

# CDP

## AT&T Inc. - Climate Change 2018

### C0. Introduction

#### C0.1

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

AT&T Inc. delivers advanced mobile services, next-generation TV, high-speed internet and smart solutions for people and businesses. We're the largest provider of pay TV in the United States. We offer TV and wireless nationwide, plus a large high-speed internet footprint. We offer a wide choice of internet speeds to meet customers' needs. We also offer pay TV in 11 Latin American countries.

We offer solutions that help businesses in every industry serve their customers better. We deliver advanced services to nearly 3.5 million businesses on 6 continents. That includes nearly all of the Fortune 1000 as well as neighborhood businesses across the United States.

Our high-speed mobile internet network covers more than 400 million people and businesses across the U.S. and Mexico. We also wirelessly connect cars, machines, shipping containers and more. It's all part of our leadership in what's called the Internet of Things. And we never stop innovating. The brightest minds in the business are in our AT&T Labs and Foundry centers developing new technologies, apps, products and services.

The data reflected in this report relates to AT&T's business, activities and corporate structure in CY 2017 and does not include any information or data related to the 2018 acquisition of Time Warner.

#### 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
January 1 2017	December 31 2017	No

### **C0.3**

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

United States of America

Other, please specify (Rest of world)

### **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
Director on board	The Public Policy and Corporate Reputation Committee (PPCRC) of our Board has the highest level of responsibility for climate change within AT&T and meets several times/year on sustainability matters. The PPCRC has a Committee Chair and 4 members. 12 of our 13 directors are independent in accordance with the listing standards of the NYSE, and with the exception of the Executive Committee, each committee including the PPCRC is comprised solely of independent directors. The PPCRC is briefed by the SVP-CSR/CSO on climate-related issues as they relate to our overall strategy and provides input/guidance in the development of our strategy. The PPCRC's Charter outlines the Committee's responsibilities related to public policy and specifically cites the PPCRC's authority over corporate policies and practices in furtherance of our CSR, including corporate environmental policies. Climate change falls under CSR at AT&T, therefore the PPCRC is ultimately responsible for our climate change strategy.

#### 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	The Public Policy and Corporate Reputation Committee (PPCRC) of the AT&T Board of Directors has the highest level of responsibility for climate change within our organization and meets several times a year on sustainability matters. This committee reviews the entirety of AT&T's climate-related strategy, including all public targets (such as those governing supply chain, energy intensity, water intensity, fleet, etc.). The PPCRC also provides input into our strategy related to energy policy, such as investing in renewable and alternative energy purchases. As climate-related issues arise as agenda items, they are reviewed in regular fashion, much the same way as other topics are reviewed and discussed at the Board level. The Committee includes 5 members and more details can be found on our Corporate Governance website: <a href="https://www.att.com/gen/investor-relations?pid=5613">https://www.att.com/gen/investor-relations?pid=5613</a>

## 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	As important matters arise

### 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.**

The Chief Sustainability Officer (CSO), a Senior Vice President in the External and Legislative Affairs organization of AT&T Inc., coordinates meetings of the Public Policy and Corporate Responsibility Committee (PPCRC) of AT&T's Board of Directors. The CSO oversees all work pertaining to climate-related risks and opportunities. The CSO plays a leading role in AT&T's climate-related strategy-setting process and receives regular input from those implementing the strategy. The CSO is deeply involved in major climate-related strategy decisions, such as the planning and execution of major renewable energy procurement contracts and projects.

The CSO has designated specific members of her team to oversee and implement AT&T's climate change-related strategy and receives weekly updates on climate-related activities and developments. As these team members monitor and track climate-related policies and developments within and external to the company, they communicate relevant issues and solutions to the CSO.

As the highest-level manager of sustainability-related issues, the CSO has oversight and responsibility for all of AT&T's climate-related strategies, policies and goals, as AT&T considers climate change a sustainability-related issue. In her position in the External and Legislative Affairs department of AT&T and with the CSR Governance Council, she is in close communication with the teams involved in brand, reputation, risk and network, all of which are areas of AT&T that climate change may impact. Her position enables her to work closely with these teams and ensures she is best equipped to oversee climate-related risks and opportunities. The CSR Governance Council comprises senior executives and officers with responsibility for the business areas most linked to current CSR priorities, including climate-related issues. The CSO leads this council and also facilitates the PPCRC of the AT&T Board of Directors. On a day-to-day basis, in 2017, the CSO reported to the Senior Executive Vice President of External and Legislative Affairs, who reported to the Company's Chairman and CEO.

## 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?**

Business unit manager

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction project

**Comment**

Progress toward and achievement of the stated goals is part of the annual performance objectives and rating process for executives and managers in the business units collaborating toward these goals. Consideration is given to performance against annual objectives when assigning merit-based salary and annual bonus awards. In addition to monetary awards, we provide incentives in form of recognition. We have several employee recognition programs that are used by business unit managers to acknowledge outstanding performance with respect to the energy impacting programs. Additionally, business unit managers use the annual performance appraisal process to highlight and reward superior performance in this area. Other activities incentivized include • Emissions reduction target • Energy reduction project • Energy reduction target • Efficiency project • Efficiency target • Environmental criteria included in purchases • Supply chain engagement

**Who is entitled to benefit from these incentives?**

Business unit manager

**Types of incentives**

Recognition (non-monetary)

**Activity incentivized**

Emissions reduction target

**Comment**

Progress toward and achievement of the stated goals is part of the annual performance objectives and rating process for executives and managers in the business units collaborating toward these goals. Consideration is given to performance against annual objectives when assigning merit-based salary and annual bonus awards. In addition to monetary awards, we provide incentives in form of recognition. We have several employee recognition programs that are used by business unit managers to acknowledge outstanding performance with respect to the energy impacting programs. Additionally, business unit managers use the annual performance appraisal process to highlight and reward superior performance in this area. Other activities incentivized include • Emissions

reduction target • Energy reduction project • Energy reduction target • Efficiency project • Efficiency target • Environmental criteria included in purchases • Supply chain engagement

## 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	1	These time horizons apply to our network segment only. We do not have company-wide definitions for time horizons.
Medium-term	1	2	
Long-term	2	6	

### 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.**

1. Identifying/assessing risk: Our corporate real estate (CRE), risk management, external affairs & business continuity teams all play a role in assessing risk. An Assistant Vice President (AVP) and Energy Management team monitor the legislative landscape (for example, for policies that may impact energy prices) & report relevant findings to our Chief Sustainability Officer or relevant Energy team leads; while another AVP monitors reputational risks as they relate to CSR. Cross-functional teams routinely track billed energy use in centralized databases, and, for certain high-priority IoT-connected facilities, in real time. Such visibility & oversight help highlight areas of potential risk and/or opportunity. Natural disaster exposure and its associated impact on energy reliability and availability both weigh heavily in our risks and opportunities to improve energy resiliency. To mitigate risk at an asset level, a cross-functional team from CRE, network, IT and other related organizations uses a proprietary site selection methodology that includes

characteristics such as exposure to natural disasters (flood and drought zones) and expected electricity and water availability and costs to determine site locations. AT&T also has a Weather Operations Center which monitors the U.S. and Mexico 10-day forecast daily and works with our Business Continuity and Disaster Recovery teams to adjust any plans accordingly to be prepared for any weather events. We know that climate change influences both general weather patterns and severe weather events—and therefore many aspects of our business. Our climate-related risk identification process is integrated into multiple teams across the company so as to best manage the many possible scenarios.

2. Understanding size/scope of risks: We conducted a SWOT (Strength-Weakness-Opportunity-Threat) analysis to better understand how we are positioned to respond to climate change. We assess risks for their potential impacts and the magnitude of these impacts on individual facilities, our brand/products and the company. Our monitoring and planning processes as we identify and assess risks include analyses of the potential impact of these risks so that we are best able to address the identified risks.
3. To determine the relative significance of climate-related risks in relation to other risks we face, we conduct materiality assessments. In 2016, we worked with GlobeScan to conduct our 4th materiality assessment. With GlobeScan's guidance, we created a list of 36 sustainability-related topics based on existing materiality themes, GRI topics, industry reporting, senior level interviews with our steering committee and media analysis. We then collected input from internal and external stakeholders to understand the relative importance of the topics. 1,475 stakeholders representing 3 different types of groups (AT&T employees, consumers and professional stakeholders, including those from Latin America & the United States) provided insight into the prioritization of these topics. We engaged most groups directly through surveys and interviews or we relied on other resources (such as websites, sustainability reports and other communications) as proxies to glean insight into their priorities. Internally, we interviewed 358 employees, including 45 executives and 291 managers to assess and rank the impacts of our topics on business success. This materiality assessment resulted in a table that prioritizes our top sustainability issues based on the assessment. The positioning of the issues illustrates the relative degree of importance for AT&T, with those in the top-right quadrant ranking highest for both our stakeholders and business success. Topics ranking higher with our stakeholders will promote more outside engagement and frequent communication. Top business priorities will necessitate engagement with our various business units. The more highly ranked a topic is, the more our reporting will incorporate relevant goals, key performance indicators and other programmatic details. For each topic, we provide information through our external website and/or a collection of Issue Briefs. Each brief reports key information, Global Reporting Initiative (GRI) standards data, our management approach of the issue & details of company action. Our Chief Sustainability Officer presents the results of the assessment to the officer-level CSR Governance Council and to the Public Policy and Corporate Reputation Committee of our Board of Directors. The assessment guides our programs, goals and reporting.
4. Risk terminologies used: Specific to climate change risks, we use the traditional SWOT analysis approach to understand the impact of potential climate-related scenarios on our company. Our analysis includes AT&T's capacity to mitigate and adapt to these risks.
5. Substantive impact: Any climate-related risk that has the potential to impact our network reliability or performance, our ability to service customers or shareholder value is considered a substantive financial risk. Any disruption, regardless of scale or magnitude, to our network is considered a negative impact.

## 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	AT&T is a global company. As such, we are subject to regulation at multiple layers including local, state, national, and international jurisdictions. Our Public Policy and Legislative Affairs teams monitor regulations and legislation we are subject to and help ensure we adhere with all applicable laws and regulations. Non-compliance with laws to which we are subject is a risk, and we work to ensure we are in compliance. For example, our UK operations are subject to the UK Carbon Reduction Commitment emissions trading scheme. In 2017, we purchased 141,629 allowances for the 6,334 MT CO <sub>2</sub> e stemming from our owned and operated facilities based in the UK. Our Public Policy team monitors climate-related regulations and our response to and compliance with them, including the UK CRC, as part of their regular duties and reports any changes or policies that may impact our company to the appropriate channels including the Chief Sustainability Officer and applicable other officers.
Emerging regulation	Relevant, always included	Some jurisdictions in which we operate are considering implementing a carbon tax. Washington state, for example, recently proposed legislation to tax carbon dioxide. As AT&T operates in Washington state—our largest domestic data center is in Bothell, WA and covers roughly 2 acres—we would have been indirectly impacted by this legislation had it passed. To understand the impact to AT&T of this and other emerging or pending regulations and laws, we follow a similar process: our local and relevant jurisdictional public policy teams monitor public news channels and legislative media and then conduct research into how these bills could impact our company. As the legislative landscape changes rapidly and at multiple levels, we always include these types of risks in our regular risk assessments. Should risks rise to a level of significance such that they would impact our ability to service our customers, provide a reliable network or value for our shareholders, we would actively pursue solutions to mitigate the risks.
Technology	Relevant, always included	AT&T has made the choice to invest in renewable energy where appropriate. In 2017, we worked to secure 820MW of renewable energy contracts—one of the largest corporate purchases of renewable energy in the U.S. In support of this effort, we closely evaluated the available storage technologies to ensure that the energy generated would be viably and reliably stored for future use. Our Sustainability Integration team worked closely with renewable energy companies to evaluate potential sites and proposals. Our Network, Finance and Supply Chain organizations collaborated to understand the impact of these deals to our company. We need to ensure that technology continues to keep pace with our demands for renewable energy and that battery storage continues to be sufficient for future renewable energy deals to be viable. As we continue to evaluate future energy deals, we will consider technological developments which may shape our decision-making processes.
Legal	Not relevant, explanation provided	AT&T is not an energy company nor a company with a significant Scope 1 footprint (our 2017 Scope 1 was 1,048,692 MT CO <sub>2</sub> e), and we have not been the subject of climate-related litigation. Based on past litigation trends, we have not considered litigation in our climate-related risk assessments.
Market	Relevant, sometimes included	AT&T has set a goal to enable carbon savings 10 times the footprint of our operations. To achieve this goal, we invest in providing customers with solutions that enable carbon reductions. Should consumer demands and the market shift away from supporting climate solutions, such action could negatively impact demand for our products and services. As we plan for future products and services, we consider market factors such as consumer demand as we develop products and related marketing strategies. For example, we believe there is a demand for low-emissions products and services such as Efficiency-as-a-Service (EaaS) using AT&T Internet of Things (IoT) connectivity. AT&T IoT connectivity can help companies, including AT&T itself, reduce lighting and electricity bills. As of the end of 2017, the EaaS program enabled us to reduce electricity consumption in 647 facilities, producing almost \$20M of annual avoided electricity utility payments, and reducing electricity usage by 183 million kWh.

	Relevance & inclusion	Please explain
Reputation	Relevant, sometimes included	Customers increasingly expect companies to be good corporate stewards and act responsibly. If we did not take action to build and communicate our corporate responsibility story—particularly as it relates to climate-related issues such as the management of GHG emissions—this could put us at a reputational disadvantage to other leaders in the technology sector and therefore is a reputational risk. We use the Reputation Institute methodology to review reputation scores and drivers, and gather reputational data via regular consumer surveys. We communicate our climate-related actions through various channels, including a corporate responsibility report and website. We also set public goals and communicate our progress toward these targets. For example, our 10x goal to enable carbon savings 10 times the footprint of our operations requires that we make our network more efficient and deliver services that help AT&T customers avoid carbon emissions. In 2017, we implemented internal emissions reductions initiatives that reduced 983,311 mt CO <sub>2</sub> e of our own emissions.
Acute physical	Relevant, always included	Acute physical risks such as extreme weather events can cause damage to physical assets and potentially disrupt our network infrastructure. Any climate-related risk that has the potential to impact our network reliability is considered a substantive risk and is therefore always included in risk assessments. Regular analysis is conducted to help ensure our cell sites can withstand earthquake loads, wind, ice and other environmental factors. Based on analysis by professional engineers, upgrades or modifications are completed to maintain safe, reliable tower capacity and meet or exceed all building codes. We also deploy high-capacity battery backup to our cell sites, which allows them to remain in service in the event of a power loss. To prepare our network for natural disasters, we regularly test the high-capacity backup batteries located at every site and take steps to ensure fixed generators are fueled on a regular basis. When disaster strikes, our employees work around the clock to keep the network up and running. We have invested billions of dollars in our networks to help prepare for natural disasters, including hurricanes and wildfires such as those that impacted Texas, Puerto Rico, Florida and California in 2017, among others. Network investments improve network reliability every day, including during and after disasters. Through our Network Disaster Recovery (NDR) organization, we are committed to on-the-ground testing. We have conducted 77 full-scale recovery exercises in the field, which are vital to testing our equipment and abilities. In May 2017, NDR conducted a full technology recovery drill in San Diego, Calif.
Chronic physical	Relevant, always included	Chronic physical risks, such as a rise in average temperatures, could increase our operating costs as AT&T requires water to cool facilities such as data centers. An increase in average temperatures could impact operating costs by requiring more water to water-cool our facilities. Our Corporate Real Estate team monitors and tracks historic water usage and rates and our Weather Operations Center tracks forecasts. Cross-checking those data enables us to understand the relationship between daily temperatures and our water costs. In 2017, AT&T used 2.6 billion gallons of water. To mitigate the risk of increased operating costs (from water to cool certain facilities) due to rising mean temperatures, AT&T has active water management efforts in place. In 2017, our water conservation efforts included, among others, 28 projects yielding annualized water savings of 2,623,447 gallons.
Upstream	Relevant, sometimes included	Physical weather events could impact our suppliers and potentially their ability to provide us with the goods and services required to ensure reliable performance. Our Weather Operations Center (WOC) tracks and monitors forecasts and weather events across the globe, including those that may impact our supply chain. As the WOC identifies events that may impact our supply chain, we include those events in business planning processes. We have built redundancies into our supply chain and procurement practices to ensure continuity in our supply chain should severe weather events impact our suppliers. For example, weather events such as hurricanes and flooding present a risk to our business. Many Texas businesses were impacted during Hurricane Harvey in 2017. AT&T's global headquarters and largest corporate campus is in Dallas, TX. Like many businesses, AT&T purchases power from the local grid. Though the local utility near our Dallas HQ was not impacted by Hurricane Harvey and our main campus never lost power, should there be a significant weather event that disrupts the utility's ability to provide us with the power needed to maintain normal business operations, that could impact our ability to do business. However, we mitigate this particular risk by having back-up generation and business continuity plans.

	Relevance & inclusion	Please explain
Downstream	Relevant, sometimes included	Understanding how extreme weather events could impact our customers is crucial for us to prepare for potential disasters and work to ensure our network supports our customers' needs. If we were not able to provide support to customers during extreme weather events and emergencies, that could negatively impact our reputation. Our Weather Operations Center (WOC) tracks and monitors forecasts and weather events across the globe, including those that could impact our customers. We have invested billions of dollars in our networks to help prepare for natural disasters. Network investments improve network reliability every day, including during and after disasters. Through our Network Disaster Recovery (NDR) organization, we are committed to on-the-ground testing. We have conducted 77 full-scale recovery exercises in the field, which are vital to testing our equipment and abilities. In May 2017, NDR conducted a full technology recovery drill in San Diego, Calif. In addition to our efforts to prepare our network for potential disasters, we also work to support first responders who need reliable means of communication during these events. In 2017, the First Responder Network Authority selected AT&T to build and manage the first nationwide broadband platform dedicated to America's first responders and those who support them.

## C2.2d

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

- i. To manage climate-related risks and opportunities, AT&T has established Environmental Sustainability and Energy Teams that look at short and long-term climate-related risks, such as those of energy and water. They look at historical data, pricing trends current usage, and forecast future usage and technology solutions that can result in efficiencies and potentially reduce consumption and operating costs. These teams work together with Public Policy, AT&T Weather Operations Center, Business Continuity Planning and Disaster Response teams to enable us to respond to risks and continue to provide services to our customers. Managing opportunities follows a similar process: cross-functional teams analyze potential opportunities for their impact on our business, customers and shareholders. The impact and magnitude of these opportunities are then evaluated and, if it makes business sense, AT&T may pursue the opportunity. Our materiality assessment helps guide our approach to potential risks and opportunities and their related impacts to our business, including how we prioritize identified risks/opportunities.
- ii. How we make decisions to act: If a climate-related risk or opportunity has the potential to impact network performance and reliability and/or service to our customers, the various cross-functional teams described above will actively pursue solutions.
- iii. Examples:
  - a. Physical risk: Our energy team examines the relationship between increasing ambient temperatures and the impact on our water usage and related costs so that we can adapt our water consumption as appropriate. The energy team tracks historical usage and price data and can compare these data to temperature fluctuations and patterns. The energy team understands that as temperatures rise, our demand for water to cool our facilities may increase. To reduce our demand and insulate ourselves from increased operating costs related to water consumption, AT&T engages in many water-saving initiatives throughout our operations and tracks progress toward our goal of reducing water consumption relative to data growth on our network 60% by 2020, from a 2013 baseline
  - b. Transition risk: Our public policy team actively monitors legislation that may impact AT&T and coordinates with relevant teams to address any potential policy risks to the company. In the case of policies relating to GHG pricing, the public policy team tracks these developments and works with cross-functional teams to understand the impact to the company of pending or proposed legislation. If a policy were introduced that increased the price of GHGs and that may

increase the price of fossil fuel emissions, AT&T may potentially see increased operating costs due to our reliance of fossil fuels to power our operations, including our fleet. To manage this risk, we have active energy management efforts and goals in place. In 2017, we implemented 17,489 emissions reductions projects with a collective estimated annual savings of 983,311 mt CO<sub>2</sub>e

- c. Physical opportunities: AT&T has capitalized on an opportunity to insulate ourselves from volatile or increased energy prices and invested in Large Scale Renewable Energy purchases. These purchases enable us to offset our footprint with lower-emissions sources of energy, thereby providing an environmental benefit and opportunity. To sign these purchase agreements, including the 3 contracts for 820 MW of wind energy we worked towards in 2017, teams across the business unit from energy to sustainability integration, legal, and our CEO collaborated to highlight and execute on the business case for pursuing renewables. AT&T continues to explore opportunities to increase our renewable energy procurement and will follow similar collaborative, cross-functional processes to analyze the opportunity and sign more contracts as appropriate
- d. Transition opportunities: AT&T has a goal to enable carbon savings 10 times the footprint of our own operations. As part of this goal, we developed, in collaboration with non-profits, a framework for identifying and quantifying how AT&T technology enables our customers to reduce their emissions and associated climate impacts. These engagements create new opportunities to develop technologies and revenue opportunities for AT&T. This 10x goal and opportunity penetrate multiple groups and disciplines within the company and aligns with our materiality matrix which places a high priority on products with environmental and social benefits. Members of our Sustainability Integration, Internet of Things and Business Solutions teams collaborate to provide customer solutions and highlight the environmental impacts of our products through case studies. In 2017, we launched 2 such case studies: one highlighting the carbon- and water-saving benefits of AT&T-enabled smart irrigation, and the other detailing how connected pallets allow customers to reduce fuel consumption and wood waste, among other benefits. See more at [att.com/10x](http://att.com/10x)

## 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?**

Yes

### C2.3a

**(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.**

**Identifier**

Risk 1

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type**

Physical risk

**Primary climate-related risk driver**

Chronic: Rising mean temperatures

**Type of financial impact driver**

Increased operating costs (e.g., inadequate water supply for hydroelectric plants or to cool nuclear and fossil fuel plants)

**Company- specific description**

In 2017, we used 2.6 billion gallons of water in our operations. A good percentage of our water use is in our facility cooling systems to cool our technology-intensive facilities—like data centers. An increase average temperature could impact our operating costs by requiring more to water-cool our facilities.

**Time horizon**

Long-term

**Likelihood**

About as likely as not

**Magnitude of impact**

Medium-low

**Potential financial impact**

17000000

**Explanation of financial impact**

Financial implications are difficult to calculate. However, if we had to change 50% of our top water sites from water cooled chillers to air cooled chillers, the increased energy costs could be over \$17 million a year.

**Management method**

We have active water management efforts to reduce our consumption, including a goal to reduce water consumption relative to data growth on our network by 60% by 2020 using a 2013 baseline. Since 2013, when we set our first water goals, we've seen an overall annualized water savings of 352 million gallons. In addition, we realized 1.052 million kWh of annualized electricity savings associated with the introduction of free-air cooling projects and the reduction of mechanical refrigeration. The reduction of mechanical refrigeration is important to include, as those technologies consume a great deal of water. In 2017, our water conservation efforts included 28 projects yielding annualized water savings of 2,623,447 gallons. This includes 1 landscaping project in Sacramento, CA to continue with water conservation at that site, 4 sink aerator projects in Indiana, and 1 Steam Trap Replacement project in Chicago, IL. To date, the costs associated with managing our water use have primarily been people-hours. However, from our work with the Environmental Defense Fund, we have found that implementation of new technologies could increase our efficiency, and use of different chemicals to deploy these technologies in our most drought-prone regions could cost between \$1.5 and \$5 million in one-time installation fees and annual maintenance costs.

**Cost of management**

1500000

**Comment**

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**Identifier**

Risk 2

## Where in the value chain does the risk driver occur?

Direct operations

### Risk type

Transition risk

### Primary climate-related risk driver

Policy and legal: Increased pricing of GHG emissions

### Type of financial impact driver

Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

### Company- specific description

An increase in the price of GHG emissions, such as through a fuel or carbon tax or other pricing mechanism, may drive up the price of fossil fuel-based energy. AT&T relies in part on fossil fuel-based energy to power our network and fleet. We operate one of the largest corporate fleets in the U.S. As of December 31, 2017, AT&T operated more than 114,300 fleet assets, which includes over 81,200 vehicles and over 33,100 “wheeled equipment units,” such as portable power units and utility trailers. We also purchase a significant amount of electricity to power our operations. While we are working to increase the amount of renewable electricity in our portfolio—and recently signed a renewable energy purchase for 520 MW—we do still rely on the grid and non-renewable sources to ensure our energy supply. Any policy that increases the price of GHG emissions and that may drive up the cost of fossil fuel-based energy or power has the potential to increase our operating costs.

### Time horizon

Medium-term

### Likelihood

Likely

### Magnitude of impact

Medium-high

### Potential financial impact

1000001

### Explanation of financial impact

We work to insulate ourselves from increasing energy prices, whether those prices increase due to taxes or other policies. It is difficult to estimate the exact increase in cost any GHG pricing policy may cause, but given our significant energy use and using the guidance of the Regional Greenhouse Gas Initiative’s 2017 price of \$2.15 per ton of CO<sub>2</sub>, we estimate that annual operating costs could easily increase by over \$1 million.

### Management method

We have active energy management efforts to reduce our own energy consumption, both in our fleet and other operations. We have a specific fleet target to reduce domestic emissions of our fleet 30% by 2020 based on our 2008 baseline. We aim to achieve this in part by increasing our deployment of hybrid passenger vehicles while decreasing the overall size of our fleet. In 2017, we deployed over 1,700 hybrid passenger vehicles—bringing the total number of hybrid vehicles in our fleet to 4,991. We also reduced our overall domestic fleet size by more than 1,100 vehicles. To realize emissions reductions in our operations, our Energy Team implements thousands of projects annually and tracks progress toward our goals, which include reducing our Scope 1 emissions 20% by 2020 based on a 2008 baseline, and reducing electricity consumption relative to data traffic 60% by 2020 based on a 2013 baseline. In

2017, we implemented 17,489 emissions reduction projects with collective estimated annual savings of 983,311 MT CO<sub>2</sub>e. Some of these projects included retrofits and equipment upgrades, the estimated cost of which is included in the next column. Reducing energy use helps us to mitigate risks associated with changes in energy prices. We also worked to complete a purchase of 820 MW of wind power—one of the largest corporate renewable energy deals in the U.S. Increasing renewable energy in our portfolio enables us to reduce our dependence on fossil fuel-based energy sources, which could be the focus of increased pricing policies in the future.

**Cost of management**

32845195

**Comment**

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**Identifier**

Risk 3

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type**

Physical risk

**Primary climate-related risk driver**

Acute: Increased severity of extreme weather events such as cyclones and floods

**Type of financial impact driver**

Increased capital costs (e.g., damage to facilities)

**Company- specific description**

Extreme weather events such as the hurricanes and wildfires experienced in the U.S. in 2017 have the potential to disrupt our ability to maintain portions of our network. Our network includes more than 1.1 million route miles of fiber globally and carries about 206 petabytes of data traffic across our network on an average business day. Any disruption to our fiber routes or other network infrastructure, including cell towers or other national infrastructure because of extreme weather events or natural disasters may impact network reliability and could lead to increased capital costs for repairing any damage, proactively relocating equipment or additional network hardening requirements to prevent future disruptions.

**Time horizon**

Long-term

**Likelihood**

About as likely as not

**Magnitude of impact**

Medium

**Potential financial impact**

627000000

**Explanation of financial impact**

As reported in our 2017 Annual Report, we experienced \$627M in natural disaster costs and revenue credits over the reporting year. We would anticipate that this number would change relative to the frequency and severity of natural disasters impacting our network.

**Management method**

AT&T has a team of industry-leading, certified & experienced business continuity experts engaged in our internal business continuity management program. AT&T is the first company in the U.S. to receive United States Department of Homeland Security's (DHS) Private Sector Preparedness Program (PS-Prep) certification. Our network team builds all cell sites to meet or exceed state structural standards—including those in disaster prone areas. We conduct regular analysis to help ensure our cell sites can withstand earthquake loads, wind, ice and other environmental factors. Based on analysis by professional engineers, upgrades or modifications are completed to maintain safe, reliable tower capacity and meet or exceed all building codes. We also deploy high-capacity battery backup to our cell sites, which allows them to remain in service in the event of a power loss. To prepare our network for natural disasters, we regularly test the backup batteries located at every site and take steps to ensure fixed generators are fueled on a regular basis. We proactively monitor potential nature-related threats to our network, employees and communities through our Weather Operations Center. Through our Network Disaster Recovery (NDR) organization, we have run 77 full-scale recovery exercises in the field, which are vital to testing our equipment and abilities. In May 2017, NDR conducted a full technology recovery drill in San Diego, CA. In addition, NDR's Special Operations (hazmat) team conducted a joint exercise with the Houston Fire Department in April 2017 and with the Willoughby, Ohio Lake County Hazardous Materials Team in August 2017. We have invested more than \$650M in our NDR programs since 1992.

**Cost of management**

600000000

**Comment**

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## 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?**

Yes

### C2.4a

**(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.**

**Identifier**

Opp1

**Where in the value chain does the opportunity occur?**

Customer

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Development and/or expansion of low emission goods and services

**Type of financial impact driver**

Increased revenue through demand for lower emissions products and services

**Company- specific description**

We have set a goal to enable carbon savings 10 times the footprint of our operations by 2025 ([www.att.com/10x](http://www.att.com/10x)) and we intend to meet this goal by making our network more efficient and delivering services that help AT&T customers avoid carbon emissions. We worked with BSR and the Carbon Trust to develop a methodology to measure the carbon abatement enabled by the Information and Communications Technology technologies in which our services play a fundamental role. As we make progress toward our 2025 goal, we are engaging customers and technology collaborators to integrate AT&T technology into business processes to drive energy and resource efficiency. We will develop a series of customer case studies that quantify the greenhouse gas reduction impact of various technology solutions. One such solution includes AT&T Internet of Things (IoT) technologies such as wireless connections linking sensors and equipment to remotely turn farming tools on and off can enable customers to reduce their own emissions and water use.

**Time horizon**

Current

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium

**Potential financial impact**

1000000000

**Explanation of financial impact**

If we capture opportunities related to increased demand for services that help others reduce emissions, it could mean an increased revenue opportunity. It's impossible to predict demand, but if we assume demand for more efficient products and services drives a potential 1% increase in consolidated sales of services, we could estimate a potential annual revenue increase of more than \$1 billion.

### **Strategy to realize opportunity**

As we identify and measure the impact of new, AT&T-enabled solutions, we are developing case studies and highlighting the impacts for our customers. These case studies will be used to engage more customers and technology collaborators to develop and sell more of these types of solutions. We will integrate this emissions benefit messaging into our customer engagement and sales collateral. In 2017, we developed two such case studies, one for a durable, connected shipping pallet, and another for smart rice farming.

Specifically, our case study highlighting connected pallets found that if a company managing one million wooden pallet trips per year were to fully implement pallets equipped with connected technology, that company could reduce emissions by 640 metric tons of CO<sub>2</sub>e every year, which is equivalent to a 21% reduction in CO<sub>2</sub>e emissions. Our case study reviewing smart rice farming showed that the connected controls have reduced pump energy usage by 20-30% in the instance highlighted. The costs associated with the integration of sustainability benefits into our IoT program are part of our normal business planning; therefore, we consider any incremental expenses to be de minimis and account for them at \$0 additional cost.

### **Cost to realize opportunity**

0

### **Comment**

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### **Identifier**

Opp2

### **Where in the value chain does the opportunity occur?**

Customer

### **Opportunity type**

Markets

### **Primary climate-related opportunity driver**

Access to new markets

### **Type of financial impact driver**

Increased revenues through access to new and emerging markets (e.g., partnerships with governments, development banks)

### **Company-specific description**

We have set a goal to enable carbon savings 10 times the footprint of our operations by 2025 ([www.att.com/10x](http://www.att.com/10x)). This unique goal has been recognized with a 2017 Sustainability Initiative of the Year award from the Business Intelligence Group. We intend to meet this goal by making our network more efficient and delivering services that help AT&T customers avoid carbon emissions. As we make progress toward that goal, we are engaging customers and technology collaborators to integrate AT&T technology into business processes to drive energy and resource efficiency. We believe that collaborating with our customers on AT&T-integrated technology solutions can create new opportunities for AT&T to introduce technology into new industries and markets, such as Smart Cities; industrial; manufacturing; retail; and supply chain and transportation.

### **Time horizon**

Short-term

**Likelihood**

Likely

**Magnitude of impact**

Medium

**Potential financial impact**

1000000000

**Explanation of financial impact**

If we capture opportunities related to introducing technology into industries and markets, it could mean an increased revenue opportunity. It's impossible to predict demand, but if we assume demand for integrating AT&T technology into business processes to drive energy and resource efficiency drives a potential 1% increase in consolidated sales of services, we could estimate a potential annual revenue increase of more than \$1 billion.

**Strategy to realize opportunity**

We have identified key Industry Segments (including Smart Cities; industrial; manufacturing; retail; and supply chain and transportation) that have substantial climate impact and that can also potentially benefit for enhanced operations enabled by AT&T technology. We are working across the AT&T Business organization to identify potential customers in these markets and develop compelling product offerings that can help those industries drive cost and emissions from their business. An example of a product offering that enables customers to reduce their climate impacts is our Internet of Things (IoT) solutions. To capitalize on opportunities posed by the IoT space, AT&T works with existing customers to highlight through case studies how our technologies have enabled positive environmental impacts. We use these case studies as marketing and promotional materials to highlight the climate-related benefits of AT&T technologies and services. In 2017, we developed two such case studies, one for a durable, connected shipping pallet, and another for smart rice farming. Specifically, our case study highlighting connected pallets found that if a company managing one million wooden pallet trips per year were to fully implement pallets equipped with connected technology, that company could reduce emissions by 640 metric tons of CO<sub>2</sub>e every year, which is equivalent to a 21% reduction in CO<sub>2</sub>e emissions. Our case study reviewing smart rice farming showed that the connected controls have reduced pump energy usage by 20-30% in the instance highlighted. The costs associated with the integration of sustainability benefits into our IoT program are part of our normal business planning; therefore, we consider any incremental expenses to be de minimis and account for them at \$0 additional cost.

**Cost to realize opportunity**

0

**Identifier**

Opp3

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Resource efficiency

**Primary climate-related opportunity driver**

Reduced water usage and consumption

**Type of financial impact driver**

Reduced operating costs (e.g., through efficiency gains and cost reductions)

**Company- specific description**

In 2017, AT&T used 2.6 billion gallons of water in our operations. Water is deeply important to the communities we serve and to our own operations. The network that forms the core of our business requires a controlled and cooled environment, and water is a critical input to the cooling equipment we use to create these conditions. We're working to manage our own water use, and at the same time, we're supporting the development of water management technology for customers and other organizations. Analysis of our water footprint has shown that our water use is concentrated in a relatively small number of facilities. Our top 125 water-consuming facilities constitute almost 50% of our overall water consumption; and 40 of these 125 sites are in "high" or "very high" water stress regions, as determined by the World Business Council for Sustainable Development's (WBCSD) Global Water Tool. One of the ways in which we address our water usage is to apply our own IoT solutions, including Smart Irrigation.

**Time horizon**

Medium-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium

**Potential financial impact**

60000

**Explanation of financial impact**

This figure represents the financial savings AT&T realized when we implemented our own Smart Irrigation solutions in 40 of our own buildings over a 6-month period. Our Smart Irrigation solution allowed us to use near real-time weather data and the specific watering needs for the plants in each zone at each site so that we can provide the right amount of water at the right time. Based on the amount of water we saved on our own irrigation efforts, we were able to calculate the financial savings. During the 6-month trial period, AT&T Smart Irrigation saved us 16.7 million gallons of water and more than \$60,000.

**Strategy to realize opportunity**

We have active water management efforts to reduce our consumption, including a goal to reduce water consumption relative to data growth on our network by 60% by 2020 using a 2013 baseline. Since 2013, when we set our first water goals, we've seen an overall annualized water savings of 352 million gallons. In 2017, we installed the AT&T Smart Irrigation System on AT&T campuses and buildings in 9 states, from California to Florida. The solution allowed us to use near real-time weather data and specific watering needs for the plants in each zone at each site, so we can provide the right amount of water at the right time. Smart Irrigation also monitors the flow of water, enabling us to detect leaks in pipes. If there is a leak, the system will then turn off that zone automatically and alert the property manager so the leak can be fixed. During the 6-month trial period, AT&T Smart Irrigation saved us 16.7 million gallons of water and more than \$60,000.

**Cost to realize opportunity**

260000

**Comment**

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

	Impact	Description
Products and services	Impacted	We have set a goal to enable carbon savings 10 times the footprint of our operations by 2025 ( <a href="http://www.att.com/10x">www.att.com/10x</a> ). As we make progress toward that goal, we are engaging customers and technology collaborators to integrate AT&T technology into business processes to drive energy and resource efficiency. As we talk to customers, we are getting feedback that many of them are committed to reducing their emissions and have set public goals to show their commitment. As a result, when we engage these customers we are able to discuss with them how AT&T's products and services can help them reduce their emissions or create products that help their customers reduce their emissions. In 2017, we developed two case studies that demonstrate these benefits for our customers, one for a durable, connected shipping pallet, and another for smart rice farming. These case studies can be found on our 10x goal website: <a href="http://www.att.com/10x">www.att.com/10x</a> . We view the climate-related aspects of our products and services as an opportunity rather than a risk. As we evaluate the range of services we offer and the diverse collection of customers that buy them, we perceive that the 10x products and services that can enable carbon abatement for our customers will appeal to many customers, but not all, so we estimate that they represent a medium-sized opportunity.
Supply chain and/or value chain	Impacted	Extreme weather events could disrupt our suppliers' ability to provide us with the products and services we require to provide a reliable network to our customers. The potential magnitude of this risk is dependent on the severity of the extreme weather event, but given the redundancies that we have built into our supply chain, the overall risk to AT&T is low. We build redundancies into our supply chain and sourcing strategies so that we are not overly reliant on single suppliers. For example, many Texas businesses were impacted during Hurricane Harvey in 2017. Our global headquarters and largest corporate campus is in Dallas, TX. Some of our local suppliers may have been impacted by the storm. If AT&T does not build redundancies into our supply chain, events like Hurricane Harvey could impact our ability to do business if we are too heavily reliant on single suppliers for goods and services who may be unable to provide us with goods or services during natural disasters or extreme weather events. The opportunities identified above include 2 customer-related opportunities: access to new markets and expansion of low-emissions goods and services. As customers are part of our value chain, the identified opportunities may impact our value chain.
Adaptation and mitigation activities	Impacted	Our investments in renewable energy help mitigate the risk associated with rising energy prices. In 2017, we worked to complete 3 large scale renewable energy contracts totaling 820 MW of wind power. Renewable energy purchases can potentially insulate us from the risk of volatile or increased energy prices as well as potentially off-set operating costs. To adapt to rising energy costs and a potential reduction in the availability of fossil-fuel based energy, AT&T also sets ambitious goals to reduce our GHG emissions. We have set a goal to enable carbon savings 10x the footprint of our operations by 2025. This includes making our own operations more efficient as well as enabling customers to reduce their own emissions, thereby increasing the impact of adaptation activities related to our products and services. Given our energy costs, the magnitude of this impact is medium.
Investment in R&D	Impacted	We have set a goal to enable carbon savings 10 times the footprint of our operations by 2025 ( <a href="http://www.att.com/10x">www.att.com/10x</a> ). As we make progress toward that goal, we are engaging customers and technology collaborators to integrate AT&T technology into business processes to drive energy and resource efficiency. As we talk to customers, we are getting feedback that many of them are committed to reducing their emissions and have set public goals to show their commitment. As a result, when we engage these customers we are able to discuss with them how AT&T's products and services can help them reduce their emissions or create products that help their customers reduce their emissions. When we identify an opportunity for AT&T technology to help enable emissions reductions, we can invite customers to the AT&T Foundry ( <a href="http://about.att.com/innovation/foundry">http://about.att.com/innovation/foundry</a> ), locations that provide a space for customers to collaborate directly with AT&T engineers on technology integration projects. As part of the 10x program, we are inviting customers with climate-focused goals to collaborate with AT&T on products that can help them or their customers reduce their environmental impacts. The demand for lower emissions products and services could impact our investment in R&D related to these products. In general, we see demand for our lower-emissions products and services as an opportunity. As we evaluate the range of services we offer and the diverse collection of customers that buy them, we perceive that the 10x products and services that can enable carbon abatement for our customers will appeal to many customers, but not all, so we estimate that they represent a medium-sized opportunity.

	Impact	Description
Operations	Impacted	The magnitude of the impact of the identified risks and opportunities on our operations is dependent on the given risk/opportunity, but ranges from low-medium to medium-high. As detailed in C2.3a, rising mean temperatures could increase our operating costs, especially in water-stressed areas, as we require water to cool some facilities. Any increase in price of the resources we consume to power our operations could lead to an increase in our operating costs. This applies to water and fossil fuel-based energies. We work to reduce our consumption where possible, but we do rely in part on natural resources to power our network and fleet. We have a goal to reduce water consumption relative to data growth on our network by 60% by 2020. Since 2013, when we first set our water goals, we've seen an overall annualized water savings of 352 million gallons. We also have a Scope 1 goal to reduce domestic emissions of our fleet 30% by 2020 (from a 2008 baseline). We have reduced our fleet GHG emissions 20.1% from this baseline.

## C2.6

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

	Relevance	Description
Revenues	Impacted	As we make progress toward our 2025 goal (10x) to enable carbon savings 10 times the footprint of our operations, we are engaging customers and technology collaborators to integrate AT&T technology into business processes to drive energy and resource efficiency. If we capture opportunities related to introducing technology into industries and markets and increased demand for our services that enable customers to reduce emissions, it could mean an increase in revenues. If we assume demand for integrating AT&T technology into business processes to drive energy and resource efficiency drives a potential 1% increase in consolidated sales of services, we could estimate a potential annual revenue increase of more than \$1 billion based on our 2017 total corporate revenue of more than \$160 billion, as reviewed in our reported opportunities. The magnitude of the impact on our financial planning is medium. As we evaluate the range of services we offer and the diverse collection of customers that buy them, we perceive that the 10x products and services that can enable carbon abatement for our customers will appeal to many customers, but not all, so we estimate that they represent a medium-sized opportunity. As reported in 2.3a, the risks we identified may primarily impact our operating costs, not our revenues.
Operating costs	Impacted	AT&T has committed headcount and operating budget to the development and execution of the 10x goal (to enable carbon savings 10 times the footprint of our operations by 2025). Funding has been allocated for case study development, communications efforts and designated workforce across multiple business units. We also use historical data from our Corporate Real Estate team to understand our operating costs related to natural resources such as water usage. Based on historical prices (which could be related to temperature fluctuations), we account for future operating costs such as water and utility bills. The magnitude of planning for these costs is low as we examine trends and headcount and operating budget related to goal progress as normal parts of our financial planning processes. As reported in 2.3a, the risks we identified may impact our operating costs. As AT&T implements the water-saving irrigation methods detailed in 2.4a, we have an opportunity to reduce our operating costs.
Capital expenditures / capital allocation	Impacted	Based on historical data, including severe weather events, AT&T accounts for future capital expenditures and allocations. We deploy high-capacity battery backup to our cell sites, which allows them to remain in service in the event of a power loss. To prepare our network for natural disasters, we regularly test the high-capacity backup batteries located at every site and take steps to ensure fixed generators are fueled on a regular basis. AT&T proactively monitors potential nature-related threats to our network, employees and communities through our Weather Operations Center. Through our Network Disaster Recovery (NDR) organization, we have conducted 77 full-scale recovery exercises in the field, which are vital to testing our equipment and abilities. In May 2017, NDR conducted a full technology recovery drill in San Diego, CA. In addition, NDR's Special Operations (hazmat) team conducted a joint exercise with the Houston Fire Department in April 2017 and with the Willoughby, Ohio Lake County Hazardous Materials Team in August 2017. We have invested more than \$650M in our NDR

	Relevance	Description
		programs since 1992. The magnitude of the impact of identified risks on capital expenditures/allocation is low as AT&T uses tools and resources such as our WOC to best plan for risks such as severe weather events.
Acquisitions and divestments	Not impacted	The identified risks and opportunities do not impact our financial planning processes related to acquisitions and divestments. The risks and opportunities we identified in C2.3a and C2.4a relate to our current business and thus do not factor into financial planning around potential future acquisitions and divestments.
Access to capital	Impacted	We have ambitious climate-related goals. We have a 10x goal to enable carbon savings 10 times the footprint of our operations by 2025, and we intend to meet this goal by making our network more efficient and delivering services that help AT&T customers avoid carbon emissions. The products and services related to our 10x goal could translate into lower costs and/or revenue growth for AT&T. Also, there are investors who look favorably upon companies with climate-related goals, such as those outlined in the opportunities we reported in 2.4a, as the identified opportunities relate to our company-wide goals. Our 10x goal and Climate Change Policy ( <a href="https://about.att.com/content/dam/csr/FAQpdfs/Policypdfs/climate_policy.pdf">https://about.att.com/content/dam/csr/FAQpdfs/Policypdfs/climate_policy.pdf</a> ) demonstrate our commitment and action to external parties, including investors, who have a stated interest in engaging with companies taking such actions. The magnitude of this impact is low, as we believe investors evaluate companies holistically and therefore, considering our climate-related goals is just one aspect of evaluating our company.
Assets	We have not identified any risks or opportunities	No financial model exists that takes into consideration climate change impacts specific to assets such as those owned by AT&T. In 2017, we worked with third party to explore developing one. The analysis we conducted with the third party highlighted the need for such a model so that companies such as AT&T could better incorporate climate-related impacts into our financial planning processes, including in the evaluation of assets.
Liabilities	We have not identified any risks or opportunities	No financial model exists that takes into consideration climate change impacts specific to liabilities such as those AT&T is responsible for. In 2017, we worked with third party to explore developing one. The analysis we conducted with the third party highlighted the need for such a model so that companies such as AT&T could better incorporate climate-related impacts into our financial planning processes, including in the evaluation of liabilities.

## C3. Business Strategy

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### C3.1

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

Yes

#### **C3.1a**

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

No, but we anticipate doing so in the next two years

#### **C3.1c**

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

Climate change has influenced our business strategy in many ways, including in our corporate governance and goal-setting. AT&T is using the power of our network to build a better tomorrow, and this includes integrating climate related issues into our business objectives. This is demonstrated by business units such as Global Supply Chain and our Network teams setting public goals that are directly tied to mitigating the impacts of climate change. Regarding the internal management of climate change issues, the Public Policy and Corporate Reputation Committee (PPCRC) of the Board of Directors has oversight over all Corporate Social Responsibility issues, including environmental sustainability and the management of company GHG emissions. The Chief Sustainability Officer (CSO) reports to the PPCRC committee three times per year to provide updates and receive input on the direction of the sustainability work within AT&T. The CSO's report includes results of the biennial strategic assessment of sustainability-related risks and opportunities, including climate-related issues. Specifically, progress managing our carbon footprint is reviewed as we have multiple company-wide goals related to our carbon footprint.

Separately, our Corporate Social Responsibility Governance Council is comprised of officers with responsibility for the business areas most linked to our sustainability priorities, including GHG emissions management. The committee meets quarterly to identify priorities and align resources. It is headed by the CSO and the executive management team to further integrate sustainable business practices across the company and its supply chain. The CSR Governance Council meets 2-3 times per year.

Various business units are responsible for responding to climate-related issues. Our Business Continuity Planning, Disaster Recovery and Weather Operations Center respond to natural disasters and severe weather events. These groups allow AT&T to make informed planning and real-time decisions when responding to these climate-related events.

An example of how our business objectives and strategy have been influenced by climate-related issues is in our goal setting. In addition to other corporate goals, we also set company-wide emissions reductions goals. We set a goal to reduce the electricity consumption of our company relative to data growth on our network by 60% by 2020 (compared to a 2013 baseline of 233

MWh/petabyte (PB)). Our current target is 93 MWh/PB by EOY 2020. AT&T achieved a 45% reduction from our 2013 baseline with the resulting energy intensity for 2017 equal to 128 MWh/PB. To address Scope 1 emissions, including fleet related emissions, we set a goal to reduce our Scope 1 emissions 20% by 2020 (2008 Scope 1 baseline of 1,172,476 mtons CO<sub>2</sub>e).

AT&T has also updated its fleet. As a result of the improving the fuel efficiency of AT&T's traditional fleet, AT&T is now focused on reducing emissions and deploying technology that will help achieve that goal regardless of the technology type – and which may include utilization of Alternative Fuel Vehicles. AT&T's new fleet goal is to reduce AT&T's U.S. fleet emissions by 30% by the end of 2020, from our 2008 baseline. Through 2017, AT&T has reduced its fleet emissions by 20.1%.

Substantial business decisions: Business resources are being dedicated to address challenges and opportunities related to GHG emissions reductions and to take advantage of both opportunities and to mitigate risks – including those related to climate risks, such as regulatory, physical and energy and fuel price volatility risks. We set an absolute Scope 1 GHG emissions reduction goal and are investing in alternative fuel vehicles, and a strong energy management program. The most substantial business decision we made regarding climate change in 2017 was the planning and execution of 3 Large Scale Renewable Energy contracts. Combined, these deals will generate 820 MW of wind power, making it one of the largest corporate renewable energy purchases in the US. These renewable energy purchases provide AT&T protection against escalating and volatile energy prices (aspect of climate change that impacted the decision) while also enabling us to off-set our footprint. As the impact of climate change on the reliability of our networks is of great concern, another significant business decision AT&T made in 2017 regarding climate change was to bring in a third party to perform a climate change SWOT (strengths weaknesses opportunities threats) analysis. The SWOT analysis has provided AT&T insight on how to address not only the risks climate change poses to our company but also the opportunities we have to better prepare ourselves and our customers for future climate change impacts. This analysis may help inform our approach and decisions moving forward.

## C3.1g

### **(C3.1g) Why does your organization not use climate-related scenario analysis to inform your business strategy?**

Although AT&T does not currently do scenario planning specific to the long-term impacts of climate change, we do some scenario planning on the potential impact of forecasted severe weather events. We do not use climate-related scenario analysis as there are currently no models that allow AT&T to adequately assess the climate-related risks to our infrastructure. We utilize our Weather Operations Center to proactively track weather forecasts and potential nature-related threats to our network, employees and communities so that we are best prepared to continue our business operations. As climate change may increase the frequency and severity of extreme weather events, our scenario planning and preparation for natural disasters is related to our overall climate change planning. We have strict business continuity plans and procedures to help ensure that our networks and personnel are prepared to respond quickly, and we also build all cell sites to meet or exceed state structural standards. To date, the coordinated efforts of our employees in the Disaster Recovery, Business Continuity Planning and local network and corporate real estate teams have helped enable AT&T to minimize damages and mobilize our response to weather-related situations more quickly. An example of these coordinated efforts is the drill we held in May 2017, when our Network Disaster Recovery (NDR) team conducted a full

technology recovery drill in San Diego, CA. Our NDR Special Operations (hazmat) team also conducted a joint exercise with the Houston Fire Department in April 2017. These drills help local and regional first responders understand NDR's role and abilities and maintain the readiness of the team and its equipment. We have plans to build on and expand our short-term weather scenario planning and will include the potential long-term impacts of climate change in the future. These plans include developing and using a scenario modeling tool that uses short term weather and long-term climate change considerations to help inform both near-term contingency planning as well as long-term planning considerations. We expect that we will be able to begin using this tool within the next two years and continue to increase its functionality in time.

## C4. Targets and performance

### C4.1

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

Both absolute and intensity targets

#### 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

##### % emissions in Scope

100

##### % reduction from base year

20

##### Base year

2008

##### Start year

2011

##### Base year emissions covered by target (metric tons CO2e)

1354054

##### Target year

2020

##### Is this a science-based target?

No, and we do not anticipate setting one in the next 2 years

##### % achieved (emissions)

100

##### Target status

Replaced

##### Please explain

We have set an absolute Scope 1 GHG emissions reduction goal to reduce our emissions by 20% by EOY 2020, using an adjusted 2008 Scope 1 baseline of 1,354,054. The adjusted baseline accounts for DIRECTV historical baseline Scope 1 emissions, and estimates for previously missing refrigerant emissions data. We are in the process of evaluating goals for emissions based on Science Based Targets.

##### Target reference number

Abs 2

**Scope**

Scope 1

**% emissions in Scope**

67.7

**% reduction from base year**

30

**Base year**

2008

**Start year**

2009

**Base year emissions covered by target (metric tons CO2e)**

865777

**Target year**

2020

**Is this a science-based target?**

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science-Based Targets initiative

**% achieved (emissions)**

66

**Target status**

Replaced

**Please explain**

We originally set a target to increase its Alternative Fuel Vehicle fleet. As time passed our traditional vehicle fleet became more efficient making our AFV goal less relevant in regards to emissions. AT&T has set a new goal that is technology agnostic but focused on the end goal of reduced emissions. AT&T has established a goal of a 30% emissions reduction by the end of 2020.

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**C4.1b**

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**(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).**

**Target reference number**

Int 1

**Scope**

Scope 2 (location-based)

**% emissions in Scope**

98

**% reduction from baseline year**

60

**Metric**

Other, please specify (MWh/Petabyte)

**Base year**

2013

**Start year**

2013

**Normalized baseline year emissions covered by target (metric tons CO2e)**

127.56

**Target year**

2020

**Is this a science-based target?**

No, and we do not anticipate setting one in the next 2 years

**% achieved (emissions)**

75

**Target status**

Underway

**Please explain**

Emissions value in metric tons CO2e/Petabyte. 2013 Scope 2 emissions component values: 8,103,246 metric tons CO2e / 63,527 PB. AT&T does not plan to use intensity metrics for Science Based Targets. AT&T is in the process of evaluating goals for emissions based on Science Based Targets.

**% change anticipated in absolute Scope 1+2 emissions**

12

**% change anticipated in absolute Scope 3 emissions**

0

## C4.2

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

**Target**

Other, please specify (10x carbon reduction goal)

**KPI – Metric numerator**

Estimated customer-related emissions reductions as a result of AT&T connectivity.

**KPI – Metric denominator (intensity targets only)**

AT&T Scope 1 + Scope 2 total emissions

**Base year**

**Start year**

**Target year**

2025

**KPI in baseline year**

**KPI in target year**

**% achieved in reporting year**

**Target Status**

Underway

**Please explain**

We have set a goal to enable carbon savings 10x the carbon footprint of our operations.

**Part of emissions target**

Part of a net positive goal

**Is this target part of an overarching initiative?**

No, it's not part of an overarching initiative

## 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	6165	
To be implemented*	8280	288896
Implementation commenced*	1688	41104
Implemented*	17517	1046882
Not to be implemented	3551	

## C4.3b

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

### Activity type

Process emissions reductions

### Description of activity

Other, please specify (Transportation/fleet)

### Estimated annual CO2e savings (metric tonnes CO2e)

5241

### Scope

Scope 1

### Voluntary/Mandatory

Voluntary

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

1492159

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

0

### Payback period

<1 year

### Estimated lifetime of the initiative

6-10 years

### Comment

Transportation/Fleet: Increase use of hybrid vehicles in passenger fleet

### Activity type

Energy efficiency: Building services

### Description of activity

Other, please specify (Lighting retrofits, Cooling economizer installations, VFD retrofits, etc.)

### Estimated annual CO2e savings (metric tonnes CO2e)

92277

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

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

7102589

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

32845195

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Lighting retrofits, Cooling economizer installations, VFD retrofits are examples of the myriad of projects to upgrade existing equipment or shift to higher efficiency operation within normal network growth. Included within this group of projects are those funded through our Savings Power Purchase Agreement, which is our own brand of a shared savings model.

---

**Activity type**

Low-carbon energy installation

**Description of activity**

Fuel Cells

**Estimated annual CO2e savings (metric tonnes CO2e)**

7902

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

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

0

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

0

**Payback period**

<1 year

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Deployment of Natural Gas Fuel Cells. Alternative energy Installations: In 2017, we commissioned operationalized 12,025 kW of clean, on site fuel cell power, helping to power 27 AT&T facilities in California, New York and New Jersey. Altogether, the estimated annual alternative energy production of these installations is ~100,000 MWh.

---

**Activity type**

Energy efficiency: Building services

**Description of activity**

Other, please specify (BMS reprogramming)

**Estimated annual CO2e savings (metric tonnes CO2e)**

4468

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency - as specified in CC0.4)**

513643

**Investment required (unit currency - as specified in CC0.4)**

0

**Payback period**

<1 year

**Estimated lifetime of the initiative**

Ongoing

**Comment**

AT&T' s Project iCON facilities provide visibility to the operation of all key building systems. An early discovery resulting from this visibility and the vast sums of data that are regularly generated from each building is that Building Management System (BMS)programming is often not only suboptimal, but also counterproductive to efficient operation and use of energy resources. As a result, AT&T has developed in-house resources to carefully analyze and reprogram BMS, generating energy savings and at times even promoting longer life for our building systems.

---

**Activity type**

Process emissions reductions

**Description of activity**

Other, please specify (Network equipment decommissioning)

**Estimated annual CO2e savings (metric tonnes CO2e)**

857178

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

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

135638578

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

0

**Payback period**

<1 year

**Estimated lifetime of the initiative**

Ongoing

**Comment**

In 2017, AT&T's Network organizations continued execute on their Network decommissioning program. The purpose of this program is to improve overall asset utilization through the systematic decommissioning and removal of excess network capacity and hardware. These efforts are a key support pillar in the transformation of our Network to AT&T's Software Defined Network. Teams across the country completed more than 15,000 projects – many of which are actually groups of hundreds of sub-projects – involving the elimination of equipment formerly support legacy systems across all network layers. This includes the end-of-life turn down and decommissioning of the Mobility GSM network. These efforts have eliminated more than 1.6 billion kWh on an annualized basis from our energy footprint.

---

**Activity type**

Process emissions reductions

**Description of activity**

Other, please specify (Real Estate decommission and disposition)

**Estimated annual CO2e savings (metric tonnes CO2e)**

29389

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

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

4374960

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

0

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Each year, AT&T works to right-size its real estate for the true needs of the business. In 2017, we completed the sale, lease termination or reduction, and other transactions as required to reduce its occupied real estate holdings for 127 facilities and over 4 million square feet of space.

---

**Activity type**

Energy efficiency: Building services

**Description of activity**

Other, please specify (Associated Gross Grid Loss savings)

**Estimated annual CO2e savings (metric tonnes CO2e)**

4789

**Scope**

Scope 3

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency - as specified in CC0.4)**

348544

**Investment required (unit currency - as specified in CC0.4)**

0

**Payback period**

<1 year

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Total Gross Grid Loss savings from above Energy Efficiency: Building Services projects

---

**Activity type**

Low-carbon energy installation

**Description of activity**

Other, please specify (Associated Gross Grid Loss savings)

**Estimated annual CO2e savings (metric tonnes CO2e)**

2112

**Scope**

Scope 3

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency - as specified in CC0.4)**

500000

**Investment required (unit currency - as specified in CC0.4)**

0

**Payback period**

<1 year

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Total Gross Grid Loss savings from above Low-carbon Energy Installation projects

---

**Activity type**

Process emissions reductions

**Description of activity**

Other, please specify (Associated Gross Grid Loss savings)

**Estimated annual CO2e savings (metric tonnes CO2e)**

43885

**Scope**

Scope 3

**Voluntary/Mandatory**

Voluntary

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

6930660

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

0

**Payback period**

<1 year

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Total Gross Grid Loss savings from above Process Emissions Reductions projects

---

**C4.3c**

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

Method	Comment
Dedicated budget for other emissions reduction activities	In 2009, we made a commitment to invest up to \$565 million to deploy approximately 15,000 alternative-fuel vehicles (AFVs) over a 10-year period through 2018. Since then, our traditional vehicle fleet has improved in efficiency sufficiently, so we are beginning to identify new strategies for reducing our fleet emissions. In 2016, we re-focused our strategy to include a new goal to lower our fleet emissions by 30% by 2020 from our 2008 baseline. We remain committed to deploying hybrid passenger vehicles. All passenger sedans procured in 2017 were hybrid vehicles that significantly reduce emissions and improve the efficiency of our

Method	Comment
	<p>fleet. Through 2018, we have proposed the deployment of an additional 700 hybrid vehicles. Changes in our business strategy that encourage streamlining fleet services are also helping us to significantly reduce our total fleet numbers. Taking vehicles off the road completely is the most impactful way we can reduce our fleet environmental footprint. In 2017, AT&amp;T reduced the overall size of its domestic fleet by more than 1,100 vehicles. Our plan is to remove from service over 12,500 of our older technology, higher emissions vehicles by YE2020 .</p>
Dedicated budget for energy efficiency	<p>AT&amp;T Corporate Real Estate has a dedicated Energy Assistant Vice President (AVP) and team with a dedicated budget to implement energy efficiency projects. In 2017, we invested nearly \$20 million in energy efficiency projects, implementing more than 2,252 facility-based energy efficiency projects that grossed an annualized savings of over \$6.9 million. We estimate that these projects will result in approximately 141.3 million kWh annualized energy savings (96,744 mtons CO2e).</p>
Employee engagement	<p>Employee engagement is important to our success, and there are several ways we engage our employees on environmental issues – and energy savings in particular. Do One Thing (DOT) is a voluntary company-wide effort that encourages employees to commit to regular, measurable actions (DOTs) that are good for themselves, their communities and/or the company. One category that they can and do focus on is environmental initiatives – which could include emissions savings efforts. We also communicate with employees about efforts underway at our company through our weekly internal newsletter, AT&amp;T Insider. We have seen this information inspire some employees to take further action in a wide range of areas, including, for example, by writing in to our Sustainability Inbox with recommendations and being more diligent about turning off their electronics at night.</p>
Internal incentives/recognition programs	<p>Progress toward and achievement of the stated goals is part of the annual performance objectives and rating process for executives and managers in the business units collaborating toward these goals. Consideration is given to performance against annual objectives when assigning merit-based salary and annual bonus awards. In addition to monetary awards, we provide incentives in form of recognition. To promote accountability and drive results, we use an Energy Scorecard to benchmark the energy performance at our top 800 energy-consuming facilities and 800 retail locations. The Scorecard reports energy management at each of these facilities, and we use this information to set benchmarks and goals for each facility. In addition, Scorecards report on projects and initiatives undertaken by the Energy Champions, Corporate Real Estate directors and network to enable them to see clearly how their energy use is trending. Quarterly, the Energy Team — headed by the Energy AVP — reviews performances and gives each 'scorecarded' facility a grade, determined by not only by savings results, but also by the types of initiatives attempted and training undertaken for the facility personnel. The results have been incorporated into the annual performance objectives for real estate managers.</p>
Other	<p>We collaborate with others in the industry and across our supply chain to develop more efficient products and practices. AT&amp;T was a founding member in The Green Grid, a global consortium dedicated to advancing energy efficiency in data centers and business computing ecosystems, and GreenTouch, an industry consortium whose mission is to deliver the architecture, specifications and roadmap to increase network energy efficiency by a factor of 1,000 compared to 2010 levels. We are also a member and Chairman of the Board of Directors of the Alliance for Telecommunication Industry Solutions (ATIS), the North American telecommunications standards development organization, and we also initiated and now vice-chair the Telecommunications Energy Efficiency (TEE) committee, which developed a methodology for measuring and reporting the energy efficiency of telecommunications equipment. AT&amp;T is involved with the US Green Building Council (USGBC) and its Leadership in Energy and Environmental Design (LEED) program, a third-party verification program for green building. AT&amp;T currently has several of its facilities with prestigious and coveted Platinum or Gold certifications, with several more projects underway to certify more facilities.</p>
Other	<p>AT&amp;T participates in the ENERGY STAR program for set-top boxes for both its DIRECTV and U-verse products. This voluntary program sets and periodically updates best-in-class efficiency standards, encouraging participants to continually increase the efficiency of equipment. In 2017, AT&amp;T received the ENERGY STAR® Partner of the Year award for investing in efficient designs for pay TV hardware and services, bringing this equipment into homes, and educating technicians and customers about energy savings associated with their ENERGY STAR certified receivers. This accomplishment acknowledges AT&amp;T's continued support of</p>

Method	Comment
	ENERGY STAR efforts. At year end of 2017, 96% of all AT&T receivers in the U.S. were ENERGY STAR qualified. AT&T has been able to reduce STB total annual energy consumed by its U.S. receivers by more than 2B kWhs compared to its 2012 baseline, which equates to an annual carbon emissions reduction of more than 800,000 metric tons CO2e. AT&T accomplished this overall electricity reduction in customers' homes even while increasing the total number of receivers in circulation by more than 5 million units.
Other	We continue to close outlier facilities with low utilization and/or aging equipment. During 2017, we closed or reduced square footage of 127 owned or leased facilities (both domestic and international), reducing building space by nearly 4.1 million square feet, and consolidating our operations to facilities that are more energy efficient. This program creates annual energy dollar and kWh savings of greater than \$4.4M and 42.9M kWh respectively, and reduces carbon emissions by nearly 29,400 mtons annually.
Other	In our Network organizations, programs and structures are in place to carefully engineer the transformation from our legacy network architecture toward AT&T's Software Defined Network (SDN) through Network Functions Virtualization, and to evaluate our capacity needs across every platform and layer. Through this, we craft and execute on detailed plans to eliminate capacity and componentry that is not required for the longer vision of the AT&T SDN. The removed components represent incremental reduction in our electrical and environmental (cooling) load, as well as our space requirements. Through the efforts of our Network organizations, over 15,000 projects were completed in 2017 - many of which contained hundreds of sub-projects - driving more than 1.25 billion kWh of annual energy savings (more than 857,000 mtons CO2e). Most notable of the 2017 decommission activities is powering down the entire GSM network. These decommissioning programs will continue to the foreseeable future.

## 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

Product

#### Description of product/Group of products

CLOUD COMPUTING: Cloud computing centralizes use of independent servers in an efficient environment, reducing electricity use and associated GHG emissions. AT&T worked on a CDP/Verdantix study that found by 2020, large U.S. companies that use cloud computing can achieve annual energy savings of \$12.3B and annual carbon reductions equivalent to 200M barrels of oil, or enough to power 5.7M cars for one year. The estimates represent 2,653 U.S. firms generating revenues of more than \$1B.

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

Low-carbon product and avoided emissions

#### Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Evaluating the carbon-reducing impacts of ICT

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

43

**Comment**

The Business Solutions segment accounted for approximately 43% of our 2017 total segment operating revenues. For proprietary reasons, we do not disclose specific service offering revenues.

---

**Level of aggregation**

Product

**Description of product/Group of products**

TELECOMMUTING: Telecommuting can help businesses cut carbon emissions, and it offers a variety of benefits for both companies and employees. Related to telecommuting is teleworking, or the ability to work virtually from anywhere. Teleworking is a vital component in preparing our nation for responding to unexpected events that prevent workers from reaching their traditional office environment such as natural disasters, outbreaks of disease or terrorist incidents. We offer a variety of innovative solutions to facilitate flexible working, including remote access, and conferencing and collaboration services. These technologies can help reduce travel and increase productivity by enabling employees to communicate and collaborate from virtually anywhere.

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

Low-carbon product and avoided emissions

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Evaluating the carbon-reducing impacts of ICT

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

43

**Comment**

The Business Solutions segment accounted for approximately 43% of our 2017 total segment operating revenues. For proprietary reasons, we do not disclose specific service offering revenues.

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**Level of aggregation**

Product

**Description of product/Group of products**

FLEET MANAGEMENT: AT&T is one of the largest U.S. wireless providers of fleet management solutions for commercial truck and van fleets. AT&T's technician vehicles are equipped with similar solutions, and optimizing our fleet operations is a crucial component to making real changes. We use best practices to efficiently manage our fleet every day, and we continue to explore new ways to reduce fuel use and drive fewer miles. These efficiencies can lead to reduced energy waste and GHG emissions.

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

Low-carbon product and avoided emissions

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Evaluating the carbon-reducing impacts of ICT

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

43

**Comment**

The Business Solutions segment accounted for approximately 43% of our 2017 total segment operating revenues. For proprietary reasons, we do not disclose specific service offering revenues.

---

**Level of aggregation**

Product

**Description of product/Group of products**

10X CASE STUDIES: As we collaborate with customers to develop innovative Internet of Things solutions, we are developing case studies to estimate the greenhouse impact of those solutions. In 2017, we developed two such case studies ([www.att.com/10x](http://www.att.com/10x)), one for a durable, connected shipping pallet, and another for smart rice farming. In both of these examples, AT&T connectivity enabled an operational or business model that reduced emissions.

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

Low-carbon product and avoided emissions

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Evaluating the carbon-reducing impacts of ICT

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

43

**Comment**

The Business Solutions segment accounted for approximately 43% of our 2017 total segment operating revenues. For proprietary reasons, we do not disclose specific service offering revenues.

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**C5. Emissions methodology**

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**C5.1****(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).****Scope 1****Base year start**

January 1 2008

**Base year end**

January 1 2009

**Base year emissions (metric tons CO<sub>2</sub>e)**

1354054

**Comment****Scope 2 (location-based)****Base year start**

January 1 2013

**Base year end**

December 31 2013

**Base year emissions (metric tons CO2e)**

8013246

**Comment**

**Scope 2 (market-based)**

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**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)

US EPA Climate Leaders: Direct HFC and PFC Emissions from Use of Refrigeration and Air Conditioning Equipment

US EPA Climate Leaders: Indirect Emissions from Purchases/ Sales of Electricity and Steam

US EPA Climate Leaders: Direct Emissions from Stationary Combustion

US EPA Climate Leaders: Direct Emissions from Mobile Combustion Sources

US EPA Mandatory Greenhouse Gas Reporting Rule

**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)**

1048692

**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**

Location-based Scope 2 emissions are calculated based on eGRID and IEA emission factors, as well as emissions related to steam purchases. Market-based Scope 2 emissions are calculated with select available utility emission factors, less any produced and consumed renewable energy from AT&T and DIRECTV operations, and completed with Location-based emission factors (eGRID, IEA, etc.).

## C6.3

**(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO<sub>2</sub>e?**

**Row 1**

**Scope 2, location-based**

6951085

**Scope 2, market-based (if applicable)**

6752872

**Comment**

Market-based totals factor in the solar and wind that was generated and/or utilized by AT&T in 2017.

**Row 2**

## 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

**(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**

Ground Equipment for Flight Operations

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

No emissions from this source

**Relevance of market-based Scope 2 emissions from this source (if applicable)**

No emissions from this source

**Explain why the source is excluded**

A very limited number of pieces of powered ground equipment are utilized in conjunction with our flight operations. The impact was deemed too small to measure given the overall scale of the carbon inventory.

**Source**

Refrigerant for Mobility Operations

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

No emissions from this source

**Relevance of market-based Scope 2 emissions from this source (if applicable)**

No emissions from this source

**Explain why the source is excluded**

Refrigerant and associated emissions are not available

---

**Source**

Refrigerant for LATAM/Mex operations

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

No emissions from this source

**Relevance of market-based Scope 2 emissions from this source (if applicable)**

No emissions from this source

**Explain why the source is excluded**

Refrigerant and associated emissions are not available

---

**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 CO<sub>2</sub>e**

1882397

**Emissions calculation methodology**

Economic Allocation Model referencing the WRI/WBCSD GHG Protocol Corporate Standard

<http://www.ghgprotocol.org/standards/corporate-standard> Emissions calculated are based on the supplier specific economic allocation from 2016. Data for this Scope 3 emission source is for the previous year and not available for the current reporting year.

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

100

**Explanation**

Numbers are extrapolated from representative sample suppliers to apply to total spend. Spend is our suppliers not including content and entertainment companies. Calculations are based on economic allocation of 2016 data submitted by suppliers in 2016; noting that supplier self-reporting of emissions and revenue is beyond our operational control. Errors originating from supplier' entries to CDP have been identified and corrected as much as possible; other sources of error include currency conversions. Some revenue data, especially from private companies, is not verifiable.

### **Capital goods**

#### **Evaluation status**

Relevant, calculated

#### **Metric tonnes CO2e**

79611

#### **Emissions calculation methodology**

Economic Allocation Model referencing the WRI/WBCSD GHG Protocol Corporate Standard

<http://www.ghgprotocol.org/standards/corporate-standard> Emissions calculated are based on the supplier specific economic allocation from 2016. Data for this Scope 3 emission source is for the previous year and not available for the current reporting year.

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

100

#### **Explanation**

Numbers are extrapolated from representative sample suppliers to apply to total spend. Spend is our suppliers not including content and entertainment companies. Calculations are based on economic allocation of 2016 data submitted by suppliers in 2016; noting that supplier self-reporting of emissions and revenue is beyond our operational control. Errors originating from supplier' entries to CDP have been identified and corrected as much as possible; other sources of error include currency conversions. Some revenue data, especially from private companies, is not verifiable.

### **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**

#### **Explanation**

All relevant fuel-and-energy-related activities are calculated and included in Scopes 1 and 2

### **Upstream transportation and distribution**

#### **Evaluation status**

Relevant, calculated

#### **Metric tonnes CO2e**

164632

#### **Emissions calculation methodology**

Economic Allocation Model referencing the WRI/WBCSD GHG Protocol Corporate Standard

<http://www.ghgprotocol.org/standards/corporate-standard> Emissions calculated are based on the supplier specific economic allocation from 2016. Data for this Scope 3 emission source is for the previous year and not available for the current reporting year.

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

100

**Explanation**

Numbers are extrapolated from representative sample suppliers to apply to total spend. Spend is our suppliers not including content and entertainment companies. Calculations are based on economic allocation of 2016 data submitted by suppliers in 2016; noting that supplier self-reporting of emissions and revenue is beyond our operational control. Errors originating from supplier' entries to CDP have been identified and corrected as much as possible; other sources of error include currency conversions. Some revenue data, especially from private companies, is not verifiable.

**Waste generated in operations**

**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**

**Business travel**

**Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

93567

**Emissions calculation methodology**

EPA Climate Leaders: Optional Emissions from Commuting, Business Travel, and Product Transport methodology with more updated DEFRA emissions factors for air travel and EPA factors for car travel.

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

95

**Explanation**

Given the emergence of alternatives to rental cars for local business transportation (Uber, Lyft, etc.), we know that there is now a segment of business travel that is essentially unaccounted for. We believe that, with some development effort, we may be able to at least partially close this gap in future reports.

**Employee commuting**

**Evaluation status**

Not evaluated

**Metric tonnes CO2e**

**Emissions calculation methodology**

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

**Explanation**

**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**

All upstream leased assets are included in Scope 1 or Scope 2.

**Downstream transportation and distribution**

**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**

**Processing of sold products**

**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**

Not applicable to AT&T – we do not sell products that are processed by other companies.

**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**

**End of life treatment 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**

## **Downstream leased assets**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

3525402

### **Emissions calculation methodology**

The average estimated electricity usage per set-top box (STB) was multiplied by the number of STBs in circulation in 2017. Based on this kWh value, the eGRID 2016 emission factors (by state) were applied to calculate the estimated greenhouse gas emissions total for downstream leased assets. Non-US STBs were also calculated for Mexico and Latin America using IEA 2017 emissions factors.

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

100

### **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**

Not applicable to AT&T – we don't franchise.

#### **Investments**

### **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**

Not applicable to AT&T –we are not a financial institution

#### **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?**

Yes

**C6.7a**

**(C6.7a) Provide the emissions from biologically sequestered carbon relevant to your organization in metric tons CO2.**

6685

**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**

66.75

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

7999777

**Metric denominator**

Other, please specify (Petabyte)

**Metric denominator: Unit total**

119853

**Scope 2 figure used**

Location-based

**% change from previous year**

15.7

**Direction of change**

Decreased

**Reason for change**

This decrease in emissions intensity is due to multiple factors, including our emissions reductions activities driving a decrease in overall emissions. Emissions reductions activities in 2017 generally included purchases of hybrid vehicles and reducing overall fleet size; lighting retrofits and other facility-based efficiency initiatives; and network equipment decommissioning programs, among others.

## 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	903430	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	1785	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	4710	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	138767	IPCC Fourth Assessment Report (AR4 - 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)
United States of America	1029016
Other, please specify (Rest of world)	19676

### C7.3

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

By activity

#### C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Ground fleet	709902
Refrigerant	138767

Activity	Scope 1 emissions (metric tons CO2e)
Stationary Generators	103844
Natural Gas	65000
FlightOps	12028
Portable Generators	5974
Propane	6052
#2 Fuel Oil / Diesel	7125
Gasoline	0

## 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)
United States of America	6695390	6496665	14472328	13831
Other, please specify (Rest of world)	255695	255207	577863	0

## C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By activity

### 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)
Electric power	6810460	6612247
Steam	14724	14724
Natural gas (consumed by fuel cells)	125901	125901

## 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				
Other emissions reduction activities	983311	Decreased	11	Our emissions reductions activities, including those described in C4.3b, reduced our S1+2 emissions by 983,311 MTCO2e. Our CY2016 emissions were 8,877,886. $983,311 / 8,877,886 = 11\%$ .
Divestment				
Acquisitions				
Mergers				
Change in output				
Change in methodology	983269	Decreased	11	National average eGRID values went down in eGRID 2016 from the 2014 version.
Change in boundary				
Change in physical operating conditions				
Unidentified	1162045	Increased	13	Other changes in operations offsetting decreases in emissions.
Other				

### 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?**

Location-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	No
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

### 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)	8910	5174064	5182974
Consumption of purchased or acquired electricity		13831	14971341	14985172
Consumption of purchased or acquired heat				
Consumption of purchased or acquired steam		0	65019	65019
Consumption of purchased or acquired cooling				
Consumption of self-generated non-fuel renewable energy		0		0
Total energy consumption		22741	20210424	20233165

## 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)**

Natural Gas

#### **Heating value**

LHV (lower heating value)

#### **Total fuel MWh consumed by the organization**

1731806

#### **MWh fuel consumed for the self-generation of electricity**

678426

#### **MWh fuel consumed for self-generation of heat**

1053380

### **Fuels (excluding feedstocks)**

Diesel

#### **Heating value**

LHV (lower heating value)

#### **Total fuel MWh consumed by the organization**

629610

#### **MWh fuel consumed for the self-generation of electricity**

410602

#### **MWh fuel consumed for self-generation of heat**

219008

---

**Fuels (excluding feedstocks)**

Propane Gas

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

46782

**MWh fuel consumed for the self-generation of electricity**

18483

**MWh fuel consumed for self-generation of heat**

28299

---

**Fuels (excluding feedstocks)**

Liquefied Petroleum Gas (LPG)

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

1618

**MWh fuel consumed for the self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

1618

---

**Fuels (excluding feedstocks)**

Other, please specify (Gasoline)

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

2595895

**MWh fuel consumed for the self-generation of electricity**

902

**MWh fuel consumed for self-generation of heat**

2594993

---

**Fuels (excluding feedstocks)**

Compressed Natural Gas (CNG)

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

116346

**MWh fuel consumed for the self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

116349

---

**Fuels (excluding feedstocks)**

Butane

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

6

**MWh fuel consumed for the self-generation of electricity**

6

**MWh fuel consumed for self-generation of heat**

0

---

**Fuels (excluding feedstocks)**

Ethylene

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

39

**MWh fuel consumed for the self-generation of electricity**

39

**MWh fuel consumed for self-generation of heat**

0

---

**Fuels (excluding feedstocks)**

Kerosene

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

3334

**MWh fuel consumed for the self-generation of electricity**

3334

**MWh fuel consumed for self-generation of heat**

0

---

**Fuels (excluding feedstocks)**

Other, please specify (Jet Fuel)

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

48628

**MWh fuel consumed for the self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

48628

---

**Fuels (excluding feedstocks)**

Other, please specify (Renewable Natural Gas)

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

8910

**MWh fuel consumed for the self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

8910

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**C8.2d**

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

**Butane**

**Emission factor**

2

**Unit**

kg CO<sub>2</sub>e per liter

**Emission factor source**

EPA Mandatory Greenhouse Gas Reporting - Final Rule (40 CFR 98) - Industrial Sector 2013

**Compressed Natural Gas (CNG)**

**Emission factor**

2

**Unit**

kg CO2 per liter

**Emission factor source**

EPA Mandatory Greenhouse Gas Reporting - Final Rule (40 CFR 98) - Industrial Sector 2013

**Diesel**

**Emission factor**

163

**Unit**

lb CO2e per million Btu

**Emission factor source**

EPA Mandatory Greenhouse Gas Reporting - Final Rule (40 CFR 98) - Industrial Sector 2013

**Ethylene**

**Emission factor**

1

**Unit**

kg CO2e per liter

**Emission factor source**

EPA Mandatory Greenhouse Gas Reporting - Final Rule (40 CFR 98) - Industrial Sector 2013

**Kerosene**

**Emission factor**

3

**Unit**

kg CO2e per liter

**Emission factor source**

EPA Mandatory Greenhouse Gas Reporting - Final Rule (40 CFR 98) - Industrial Sector 2013

**Liquefied Petroleum Gas (LPG)**

**Emission factor**

2

**Unit**

kg CO2 per liter

**Emission factor source**

EPA Mandatory Greenhouse Gas Reporting - Final Rule (40 CFR 98) - Industrial Sector 2013

**Comment**

**Natural Gas**

**Emission factor**

117

**Unit**

lb CO2e per million Btu

**Emission factor source**

EPA Mandatory Greenhouse Gas Reporting - Final Rule (40 CFR 98) - Industrial Sector 2013

**Comment**

**Propane Gas**

**Emission factor**

139

**Unit**

lb CO<sub>2</sub>e per million Btu

**Emission factor source**

EPA Mandatory Greenhouse Gas Reporting - Final Rule (40 CFR 98) - Industrial Sector 2013

**Comment**

**Other**

**Emission factor**

146

**Unit**

lb CO<sub>2</sub>e per million Btu

**Emission factor source**

EPA Mandatory Greenhouse Gas Reporting - Final Rule (40 CFR 98) - Industrial Sector 2013

**Comment**

Steam. Gasoline emission factor: 2 kg CO<sub>2</sub>e per liter, EPA Mandatory Greenhouse Gas Reporting - Final Rule (40 CFR 98) - Industrial Sector 2013

## C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	391106	391106	6630	6630
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

## 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

Off-grid energy consumption from an on-site installation or through a direct line to an off-site generator owned by another company

### Low-carbon technology type

Solar PV

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

6630

### Emission factor (in units of metric tons CO<sub>2</sub>e per MWh)

0

### Comment

### Basis for applying a low-carbon emission factor

Power Purchase Agreement (PPA) without energy attribute certificates

### Low-carbon technology type

Wind

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

7201

### Emission factor (in units of metric tons CO<sub>2</sub>e per MWh)

0

### Comment

Direct procurement contract with a grid-connected generator or Power Purchase Agreement (PPA), where electricity attribute certificates do not exist or are not required for a usage claim

## C9. Additional metrics

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### C9.1

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

**Description**

Energy use

**Metric value**

31.5

**Metric numerator**

Total Scope 1+2 emissions

**Metric denominator (intensity metric only)**

AT&T employees

**% change from previous year**

0.7

**Direction of change**

Decreased

**Please explain**

Emissions decreased by 9%; employees decreased by 5%

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**Description**

Energy use

**Metric value**

54821

**Metric numerator**

Total Scope 1 + 2 emissions

**Metric denominator (intensity metric only)**

AT&T annual revenue (billion)

**% change from previous year**

7.1

**Direction of change**

Decreased

**Please explain**

Emissions decreased by 9%; revenue decreased by 2%

---

## 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**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Moderate assurance

**Attach the statement**

[2018 ATT Assurance Statement AA1000 final.pdf](#)

**Page/ section reference**

1-2

**Relevant standard**

A1000AS

**Proportion of reported emissions verified (%)**

100

**Scope**

Scope 2 location-based

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Moderate assurance

**Attach the statement**

[2018 ATT Assurance Statement AA1000 final.pdf](#)

**Page/ section reference**

1-2

**Relevant standard**

A1000AS

**Proportion of reported emissions verified (%)**

100

---

**Scope**

Scope 2 market-based

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Moderate assurance

**Attach the statement**

[2018 ATT Assurance Statement AA1000 final.pdf](#)

**Page/ section reference**

1-2

**Relevant standard**

A1000AS

**Proportion of reported emissions verified (%)**

100

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**C10.1b**

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

**Scope**

Scope 3- all relevant categories

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Attach the statement**

**Page/section reference**

1-2

**Relevant standard**

AA1000AS

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**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, we do not verify any other climate-related information reported in our CDP disclosure

**C11. Carbon pricing**

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**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 ETS, please specify (UK Carbon Reduction Commitment)

**C11.1b**

**(C11.1b) Complete the following table for each of the emissions trading systems in which you participate.**

**Other ETS, please specify**

**% of Scope 1 emissions covered by the ETS**

0.6

**Period start date**

April 1 2016

**Period end date**

March 31 2017

**Allowances allocated**

141629

**Allowances purchased**

141629

**Verified emissions in metric tons CO<sub>2</sub>e**

6334

## Details of ownership

Facilities we own and operate

### Comment

#### C11.1d

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

AT&T has local employees in the UK, where we must comply with regulatory carbon pricing systems. Those employees actively monitor this issue and are responsible for ensuring AT&T complies with all requirements of the pricing systems. Those local employees also have support from and consult with AT&T's corporate External and Legislative Affairs teams to understand current and proposed regulations.

In 2017, we purchased 141,629 allowances for the 6,334 metric tons (MT) CO<sub>2</sub>e stemming from our owned and operated facilities based in the UK. Our local employees track developments and requirements surrounding the UK carbon pricing law and in 2017 helped ensure we purchased the appropriate number of allowances for our business activities.

#### 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

Yes, our customers

#### C12.1a

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

##### Type of engagement

Compliance & onboarding

##### Details of engagement

Included climate change in supplier selection / management mechanism

Code of conduct featuring climate change KPIs

**% of suppliers by number**

100

**% total procurement spend (direct and indirect)**

100

**% Scope 3 emissions as reported in C6.5**

100

**Rationale for the coverage of your engagement**

For a company to fully understand its economic, environmental and social impact, it needs to understand its supply chain. Collaboration with suppliers is crucial for both addressing major issues facing society and realizing opportunities for advancing a clean-energy economy, reducing greenhouse gas (GHG) emissions, reducing water usage and improving labor practices. We believe it is important to understand more about the social, economic and environmental performance of our suppliers, and we expect our suppliers to share our commitment to citizenship and sustainability. Given its reach, we believe our supply chain is an area where we have an extraordinary opportunity to streamline operations and reduce long-term costs, while simultaneously limiting our environmental impact and positively influencing social equality. AT&T has established several 2020 and 2025 goals to guide our efforts. We outline our Citizenship & Sustainability expectations in our Principles of Conduct for suppliers, which all suppliers are required to acknowledge as part of our annual supplier sustainability assessment.

**Impact of engagement, including measures of success**

In 2017, AT&T Global Supply Chain continued to require suppliers to adhere to our Principles for Conduct and participated in assessments and audits. AT&T continues to make progress with efforts including: incorporating sustainability clauses into agreements and RFPs, training our sourcing managers on the principles of sustainability and providing updates to sourcing managers on supplier sustainability performance. AT&T will continue to expand incorporation of sustainability-oriented standards and analyses into sourcing decisions. These efforts are part of our company goal to, by the end of 2018, incorporate sustainability-oriented standards or analyses into our sourcing decisions with strategic suppliers. In addition to including climate change-related KPIs in our supplier Principles for Conduct, we are a member of the Joint Audit Cooperation, which facilitates collaboration among peer telecom companies and ICT suppliers to verify and audit supply chains on areas such as labor practices, human rights, health and safety, ethics and the environment. JAC CSR Audits are conducted by recognized independent third-party auditors at suppliers' manufacturing facilities using a common audit framework. In 2017, JAC members completed 89 facility audits with 70% of audits focused on Tier 2 and Tier 3 suppliers (i.e. suppliers upstream of JAC members' direct Tier 1 suppliers).

**Comment**

Supplier awareness on reporting emissions is gradually improving year over year.

**Type of engagement**

Information collection (understanding supplier behavior)

**Details of engagement**

Collect climate change and carbon information at least annually from suppliers

**% of suppliers by number**

1

**% total procurement spend (direct and indirect)**

78

## **% Scope 3 emissions as reported in C6.5**

37

### **Rationale for the coverage of your engagement**

We focus on this group of suppliers because they represent roughly 80% of our spend, in line with our public goal to, by 2020, lead our supply chain to improve its social and environmental impacts by integrating sustainability performance metrics into our sourcing decisions for 80% of our spend. Working with the CDP Supply Chain program, AT&T annually reaches out to about 500 of our suppliers, representing approximately 80% of our spend. Through the engagement with CDP Supply Chain, we collect climate change and carbon information from our suppliers. We also have a 2017 goal to achieve an average score of 80% or higher for top suppliers on the Supplier Sustainability Scorecard, which covers 4 key categories, including policy breadth, rigorous goals, reporting transparency and supply chain governance. In 2017, the average score for suppliers was 80.3%.

### **Impact of engagement, including measures of success**

Working with the CDP Supply Chain program, AT&T annually reaches out to about 500 of our suppliers, representing approximately 80% of our spend. We focus on our top 80% of spend as a way to enable our leadership in supplier engagement and track progress toward our public supply chain goals. AT&T continues to make progress with efforts including: incorporating sustainability clauses into agreements and RFPs, training our sourcing managers on the principles of sustainability and providing updates to sourcing managers on supplier sustainability performance. AT&T will continue to expand incorporation of sustainability-oriented standards and analyses into sourcing decisions. We measure success in this engagement with an increase in the percent of suppliers providing reliable emissions data. In 2017, >50% of suppliers reported that they track GHG emissions and have specific GHG goals. As a result of our engagement with CDP Supply Chain, we were again able to report an annual estimate of our supplier emissions in our GHG reporting.

### **Comment**

The % of Scope 3 emissions reflects those emissions that report reliable emissions data, not all suppliers approached. This goal is focused on network, consumer equipment and corporate services spend, and does not include video content and entertainment companies.

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### **Type of engagement**

Engagement & incentivization (changing supplier behavior)

### **Details of engagement**

Climate change performance is featured in supplier awards scheme

### **% of suppliers by number**

1

### **% total procurement spend (direct and indirect)**

78

## **% Scope 3 emissions as reported in C6.5**

37

### **Rationale for the coverage of your engagement**

In 2017, working with our TL 9000 industry group, TIA-QuEST Forum, we helped to launch an industry sustainability measurement tool, the QuEST Sustainability Assessor. This tool provides actionable best practices for organizations that help accelerate their sustainability programs. In 2017, we transitioned from our AT&T supplier assessment to this third-party industry tool and sent the new assessment tool to a few hundred of our suppliers. AT&T suppliers are currently using CDP Supply Chain and QuEST Sustainability Assessor metrics to measure and report their GHG emissions and sustainability progress. This provides our company and the other participating companies the necessary means to benchmark supplier emissions and work with suppliers on making improvements. We recognize suppliers based on their continued focus on delivering sustainable products, efforts towards reducing greenhouse gas emissions and outstanding performance on the QuEST Sustainability Assessor aligning on TL 9000 quality standards across 10 areas of sustainability. In 2018, we selected 2 suppliers to receive the 2017 Supplier Sustainability Award.

#### **Impact of engagement, including measures of success**

In alignment with our 2020/2025 goals of leading our supply chain to improve its social and environmental impacts by integrating sustainability metrics into our sourcing decisions, we are focusing more than ever on standardized industry metrics. Through our work with CDP Supply Chain, the Joint Audit Cooperative and TIA-QuEST Forum, we work to move our suppliers along an industry roadmap to continuously improve measurements benchmarking and results in sustainable supplier performance. In 2017, more than 230 suppliers completed the QuEST Sustainability Assessor. As more suppliers provide us with robust emissions and other climate-related data and we are better able to track and assess progress, we measure success of this engagement with an increase in the percent of suppliers providing reliable emissions data through CDP and other sustainability metrics through the QuEST Sustainability Assessor.

#### **Comment**

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## **C12.1b**

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### **(C12.1b) Give details of your climate-related engagement strategy with your customers.**

#### **Type of engagement**

Education/information sharing

#### **Details of engagement**

Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

#### **Size of engagement**

#### **% Scope 3 emissions as reported in C6.5**

#### **Please explain the rationale for selecting this group of customers and scope of engagement**

AT&T has a goal to enable carbon savings 10 times the footprint of our operations by 2025. To achieve this goal, we will enhance the efficiency of our own operations and deliver services that enable our customers to avoid carbon emissions. We collaborated with BSR and the Carbon Trust to develop a methodology which allows us to measure progress toward this goal. As part of this goal, we actively engage with customers to develop case studies highlighting how AT&T products enable emissions reductions and environmental efficiencies. We work with our sales and marketing teams as well as through organizations in which we are members to identify potential customers with which we could develop a new service that reduces carbon emissions or quantify and promote the carbon benefits of a service we've already developed and implemented. We focus on those customers that have indicated a commitment to

sustainability and carbon reduction and then collaborate with them to develop case studies. In 2017, we released 2 case studies as part of our 10x program, and we plan to release additional case studies in the future.

**Impact of engagement, including measures of success**

We measure success of our 10x program using the methodology outlined on our website, [www.att.com/10x](http://www.att.com/10x). The methodology, developed in collaboration with BSR and the Carbon Trust, defines how we’ll estimate the carbon abatement potential of our services. The methodology uses a “business as usual” (BAU) baseline of 2015, meaning that technology solutions introduced after 2015 can contribute towards achieving the goal. In order to meet our goal, the carbon abatement we identify from our solutions from 2015-2025 will be at least 10 times our Scope 1+2 emissions in 2025. The case studies we publish as part of our 10x goal highlight examples of how we enable customers to reduce their own emissions and provide the carbon abatement factors for various solutions we sell to customers, thereby allowing us to track progress toward our 10x goal.

**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

**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	We are a signatory to the Set-Top Box (STB) Voluntary Agreement (VA) for Ongoing Improvements in the Energy Efficiency of Set-Top Boxes. The VA was adopted to drive improvements in the energy efficiency of STBs while encouraging innovation and competition	The VA aims to continue improvements in the energy efficiency of STBs used in the delivery of services by Service Providers, thereby further reducing potential environmental impact and increasing benefits to customers. The Agreement is expected to avoid 9.3 million mtons of CO2 each year once the benefits of the commitments are fully realized. The Agreement requires new reporting on the availability and use of apps that offer consumers an alternative to using STBs for every screen, and includes a commitment to achieve rigorous third-tier energy performance levels by 2020.

**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

Global eSustainability Initiative (GeSI)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

The Global eSustainability Initiative (GeSI) fosters open cooperation across international boundaries and the promotion of technologies that foster sustainable development. GeSI brings together leading ICT companies — including telecommunications service providers and manufacturers as well as industry associations — and nongovernmental organizations committed to achieving sustainability objectives through innovative technology. Through the GeSI organization, AT&T is represented in projects and activities centered in the three primary focus of GeSI. Those focus areas are Climate Change (i.e., energy efficiency, SMART 2020, ICT KPIs), Supply Chain (i.e., conflict minerals) and Human Rights. In 2015, Accenture conducted a study (SMARTer 2030) on behalf of the Global eSustainability Initiative (GeSI) and its member companies including AT&T. The SMARTer 2030 report showed that the information and communications technology (ICT) industry can enable a low-carbon society and help respond to the climate change challenge by 2030. ICT-enabled solutions offer the potential to reduce GHG emissions by 9.7 times the amount of carbon emitted.

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

We support the group's position that communications technology (ICT) industry can enable a low-carbon society and help respond to the climate challenge.

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**Trade association**

Business Roundtable

**Is your position on climate change consistent with theirs?**

Mixed

**Please explain the trade association's position**

BRT's Statement on Climate Change: "Because the consequences of global warming for society and ecosystems are potentially serious and far-reaching, steps to address the risks of such warming are prudent even now, while the science continues to evolve. The Business Roundtable supports collective actions that will lead to the reduction of [greenhouse gas (GHG)] emissions on a global basis with the goal of slowing increases in GHG concentrations in the atmosphere and ultimately stabilizing them at levels that will address the risks of climate change. These actions need to be coordinated with efforts to address other urgent world priorities, such as reducing poverty, improving public health, reducing environmental degradation and raising living standards. Reliable and affordable world supplies of energy are essential for meeting these challenges. Although Business Roundtable supports actions to address global warming, our members have a range of views and preferences about the policy tools that will best achieve that objective. Some companies support mandatory approaches; others do not. Recognizing that legislation and regulation are under consideration, Business Roundtable supports an open and constructive dialogue about the principles that should shape climate policy and the pros and cons of various options. As a starting point for this dialogue, our members agree on the following policy objectives: • Taking Action and Reporting Progress • Improving Energy Efficiency • Developing and Deploying Low-GHG Technologies • Investing in Climate Science • Aligning Reduction Timelines with the Trajectory for New Technologies • Following a Flexible Stepwise Approach • Selecting the Right Policy Tools • Applying Policy Solutions Equitably • Maximizing Access to Limited Feedstock and Energy Supplies • Adopting Global Solutions to a Global Problem Full statement: <http://businessroundtable.org/resources/climatechange> <http://businessroundtable.org/issues/energyenvironment/climatechange>

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

We believe that technology is an important component to this transition, which is in line with BRT's statement that: "The development and global deployment of new, efficient low-GHG technologies is vital to an effective long-term response to concerns about global climate change." In the latest BRT sustainability report, AT&T's CEO states that "over the past decade, innovation has sparked a profound technology revolution, giving us more tools than ever to address the world's challenges. And AT&T has been engaged every step of the way."

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### **Trade association**

US Chamber

### **Is your position on climate change consistent with theirs?**

Mixed

### **Please explain the trade association's position**

According to the U.S. Chamber's website: "The Chamber has in its public documents, Hill letters, and testimony; supported efforts to reduce greenhouse gas emissions in the atmosphere. Our position is simple: There should be a comprehensive legislative solution that does not harm the economy, recognizes that the problem is international in scope, and aggressively promotes new technologies and efficiency. Protecting our economy and the environment for future generations are mutually achievable goals."

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

We recognize the importance of transitioning to a world that is more resource efficient. We believe that the ability to increase resource efficiency and reduce greenhouse gas emissions will be a primary determinant of success in the 21st century world economy. We also believe that technology is an important component to this transition.

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### **Trade association**

Consumer Technology Association (CTA)

### **Is your position on climate change consistent with theirs?**

Consistent

### **Please explain the trade association's position**

According to CTA's website: "Industry initiatives are helping to make recycling our old electronics as easy as buying new ones. Today's consumers have more access and resources for recycling devices at the end of their life. Manufacturers across the country are committed to reducing e-waste and adverse environmental effects. However, state proposals to regulate recycling requirements with arbitrary burdens and costs threaten to stifle the industry's success. We support smart, collaborative approaches to improving electronics recycling and increasing sustainability. Through industry-led programs and initiatives, we have already made significant progress." And: "Through innovation and robust competition, today's tech devices are faster, smarter and more efficient than ever before. Each year, the industry's progress toward greater energy efficiency saves consumers millions of dollars while reducing greenhouse gas emissions. Although many policymakers share the industry's goal of improving energy efficiency, proposals seeking to regulate energy consumption are counter. For the greatest success, the government should track energy efficiency rather than regulate it. Through voluntary agreements, we proactively help improve energy efficiency standards and practices."

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

We work collaboratively with CTA on limiting the energy consumption of our devices and through our participation as a signatory of the Set-Top Box and Small Network Equipment Voluntary Agreements (VAs) for Ongoing Improvements in the Energy Efficiency of Set-Top Boxes and Small Network Equipment. The VAs provide a non-regulatory structure to encourage industry to continuously pursue energy efficiency, while protecting innovation and competition.

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### **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?**

One of our Assistant Vice Presidents for Public Policy oversees issues related to sustainability and acts as a liaison between the policy and sustainability teams. That designee meets several times per month with the sustainability operations team on discussions including climate change issues. Additionally, AT&T's Senior Vice President for Global Public Policy sits on the officer-level CSR Governance Council, providing guidance from a policy perspective on issues such as climate change that come before the committee. Both our Chief Sustainability Officer and our SVP of Global Public Policy reported in 2017 to our Senior Executive Vice President of External and Legislative Affairs, assuring further alignment.

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### **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 voluntary sustainability report

**Status**

Complete

**Attach the document**

[ATT-Corporate-Responsibility-Update.pdf](#)

**Content elements**

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

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## C14. Signoff

### C14.1

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

Job title	Corresponding job category
Assistant Vice President - CSR Strategy and Research	Business unit manager