their annual emissions would be similar (if not less) to the average Walmart store. By multiplying our average annual energy use per store (4,500 MWh per year) by the number of leased buildings (50) to arrive at 247500 MWh. Next we used the Walmart weighted emission factor (0.6 mtCO2e/MWh) to convert this energy to into emissions (135,000 mt CO2e).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation

Franchises

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation
Walmart does not have any franchise arrangements making this category not relevant to our operations.

Investments

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

Explanation

Walmart does not have enough investments that would make this a relevant category.

Other (upstream)

Evaluation status

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Other (downstream)

Evaluation status

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

C6.7

(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.0000373325

Metric denominator
unit total revenue

Metric denominator: Unit total
500343000000

Scope 2 figure used
Market-based

% change from previous year
7.2

Direction of change
Decreased

Reason for change
Walmart's absolute Scope 1 and 2 emissions decreased by 4.4% (19.5 M mt to 18.6 M mt) while its total revenues increased by 2.98% ($485.8 B to $500.3 B) from the previous reporting year. This resulted in an 7.20% decrease in its carbon intensity per revenue. Emission reductions can be attributed to reduced energy demand from energy efficiency retrofits and an increase in renewable energy procured.

Intensity figure
0.0161323139

Metric numerator (Gross global combined Scope 1 and 2 emissions)
18679042

Metric denominator
square foot

Metric denominator: Unit total
1157865000

Scope 2 figure used
Market-based

% change from previous year
3.89

Direction of change
Decreased

Reason for change
Walmart's absolute Scope 1 and 2 emissions decreased by 4.4% (19.5 M mt to 18.6 M mt) while its total retail area decreased slightly by 0.56% (1.149 million square feet to 1.157 million square feet globally) from the previous reporting year. This resulted in an 3.89%

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization have greenhouse gas emissions other than carbon dioxide?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	3315336	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	1462	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	9025	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	2825039	IPCC Fifth Assessment Report (AR5 – 100 year)
PFCs	0	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
Africa	95262
China	194355
India	5152
Japan	63612
United Kingdom of Great Britain and Northern Ireland	335453
Canada	261138

Country/Region	Scope 1 emissions (metric tons CO2e)
Guatemala	16259
Honduras	16922
Mexico	702885
Nicaragua	6082
United States of America	4225799
Puerto Rico	3756
Argentina	167403
Brazil	214056
Chile	204381

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division

By activity

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Walmart U.S.	3842989
Walmart International	2293835
Sam's Club	371228

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Convenience Formats	133

Activity	Scope 1 emissions (metric tons CO2e)
Retail Formats	3478911
Wholesale & Membership Formats	530972

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Africa	311456	311456	500411	
China	842846	842846	1275880	
India	13328	13328	17180	
Japan	311232	311232	577638	
United Kingdom of Great Britain and Northern Ireland	373875	202917	1067591	487059
Canada	145685	145685	957824	
Costa Rica	542	542	82135	
El Salvador	10996	10996	40727	
Guatemala	28993	28993	66300	
Honduras	11857	11857	30433	
Mexico	984073	406606	2135034	1252370
Nicaragua	9849	9849	26785	
United States of America	9698984	9415410	20708204	616351
Puerto Rico	52360	52360	121213	
Argentina	84350	84350	218920	
Brazil	132582	132582	844472	
Chile	174642	174642	396734	

C7.6

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Walmart U.S.	8419652	8136078
Walmart International	3436307	2687881
Sam's Club	1331692	1331692

C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Convenience Formats	1054	1054
Discount Formats	502394	502394
Non Store Formats	850837	850837
Retail Formats	11221312	10189312
Wholesale & Membership Formats	1331692	1331692

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	259652	Decreased	1.33	Walmart's absolute Scope 1+2 emissions decreased by 4.4% from the previous reporting year. One the major drivers of this reduction was the from low-carbon renewable electricity procurement. In 2017, Walmart increased the amount of renewable electricity it procures and consumes annually by 12% (294,366 MWh) compared to 2016. These projects included a wind and solar projects that came online in 2017. The carbon reduction value of these projects was 259,652 metric tons CO2e (31% of reduction in Scope 1 + 2). This resulted in a 1.33% drop in total Scope 1 + 2 emissions. Calculation = Change in Scope 2 attributed to renewable energy consumption / (Previous year scope 1 + 2) * 100.
Other emissions reduction activities	270000	Decreased	1.38	In 2016 and 2017 Walmart implemented over a 1,500 different energy savings projects across its 11,000 stores, clubs and DCs. These included upgrades in lighting, refrigerated and HVAC equipment. The projects are estimated to help the company avoid over 270,000 metric tons of CO2e in 2017, a 1.38% decrease in absolute emissions from the previous year. Calculation = Change in Scope 1 + 2 attributed to energy efficiency / (Previous year scope 1 + 2) * 100.
Divestment		<Not Applicable>		
Acquisitions		<Not Applicable>		
Mergers		<Not Applicable>		
Change in output		<Not Applicable>		
Change in methodology		<Not Applicable>		
Change in boundary		<Not Applicable>		
Change in physical operating conditions		<Not Applicable>		
Unidentified		<Not		

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Other		<Not Applicable>		

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	No

	Indicate whether your organization undertakes this energy-related activity
Generation of electricity, heat, steam, or cooling	No

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	15224022	15224022
Consumption of purchased or acquired electricity	<Not Applicable>	2652498	26408038	29060536
Consumption of purchased or acquired heat	<Not Applicable>	0	6946	6946
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total energy consumption	<Not Applicable>	2652498	41639007	44291504

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)
Diesel

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
6293368

MWh fuel consumed for the self-generation of electricity
212114

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Petrol

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
159795

MWh fuel consumed for the self-generation of electricity
1217

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Biodiesel

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
1033761

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Other, please specify (Ethanol)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
268

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

Fuels (excluding feedstocks)
Liquefied Petroleum Gas (LPG)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
568976

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
568976

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Compressed Natural Gas (CNG)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
370

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Other, please specify (Jet Fuel)

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
119583

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Crude Oil Heavy

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
2081

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
2081

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
4736

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
4736

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Kerosene

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
454

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
454

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Liquefied Natural Gas (LNG)

Total fuel MWh consumed by the organization
63669

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
63669

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Natural Gas

Heating value
LHV (lower heating value)

Total fuel MWh consumed by the organization
6751235

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
6751235

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Propane Gas

Heating value
LHV (lower heating value)

MWh fuel consumed for the self-generation of electricity
0

MWh fuel consumed for self-generation of heat
225728

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

C8.2d

(C8.2d) List the average emission factors of the fuels reported in C8.2c.

Biodiesel

Emission factor
229

Unit
kg CO2e per MWh

Emission factor source
U.S. EPA, Emission Factors for Greenhouse Gas Inventories (Nov 2015)

Comment

Compressed Natural Gas (CNG)

Emission factor
549

Unit
kg CO2 per MWh

Emission factor source
U.S. EPA, Emission Factors for Greenhouse Gas Inventories (Nov 2015)

Comment

255

Unit
kg CO2e per MWh

Emission factor source
U.S. EPA, Emission Factors for Greenhouse Gas Inventories (Nov 2015)

Comment

Diesel

Emission factor
253

Unit
kg CO2 per MWh

Emission factor source
U.S. EPA, Emission Factors for Greenhouse Gas Inventories (Nov 2015)

Comment

Kerosene

Emission factor
264

Unit
kg CO2e per MWh

Emission factor source
U.S. EPA, Emission Factors for Greenhouse Gas Inventories (Nov 2015)

Comment

Liquefied Natural Gas (LNG)

Emission factor
233

Unit
kg CO2e per MWh

Emission factor source
U.S. EPA, Emission Factors for Greenhouse Gas Inventories (Nov 2015)

Comment

Liquefied Petroleum Gas (LPG)

Unit
kg CO2e per MWh

Emission factor source
U.S. EPA, Emission Factors for Greenhouse Gas Inventories (Nov 2015)

Comment

Natural Gas

Emission factor
181

Unit
kg CO2e per MWh

Emission factor source
U.S. EPA, Emission Factors for Greenhouse Gas Inventories (Nov 2015)

Comment

Petrol

Emission factor
241

Unit
kg CO2e per MWh

Emission factor source
U.S. EPA, Emission Factors for Greenhouse Gas Inventories (Nov 2015)

Comment

Propane Gas

Emission factor
215

Unit
kg CO2e per MWh

Emission factor source
U.S. EPA, Emission Factors for Greenhouse Gas Inventories (Nov 2015)

Comment

Other

Emission factor

kg CO2 per MWh

Emission factor source
U.S. EPA, Emission Factors for Greenhouse Gas Inventories (Nov 2015)

Comment

C8.2f

(C8.2f) Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.

Basis for applying a low-carbon emission factor
Power Purchase Agreement (PPA) with energy attribute certificates

Low-carbon technology type
Wind

MWh consumed associated with low-carbon electricity, heat, steam or cooling
1612051

Emission factor (in units of metric tons CO2e per MWh)
0

Comment

Basis for applying a low-carbon emission factor
Power Purchase Agreement (PPA) with energy attribute certificates

Low-carbon technology type
Biomass (including biogas)

MWh consumed associated with low-carbon electricity, heat, steam or cooling
152524

Emission factor (in units of metric tons CO2e per MWh)
0

Comment

Basis for applying a low-carbon emission factor
Contract with suppliers or utilities (e.g. green tariff), supported by energy attribute certificates

MWh consumed associated with low-carbon electricity, heat, steam or cooling
1823

Emission factor (in units of metric tons CO2e per MWh)
0

Comment

Basis for applying a low-carbon emission factor
Energy attribute certificates, Guarantees of Origin

Low-carbon technology type
Wind

MWh consumed associated with low-carbon electricity, heat, steam or cooling
487059

Emission factor (in units of metric tons CO2e per MWh)
0

Comment

Basis for applying a low-carbon emission factor
Power Purchase Agreement (PPA) with energy attribute certificates

Low-carbon technology type
Solar PV

MWh consumed associated with low-carbon electricity, heat, steam or cooling
181600

Emission factor (in units of metric tons CO2e per MWh)
0

Comment

Basis for applying a low-carbon emission factor
Power Purchase Agreement (PPA) with energy attribute certificates

Low-carbon technology type
Hydropower

MWh consumed associated with low-carbon electricity, heat, steam or cooling
741906

Emission factor (in units of metric tons CO2e per MWh)

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 and/or Scope 2 emissions and attach the relevant statements.

Scope
Scope 1

Verification or assurance cycle in place
Triennial process

Status in the current reporting year

Limited assurance

Attach the statement
Verification Report_Walmart Mexico_2015.pdf
GHG Inventory Verification Report_Walmart CY2013 VReport 150623.pdf
GCX_Massmart_FY2017 Verification Report_20180629_v2.pdf
GHG Inventory Verification Letter_Walmart Stores Inc_CY2013 VOS 150625.pdf
WMT_GHG Inventory Methodology.pdf

Page/ section reference

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
100

Scope
Scope 2 location-based

Verification or assurance cycle in place
Triennial process

Status in the current reporting year
Underway but not complete for reporting year-previous statement of process attached

Type of verification or assurance
Limited assurance

Attach the statement
GCX_Massmart_FY2017 Verification Report_20180629_v2.pdf
GHG Inventory Verification Letter_Walmart Stores Inc_CY2013 VOS 150625.pdf
GHG Inventory Verification Report_Walmart CY2013 VReport 150623.pdf
Verification Report_Walmart Mexico_2015.pdf
WMT_GHG Inventory Methodology.pdf

Page/ section reference

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
100

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope
Scope 3- at least one applicable category

Verification or assurance cycle in place
Triennial process

Status in the current reporting year
Underway but not complete for reporting year – previous statement of process attached

Attach the statement
GHG Inventory Verification Letter_Walmart Stores Inc_CY2013 VOS 150625.pdf
GCX_Massmart_FY2017 Verification Report_20180629_v2.pdf
GHG Inventory Verification Report_Walmart CY2013 VReport 150623.pdf
Verification Report_Walmart Mexico_2015.pdf
WMT_GHG Inventory Methodology.pdf

Page/section reference

Relevant standard
ISO14064-3

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

No, but we are actively considering verifying within the next two years

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

Other carbon tax, please specify (Zero Emission Credit (ZEC) in New York)

C11.1c

(C11.1c) Complete the following table for each of the tax systems in which you participate.

Other carbon tax, please specify

Period start date

April 1 2017

Period end date

March 31 2029

% of emissions covered by tax

1.5

Total cost of tax paid

756755

Comment

The electric utility Texas Retail Energy, LLC a subsidiary of Walmart began being charged a Zero Emission Credit (ZEC) in New York in April 2017. The ZEC price is based on the social cost of carbon as determined by the NY Public Service Commission and is collected from all load serving entities in New York with the proceeds given to New York nuclear generators.

C11.1d

(C11.1d) What is your strategy for complying with the systems in which you participate or anticipate participating?

The Zero Emissions Cred (ZEC) Program is administered by NYSERDA and we are invoiced monthly based on New York electricity sales. Costs from this program can be mitigated by

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

No, and we do not currently anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Run an engagement campaign to educate suppliers about climate change
Other, please specify (Multiple engagement initiatives)

% of suppliers by number

100

% Scope 3 emissions as reported in C6.5

100

Rationale for the coverage of your engagement

Walmart has a large, geographically diverse supply chain that includes more than 100,000 suppliers around the world. We understand that over 90% of our total impact lies outside of our own operations. That's why we have set up programs that allow all direct suppliers to join us in create a more sustainable value chain. To ensure that these programs affect real and sizable change we often focus on engaging our largest suppliers.

Impact of engagement, including measures of success

Since launching the Sustainability Index we have realized Index score improvements (year over year) in all major business units. In the first year of Project Gigaton we had over 400 companies commit and hundreds submitted initiatives that totaled 20 million metric tons CO2e of avoided emissions annually.

Comment

We engage our direct suppliers on GHG emissions and climate change in a number of ways including; one to one meetings, written correspondence and questionnaires, collaboration projects, participation in industry association working groups and holding supplier summit meetings. We prioritize our engagement by taking into account both the magnitude of estimated impact, opportunity for change and the level of interest of our supplier's partners to engage. Since 2009 Walmart has asked its suppliers to respond to the CDP Supply Chain questionnaire. In 2012 Walmart began implementing the Sustainability Index into our business and relationships with suppliers. We began by developing scorecards based on The Sustainability Consortium's Key Performance Indicators which allow our buyers to evaluate supplier performance against the biggest issues and opportunities across the life cycle of their products. By the end of 2016, the Sustainability Index had grown to cover over 700 categories and more than 70% of U.S. sales, in categories where the Index is available. More than 2,000 suppliers completed at least one survey that evaluated the sustainability performance of their products and ranked them against their peers. The results empowered over 300 buyers, responsible for thousands of items, to manage the sustainability performance of their product portfolio to all buyers. Buyers are using these tools in buy trips, line reviews and annual business planning, and they have launched projects across our business to work with suppliers on driving improvements. Beginning in 2013, buyers in the U.S. and key leaders in our global sourcing network have sustainability objectives (including several climate and GHG focused objectives) on their evaluations to help ensure these projects get traction. In the third year of implementation we have realized Index score improvements (year over year) in all major business units. In service of our goal to prevent 1 billion tons of CO2e by 2030, in April 2017 we launched a new supplier engagement program called Project Gigaton to challenge our suppliers to reduce emissions by focusing on 6 key areas including energy, waste, packaging, food waste, deforestation, and product use. More than 400 suppliers with operations in more than 30 countries have made commitments to Project Gigaton in its first year.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Direct engagement with policy makers

Trade associations

Other

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Energy efficiency	Support with minor exceptions	We have promoted energy efficiency and other GHG reduction activities through regulatory policy dockets, public speaking, and legislative activity. Walmart regularly participates in state utility commission-ordered working groups that submit suggestions to regulatory bodies, and we engage in internal legislative and policy research. In the United States, we are involved in regulatory and legislative actions at the state level, including energy efficiency proceedings. In October 2017, we testified before a Congressional hearing on the topic.	Whether the proceedings are legislative or regulatory, we advocate for recognition of customer involvement by preserving or creating favorable customer-focused energy efficiency policy. This encourages market innovation and aggressive reduction of GHG emissions.
Clean energy generation	Support with minor exceptions	In the United States, we have been involved in regulatory and legislative actions at the state level related to renewable energy. These included proceedings related to state level, green energy tariffs and other utility renewable programs, ability to directly source renewable energy, and the treatment of renewable energy instruments (i.e. Renewable Energy Credits). Several of the proceedings involved green tariff or other utility products in which we engaged in the development of the tariff or product (e.g. Georgia Power C&I REDI program, Ameren Missouri green tariff, Dominion Virginia Schedule RG). We also participated in proceedings to support utility development of new renewable energy generation. We have directly engaged on renewable legislation in Kansas, North Carolina and Missouri. In October 2017, we testified before a Congressional hearing on the topic. At both the state and federal levels, we have engaged	We believe that businesses must have the regulatory freedom to directly source electricity from project developers or independent power producers. In some countries and many states within the U.S., our ability to scale renewable energy projects is diminished because we are not able to sign direct power purchase agreements (PPAs). We advocate for policies that allow market-based solutions like PPAs, which can lead to greater price certainty and cost savings. We also advocated before both utility regulators and legislatures for green tariffs and other structures to increase our ability to consume

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Other, please specify (Emissions reductions in transportation)	Support with minor exceptions	In October 2015 Walmart submitted comments to the EPA and NHTSA on the proposed Phase 2 Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles. In 2017, Walmart participated in an American Trucking Association (ATA) advisory company to draft a response to the EPA	We supported a strong Phase 2 rule that will drive innovation in truck technologies to viable solutions at a pace that ensures the technologies will have the intended triple bottom line outcomes without unintended consequences. We believe that reducing emissions and cost as well as increasing our energy security are critical to our business and our communities. For a trans-border industry, one national standard will be integral to providing the industry the certainty required to reduce the complexity of adherence, to speed commercialization, and to reduce to the cost of innovation.
Other, please specify (Demand response)	Support	We work on demand response issues through our membership in the Advanced Energy Management Alliance.	We believe that demand response is an effective method to reduce peaks loads and thereby reduce the need for building additional power plants.

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

Consumer Goods Forum (CGF)

Is your position on climate change consistent with theirs?

Consistent

manufacturers, service providers and other stakeholders across 70 countries and reflects the diversity of the industry in geography, size, product category and format. Forum member companies have combined sales of EUR 2.5 trillion. In November 2010, Walmart's CEO, Mike Duke, along with other members of the Consumer Goods Forum committed to help achieve zero net deforestation by 2020 and signed a resolution to begin phasing out hydroflourocarbons by 2015 and to transition toward natural refrigerants. In early 2016, the CGF announced the successful meeting its 2010 Board Resolution on Refrigeration and the publication of its first-ever Refrigeration Booklet. At the same time it also announced the new resolution on refrigeration that aims to support the global phase down of high GWP refrigerants (i.e., HFCs) in all new equipment, where viable, by 2025.

How have you, or are you attempting to, influence the position?

The Consumer Goods Forum is governed by its Board of Directors, which includes 50 manufacturer and retailer CEOs and Chairmen. Walmart's current CEO, Doug McMillon is on the Board of Directors for the Consumer Goods Forum. Additionally, Walmart representatives regularly participate in CGF working group meetings and conferences that directly or indirectly influence the activities and focus of the organization.

C12.3e

(C12.3e) Provide details of the other engagement activities that you undertake.

In 2017 we participated in several climate change related advocacy groups facilitated by notable NGOs including CDP, World Wildlife Fund (WWF), World Resources Institute (WRI), Business for Social Responsibility (BSR), Advanced Energy Economy, and others. These groups and initiatives included We Mean Business, Renewable Energy Buyer's Alliance (REBA), RE100, the Advanced Energy Buyers Group and the Future of Fuels. These groups are striving to align corporate action on emissions reduction and remove barriers to action including renewable energy policy at the state federal and international levels.

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

publicly stated global sustainability initiatives and goals, including those specifically related to GHG reductions in our operations and supply chain. In 2015, we updated the structure of corporate affairs teams to enhance alignment between global government affairs and public policy. In addition to internal subject matter experts in the international, state, federal and local markets, we have dedicated policy experts focused on new and emerging issues such as energy and climate policy.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication
In mainstream reports

Walmart Mexico's 2017 Integrated Annual Report

Status
Complete

Attach the document
Walmex_2017_Annual_Report_MSE.pdf

Content elements
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Publication
In other regulatory filings

Walmart's Fiscal Year 2018 10-K

Status
Complete

Attach the document
WMT-2018_10-K.pdf

Content elements

In voluntary sustainability report

Walmart's 2018 Global Responsibility Report, pg 52

Status
Complete

Attach the document
walmart-2018-grr.pdf

Content elements
Strategy
Emissions figures
Emission targets
Other metrics

C14. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Chief Sustainability Officer and Foundation President, Walmart Inc.	Chief Sustainability Officer (CSO)

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