

# CDP Climate Change Response 2019 – AT&T

## C0. Introduction

### C0.1

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

As a modern media company, AT&T's mission is to inspire human progress through the power of communication and entertainment. This starts with more than 170 million direct-to-consumer relationships across our wireless, pay-TV and broadband businesses in the United States, wireless in Mexico and DIRECTV in Latin America.

AT&T Inc. is comprised of four verticals: AT&T Communications provides mobile, broadband, video and other communications services to U.S.-based consumers. It also serves more than 3 million companies worldwide – from the smallest businesses to nearly all the Fortune 1000 – with highly secure, smart solutions. AT&T Latin America provides mobile services to consumers and businesses in Mexico and pay-TV service across 11 countries in South America and the Caribbean. WarnerMedia's Turner, Home Box Office and Warner Bros. business units and Otter Media operations are leaders in creating and delivering multiplatform content and services and collectively own a world-class library of entertainment content. Xandr provides marketers with advanced advertising solutions using valuable customer insights from AT&T's TV, mobile and broadband services and its extensive ad inventory.

Following the acquisition of WarnerMedia (formerly Time Warner, Inc.) in June 2018 and launch of Xandr in September 2018, we continue to integrate operationally and through our reporting. For this reason, comprehensive data for these affiliates is not included in this report, except where noted. Data for these operating units will be included in AT&T's 2019/2020 reporting.

### 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
Row 1	January 1, 2018	December 31, 2018	No

### C0.3

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

- Argentina
- Australia
- Austria
- Bahrain
- Belgium

Brazil  
Bulgaria  
Canada  
Chile  
China  
Colombia  
Costa Rica  
Croatia  
Cyprus  
Czechia  
Denmark  
Dominican Republic  
Ecuador  
Egypt  
El Salvador  
Finland  
France  
Germany  
Greece  
Guam  
Guatemala  
Hungary  
India  
Indonesia  
Ireland  
Israel  
Italy  
Japan  
Luxembourg  
Malaysia  
Mexico  
Morocco  
Netherlands  
New Zealand  
Norway  
Pakistan  
Panama  
Peru  
Philippines  
Poland  
Portugal  
Puerto Rico  
Qatar  
Republic of Korea  
Romania  
Russian Federation  
Saudi Arabia

Singapore  
Slovakia  
Slovenia  
South Africa  
Spain  
Sweden  
Switzerland  
Taiwan, Greater China  
Thailand  
Turkey  
United Arab Emirates  
United Kingdom of Great Britain and Northern Ireland  
United States of America  
Uruguay  
Venezuela (Bolivarian Republic of)  
Viet Nam

## 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) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.**

Position of individual(s)	Please explain
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Board-level committee	<p>The Public Policy and Corporate Reputation Committee (PPCRC) of our Board has the highest level of responsibility for climate change within AT&amp;T and meets 3 times/year on sustainability matters. Our Chief Sustainability Officer (CSO) also meets intermittently with individual members of the PPCRC to discuss any sustainability topics of interest to that member. The PPCRC has 4 members, including a chairperson. The PPCRC is briefed by the SVP of CSR, who is also our CSO, on climate-related issues as they relate to 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 its authority over corporate policies and practices in furtherance of our CSR activities, including environmental policies. Programmatic operations for climate change-related activities fall under CSR at AT&amp;T, therefore the PPCRC is ultimately responsible for our climate change strategy.</p>
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## 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	<p>The Public Policy and Corporate Reputation Committee (PPCRC) of the AT&amp;T Board of Directors has the highest level of responsibility for climate change within our organization and meets 3 times per year on sustainability matters. Our Chief Sustainability Officer also meets intermittently with individual members of the PPCRC, to discuss specific sustainability topics of interest to the individual committee member. This committee reviews the entirety of AT&amp;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, they are reviewed in regular fashion, much the same way as other topics are reviewed and discussed at the Board level. The SVP of Corporate Social Responsibility (CSR), who is also our Chief Sustainability Officer, briefs the PPCRC on our climate-related strategies and goals. The PPCRC reviews the goals and strategies and provides oversight into the climate related issues.</p>

## C1.2

**(C1.2) Provide the highest management-level 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	Half-yearly

## 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 (do not include the names of individuals).**

The SVP of Corporate Social Responsibility (CSR), who is also the Chief Sustainability Officer (CSO) for AT&T, facilitates discussions related to climate change at 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, including our agreements to invest in up to 820 MW of renewable energy and our Climate Change Analysis Tool, which AT&T developed after working with the U.S. Department of Energy's Argonne National Laboratory. The Climate Change Analysis Tool will help AT&T anticipate potential impacts of climate change on our network infrastructure and business operations 30 years into the future.

AT&T's 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.

AT&T considers climate change a sustainability-related issue, and as the highest-level executive for sustainability-related issues, the CSO has oversight and responsibility for all of AT&T's climate-related strategies, policies and goals. In her position reporting directly to AT&T's Senior Executive Vice President and General Counsel and as leader of the AT&T 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 is comprised of officers with responsibility for the business areas most linked to current CSR priorities, including climate-related issues. The CSO leads the Council and also facilitates discussions on climate-

related issues the meetings of the PPCRC of the AT&T Board of Directors. On a day-to-day basis, in 2018, the CSO reported to the Senior Executive Vice President and General Counsel, 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 (do not include the names of individuals).**

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

Chief Sustainability Officer (CSO)

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction project

**Comment**

Demonstrated progress toward and achievement of the stated goals related to climate-related issues (such as our programs for renewable energy and our 10x carbon reduction goal) are part of the annual performance objectives for our Chief Sustainability Officer (CSO). Performance toward those goals is taken to account when the CSO's supervisor determines merit salary increases and bonus awards. For example, if demonstrated progress toward our public renewable energy commitments or toward our 10x carbon reduction goal are not achieved, such negative performance would be taken into account during performance evaluations and salary/bonus determinations for the CSO.

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

Business unit manager

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction target

**Comment**

Our VP of Global Infrastructure Optimization (who has responsibility for our energy management team) has financial energy-saving targets which support our sustainability efforts. Performance toward these targets is taken to account when determining the VP's annual merit salary increases and bonus awards.

Business unit managers within CSR and the Global Infrastructure Optimization organizations also use the annual performance appraisal process to highlight and reward superior performance on climate-related programs.

In addition to monetary awards, we provide incentives in the 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.

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	
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## 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, CSR & business continuity teams all play a role in assessing risk. An Assistant Vice President of Public Policy, as well as the Energy Management team, monitor the legislative landscape (for example, for policies that may impact energy prices) & report relevant findings to our CSO or relevant Energy team leads. Additional CSR team members monitor CSR-related reputational risks & help in identifying and incorporating climate change adaptation and mitigation strategies within AT&T. Cross-functional teams routinely track the 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 & opportunities to improve energy resiliency. To mitigate risk at an asset level, a cross-functional team from CRE, network, IT & other related organizations uses a proprietary site selection methodology that includes characteristics such as exposure to natural disasters (flood/drought zones) & expected electricity and water availability and costs to determine site locations. We also have a Weather Operations Center which monitors the US 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 AT&T's business. In 2018, we worked with the U.S. Department of Energy's Argonne National Labs on project that led to AT&T's development of a Climate Change Analysis Tool that helps AT&T visualize climate change risk on company infrastructure and make smarter, climate-informed decisions for the future. Our climate-related risk identification process is integrated into multiple teams across the company, to best manage the many possible scenarios.
2. Understanding risk size/scope: AT&T is positioned to respond to climate change. We assess risks for their potential impacts & the magnitude of these impacts on individual facilities, our brand, our products & the company. Our monitoring and planning processes, as we ID and assess risks, include analyses at least biannually of the



potential impact of these risks so that we are best able to address the identified risks. The Climate Change Analysis Tool we developed helps us identify the location of infrastructure at risk for physical climate-related impacts.

3. To determine the significance of climate-related risks relative to other risks we face, we conduct stakeholder materiality assessments. In 2016, we worked with GlobeScan to conduct our 4th materiality assessment. We created a list of 36 sustainability-related topics and we then collected input from internal and external stakeholders to understand the relative importance of the topics. 1,475 stakeholders representing 3 different groups (AT&T employees, consumers and professional stakeholders – including those from Latin America & the US) provided insight into the prioritization of these topics. Internally, we interviewed 358 employees to assess & rank the impacts of our topics on business success. This assessment resulted in a table that prioritizes our top CSR issues. 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 & 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 & other programmatic details. For each topic, we provide information through our external website &/or a collection of Issue Briefs. Each issue brief reports key information, GRI standards data, our management approach of the issue and details of company action. Our CSO presented the results of the assessment to the officer-level CSR Governance Council and to the PPCRC 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. The analysis includes our capacity to mitigate/ 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, Legislative Affairs and Compliance 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 compliance. For example, our UK operations are subject to the UK Carbon Reduction Commitment (CRC) emissions trading scheme. In 2018, we purchased 114,934 allowances for the 4,995 metric tons (MT) CO <sub>2</sub> e stemming from our owned and operated facilities based in the UK. Our Public Policy and Compliance teams monitor climate-related regulations and our response to and compliance with them, including the UK CRC, as part of their regular duties and report 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. The State of Washington, for example, recently proposed legislation to tax carbon dioxide. AT&T's largest domestic data center is in Bothell, WA and covers roughly 2 acres. As such, we would have been indirectly impacted by such state-level 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 2018, we committed to invest in up to 820 MW of renewable energy. 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. If battery storage technology is unable to keep pace with those demands, we may need to continue to use fossil fuel-based energy. 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 does our Scope 1 footprint account for the most significant portion of our total energy use (our 2018 Scope 1 was 1,019,696 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	There is a market demand for technologies that enable carbon savings and reduce customers' carbon footprint and climate impacts, and we believe that AT&T solutions can address the demand for such technology products and services. As such, we invest in providing customers with solutions that enable carbon reductions.

		<p>Should consumer demands and the market shift away from supporting climate solutions, such action could negatively impact demand for our products and services, as our services can support climate solutions. When we plan for future products and services, we consider market factors such as consumer demand (for example, for low-carbon products) as we develop products and related marketing strategies. Through standard product development processes, we analyze the potential markets for new products and services and design our offerings with specific markets in mind. For example, we believe there is a demand for low-emissions products and services such as Grind2Energy by Emerson food waste recycling system using AT&amp;T Internet of Things connectivity. AT&amp;T IoT connectivity provides visibility that allows Grind2Energy and their customers to monitor system status and performance and improve efficiency. In 2018, Grind2Energy (using AT&amp;T enabled connectivity) diverted around 7,400 tons of food from landfill to waste management facilities for anaerobic digestion, producing enough clean electricity to power 125 homes for one year, reducing GHG emissions from the landfill by about 5,000 MT CO<sub>2</sub>e. Market demand for our products and services is considered in our standard assessment processes when we develop new offerings. If our market analyses indicated that there was not a demand for low-carbon products or services or services that help customers reduce their climate impacts, we would consider that fact as we determine the development and roll-out of such offerings.</p>
<p>Reputation</p>	<p>Relevant, sometimes included</p>	<p>Customers increasingly expect companies to be good corporate stewards and act responsibly. If we did not act 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’s 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 by 2025 requires that we make our network more efficient and deliver services that help AT&amp;T customers avoid carbon emissions. At the close of 2018, we calculate that our technology solutions enabled GHG reductions of 17.1M MT CO<sub>2</sub>e, equivalent to over 1.9B gallons of gasoline. In 2018, our Scope 1 and 2 GHG footprint was approximately 7.7M MT CO<sub>2</sub>e, putting our current attainment toward our 10x carbon reduction goal at approximately 2.2x.</p>

<p>Acute physical</p>	<p>Relevant, always included</p>	<p>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. We conduct regular analysis to help ensure our cell sites can withstand wind, ice and other environmental factors. We also deploy high-capacity battery backup to our cell sites, helping them remain in service in the event of a commercial power loss. To prepare our network for natural disasters, we regularly test these batteries and take steps to help ensure fixed generators are fueled on a regular basis. We also 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 conducted 77 full-scale in-field recovery exercises, which are vital to testing our equipment and abilities. In April 2018, our NDR team conducted a full technology recovery drill in Washington, DC and our NDR Special Operations hazmat team ran a joint exercise with the Loudoun County, VA Fire Department Hazmat Team.</p>
<p>Chronic physical</p>	<p>Relevant, always included</p>	<p>Chronic physical risks, such as a rise in average temperatures, could increase our operating costs as AT&amp;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 2018, AT&amp;T used 2.55 billion gallons of water. To mitigate the risk of increased operating costs (from water to cool certain facilities) due to rising mean temperatures, AT&amp;T has active water management efforts in place. Our water conservation efforts include, among others, working with HydroPoint, a provider of smart water management solutions—to remotely monitor and manage irrigation systems in real-time. Since launching these solutions at 40 water facilities in 2017, AT&amp;T has saved 60K gallons of water per year. Our relationships with HydroPoint expanded in Nov. 2018 to include 97 additional facilities, which will result in an estimated annual savings of more than \$700K and 61M gal of water.</p>
<p>Upstream</p>	<p>Relevant, sometimes included</p>	<p>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</p>

		<p>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 hail present a risk to our business. Many Texas businesses were impacted during hail storms in 2018, which, according to NOAA, caused \$1.3B in damage. AT&amp;T's global headquarters and largest corporate campus is in Dallas, TX. Like many businesses, AT&amp;T purchases power from the local grid. Though the hail storms didn't cause power outages at the local utility near our Dallas HQ, our ability to do business could be impacted if a significant weather event disrupts the utility's ability to provide us the power needed to maintain normal business operations. However, we mitigate this risk by having business continuity plans that include back-up energy generation.</p>
Downstream	Relevant, sometimes included	<p>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. We conduct regular analysis to help ensure our cell sites can withstand wind, ice and other environmental factors. We also deploy high-capacity battery backup to our cell sites, helping them remain in service in the event of a commercial power loss. To prepare our network for natural disasters, we regularly test these batteries and take steps to help ensure fixed generators are fueled on a regular basis. We also 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 conducted 77 full-scale in-field recovery exercises, which are vital to testing our equipment and abilities. In April 2018, our NDR team conducted a full technology recovery drill in Washington, DC and our NDR Special Operations hazmat team ran a joint exercise with the Loudoun County, VA Fire Department Hazmat team.</p>

## C2.2d

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

1. 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, water and extreme weather events. Risks are assessed at least bi-annually. 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.

2. 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.
3. Examples:
  1. Physical risk: To understand how weather and climate-related events can impact our network infrastructure, we worked with the US Department of Energy's Argonne National Labs on a project that led us to develop a Climate Change Analysis Tool that combines Argonne's regional climate modeling data with sophisticated mapping capabilities and allows us to visualize climate change risk on company infrastructure and make climate-informed decisions for the future. For example, instead of relying on 10-day weather forecasts and historic events, we can now visualize climate-related events such as projected sea-level rise on assets like copper lines, fiber cable locations, cell sites, and much more—decades into the future. This information can be used to help us plan for maintenance, disaster recovery and future construction to best serve our customers and the communities we serve. We will use this modelling to guide our capital investment spending, including deciding whether to elevate cell towers and other infrastructure in anticipation of sea level rise or protect such assets with barriers. We can also use this information to discern which towers to fortify against high winds and whether and where to bury additional telephone lines.
  2. Transition opportunities: AT&T has a goal to enable carbon savings 10 times the footprint of our own operations by 2025. 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. In addition to reducing our own operational footprint, we make progress on our 10x goal by enabling our customers to reduce their emissions. 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, which we use in part to encourage additional uptake of our carbon reduction-enabling technologies. Through the end of 2018, we developed eight 10x case studies that quantify the GHG emissions reduction potential that AT&T technology enables in a wide range of impact areas, from rice farming and smart buildings to food waste and efficient irrigation. At the close of 2018, we calculate that our technology solutions enabled GHG reductions of 17.1 million MT CO<sub>2</sub>e, which is equivalent to over 1.9 billion gallons of gasoline. In 2018, our Scope 1 and 2 GHG footprint was approximately 7.7 million MT of CO<sub>2</sub>e, putting our current attainment toward our 10x carbon reduction goal at approximately 2.2x. 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.**

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**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**

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

**Company- specific description**

In 2018, AT&T used 2.55 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, such as data centers. An increase average temperature could impact our operating costs by requiring more water to water-cool our facilities.

**Time horizon**

Long-term

**Likelihood**

About as likely as not

**Magnitude of impact**

Medium-low

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

17,000,000

**Potential financial impact figure – minimum (currency)**

## Potential financial impact figure – maximum (currency)

### Explanation of financial impact figure

Financial implications are difficult to calculate.

An increase in average temperature could impact our operating costs and result in more energy and water consumption. The 2018 cost of our water consumption was \$32M.

Depending upon temperature changes there could be a 5-50% water cost increase, commensurate with our water usage changes.

### 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 (2013 baseline). Since 2013 when we set our first water goals, we've seen cumulative water savings of 510M gal. In addition, we realized 769M kWh of annualized electricity savings associated with the introduction of free-air cooling projects & the reduction of mechanical refrigeration. We work with HydroPoint—a provider of smart water management solutions—to remotely monitor & manage irrigation systems in real-time. Since launching these solutions at 40 water facilities in 2017, AT&T has saved 60K gal of water per year. Our relationship with HydroPoint expanded in 2018 to include 97 additional facilities, which will result in an estimated annual savings of more than \$700K and 61M gal of water. In 2018, we deployed a new Enterprise Building Management System (EBMS) to more than 660 facilities. EBMS allows us to optimize the facility equipment operations resulting in reduced energy and water consumption. 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, & use of different chemicals to deploy these technologies in our most drought-prone regions could cost between \$1.5 & \$5M in one-time installation fees & annual maintenance costs.

### Cost of management

1,500,000

### Comment

### 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**

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 also purchase a significant amount of electricity to power our operations (our 2018 global direct billed and leased electricity use was 14.3M MWh). While we are working to increase the amount of renewable electricity in our portfolio—and in 2018 committed to invest in up to 820MW of renewable energy—we do still rely on the grid and non-renewable sources to ensure our energy supply. (76.4% of our total energy consumed in 2018 was supplied from grid energy). 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

### **Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

### **Potential financial impact figure (currency)**

1,000,001

### **Potential financial impact figure – minimum (currency)**

### **Potential financial impact figure – maximum (currency)**

### **Explanation of financial impact figure**

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 (total energy consumption in 2018 was 18.7M MWh; total electricity use (global direct billed and leased electricity) was 14.3M MWh in 2018) and using the guidance of the Regional Greenhouse Gas Initiative's 2018 price of \$2.20 per ton of CO<sub>2</sub>, we estimate that annual operating costs could easily increase by over \$1 million.

### **Management method**

Reducing our energy usage helps us to mitigate risks associated with changes in energy prices. We have active energy management efforts to reduce our own energy use. We have a target to reduce emissions of our U.S. fleet 30% by 2020 (2008 baseline). We aim to achieve this in part by increasing deployment of hybrid vehicles. In 2018, we had over 12,700 alternative fuel vehicles in our U.S. fleet. As of YE 2018, our U.S. fleet emissions have decreased 26% from baseline and 7.5% from 2017. One way we reduce our fleet emissions is by integrating AI into our logistics planning. In our dispatch optimization center, we use AI to determine the most efficient schedules for technicians, and in the process, have reduced travel time by 7%, avoiding more than 36M miles of technician travel from 2017-2018. To reduce emissions in our operations, AT&T implements a large number of energy projects; in 2018, we implemented appx. 28,500 projects with an estimated annual savings of 390,864 mt CO<sub>2</sub>e. The estimated cost of these projects is tracked using internal databases that manage project funding, approval and execution. Through our founding membership in the Climate Leadership Council (CLC), we support the CLC's plan that envisions a rising fee on carbon emissions, rebating revenues as dividends to all Americans, a border-adjustment mechanism and regulatory simplification. The CLC works to promote a carbon dividends plan as a bipartisan, market-based solution to help reduce U.S. emissions

### **Cost of management**

104,326,426

### **Comment**

### **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**

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 2018 have the potential to disrupt our ability to maintain portions of our network. Many Texas businesses were impacted during hail storms in 2018, which, according to NOAA, caused \$1.3B in damages. Our global headquarters and largest corporate campus is in Dallas, TX. Though the local utility near our Dallas HQ was not impacted by these hail storms to the extent that we 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 . Our network includes more than 1.2 million route miles of fiber globally and carries about 251 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 such as hurricanes in the Southeast U.S. 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

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

181,000,000

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

As reported in our 2018 corporate Annual Report, we experienced \$181M in natural disaster associated expenses 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**

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 cell sites can withstand wind, ice & other environmental factors. We also deploy high-capacity battery backup to these sites, allowing them to remain in service in the event of a power loss. To prepare for natural disasters, we regularly test these batteries & 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) org., we have run 77 full-scale in-field recovery exercises, which are vital to testing our equipment & abilities. In April 2018, NDR conducted a full technology recovery drill in Washington, DC. We have invested >\$650M in our NDR programs since 1992. We track investment through capital expenditure & operational expenses like field exercises and employee training specific to the BCDR program.

In 2018, we began work with the U.S. Department of Energy's Argonne National Lab on project that led us to develop a Climate Change Analysis Tool to help anticipate & visualize potential impacts of climate change on our network infrastructure & operations 30 years into the future. This information can be used to help plan for maintenance, disaster recovery and future construction.

**Cost of management**

650,000,000

**Comment**

## 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**

Increased revenue through demand for lower emissions products and services

**Company-specific description**

AT&T has set a 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. We established this goal because we have long believed that connectivity can create increased visibility that allows businesses to run more efficiently. Using insights from the Smarter2030 report from the Global E-Sustainability Initiative (GeSI), we set this goal because we believe our technology solutions such as Internet of Things connectivity have the power to reveal inefficiencies and reduce wasted electricity, fuel, water and/or raw materials,

which can lead to reduced GHG 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 AT&T's 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 GHG reduction impact of various technology solutions. Through the end of 2018, we developed eight 10x case studies that quantify the GHG emissions reduction potential that AT&T technology enables in a wide range of impact areas, from rice farming and smart buildings to food waste and efficient irrigation. For example, our Grind2Energy case study explains how AT&T IoT connectivity provides visibility that allows Grind2Energy and their customers to monitor system status and performance, and improve efficiency. In 2018, Grind2Energy (using AT&T-enabled connectivity) diverted around 7,400 tons of food from landfill to waste management facilities for anaerobic digestion, producing enough clean electricity to power 125 homes for one year, reducing GHG emissions from the landfill by about 5,000 MT CO<sub>2</sub>e.

**Time horizon**

Current

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

1,000,000,000

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

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. Through the end of 2018, we have developed eight 10x case studies that quantify the GHG emissions reduction potential that AT&T technology enables in a wide range of impact areas, from rice farming and smart buildings to food waste and efficient irrigation. Using these real-world examples allows us to turn the idea of tech-enabled GHG reductions into a relatable story for other customers. We expect that these concrete examples can help expand the conversations we have with our customers. Through the end of 2018, our technology solutions have enabled GHG reductions of 17.1M MT CO<sub>2</sub>e. Given our 2018 operational footprint of 7.7 M MT CO<sub>2</sub>e, our attainment toward our 10x carbon reduction goal is approximately 2.2x.

The costs associated with the integration of sustainability benefits into our Internet of Things (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**

### **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**

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

### **Company-specific description**

AT&T has set a goal to enable carbon savings 10 times the footprint of our operations by 2025. At the close of 2018, our technology solutions enabled GHG reductions of 17.1M MT CO<sub>2</sub>e. In 2018, our Scope 1 and 2 GHG footprint was approximately 7.7M MT CO<sub>2</sub>e, putting our current attainment toward our 10x carbon reduction goal at approximately 2.2x.

We established this goal because we have long believed that connectivity can create increased visibility that allows businesses to run more efficiently. Using insights from the

Smarter2030 report from the Global E-Sustainability Initiative (GeSI), we set this goal because we believe our technology solutions such as Internet of Things connectivity have the power to reveal inefficiencies and reduce wasted electricity, fuel, water and/or raw materials, which can lead to reduced GHG emissions across multiple markets, including areas in which AT&T has an opportunity to introduce new technologies. This unique goal was 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. Our IoT solutions, integrating AT&T connectivity, enable customers to track and manage energy use, collect data remotely and reduce water usage, among other impacts. 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

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

1,000,000,000

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

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 8 key impact areas: Modern Workplace; Transportation; Healthcare; Consumer/Retail; Smart Cities & Buildings; Energy; Industrial; Food, Bev. & Ag.-that have substantial climate impact and could benefit from enhanced operations enabled by our technology. We work to identify potential customers and develop compelling product

offerings that can help those industries drive cost and emissions from their business, such as our Internet of Things (IoT) solutions. To capitalize on opportunities in this space, we work with customers to create case studies showing how our technologies have enabled positive environmental impacts. We use these materials as marketing and promotional content to show the climate-related benefits of AT&T technologies and services. Through the end of 2018, we have developed 8 case studies that quantify the GHG emissions reduction potential that AT&T technology enables in a wide range of impact areas. Using these examples allows us to turn the idea of tech-enabled GHG reductions into a relatable story for other customers. We expect these concrete examples can help expand the conversations we have with our customers. As of the end of 2018, our technology solutions enabled GHG reductions of 17.1M MT CO<sub>2</sub>e.

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**

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**

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

#### **Company-specific description**

In 2018, AT&T used 2.55 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

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

123,800

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

This figure represents the financial savings AT&T realized when we implemented Smart Irrigation solutions in 40 of our own buildings over a 12-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 12-month trial period, AT&T Smart Irrigation saved us 30.9 million gallons of water and more than \$123,800.

**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 (2013 baseline). Since 2013 when we set our first water goals, we've seen cumulative water savings of 510M 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 12-month trial period, AT&T Smart Irrigation saved us 30.9 million gallons of water and more than \$123,800.

We also work with HydroPoint, a provider of smart water management solutions, to

remotely monitor and manage irrigation systems in real-time. Since launching the HydroPoint solution at 40 water facilities in 2017, AT&T has saved 60,000 gallons of water per year. Our relationship with HydroPoint expanded in November 2018 to include 97 additional facilities, which will result in an estimated annual savings of more than \$700,000 and 61M gallons of water. We invested more than \$314,000 in the pilot through capital investments and expenditures.

**Cost to realize opportunity**

314,000

**Comment**

**C2.5**

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

	Impact	Description
Products and services	Impacted	AT&T has 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. Through the end of 2018, we have developed eight 10x case studies that quantify the GHG emissions reduction potential that AT&T technology enables in a wide range of impact areas, from rice farming and smart buildings to food waste and efficient irrigation. These case studies can be found on our 10x goal website <a href="http://www.att.com/10x">www.att.com/10x</a> . As of the end of 2018, our technology solutions enabled GHG reductions of 17.1M MT CO <sub>2</sub> e. Using these real-world examples allows us to turn the idea of tech-enabled GHG reductions into a relatable story for other customers. We expect that these concrete examples can help expand the conversations we have with our customers and drive demand for our products and services that enable emissions reductions. 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 given the range of customers and industries that we serve. We are currently focusing our 10x goal and related emissions-reduction-enabling technologies on the following impact areas: Modern Workplace;

		<p>Transportation; Healthcare; Consumer/Retail; Smart Cities &amp; Buildings; Energy; Industrial; Food, Bev. &amp; Ag. As we have other customers that do not fall into these impact areas, and the risks and opportunities identified that impact products and services focus on 10x, we have determined that the impact to our products and services from the 10x activities, is medium.</p>
Supply chain and/or value chain	Impacted	<p>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&amp;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 hail storms in 2018, which, according to NOAA, caused \$1.3B worth of damage. AT&amp;T's global headquarters and largest corporate campus is in Dallas, TX. Some of our local suppliers may have been impacted by the storms. If AT&amp;T does not build redundancies into our supply chain, events such as hail storms or hurricanes 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 such 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.</p>
Adaptation and mitigation activities	Impacted	<p>AT&amp;T's investments in renewable energy help mitigate the risk associated with rising energy prices. In 2018, we announced our completion of large scale renewable energy contracts totalling up to 820 MW of renewable 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&amp;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. We have calculated that our technology solutions enabled GHG reductions of 17.1M MT CO<sub>2</sub>e. In 2018, our scope 1 and 2 GHG footprint was approximately 7.7M MT CO<sub>2</sub>e, putting our current attainment toward our 10x carbon reduction goal at approximately 2.2x.</p> <p>We also worked with the U.S. Department of Energy's Argonne National Labs on a project which led AT&amp;T to develop a Climate Change Analysis Tool that will help us visualize the impact of physical climate events on our network and infrastructure. For example, we can now visualize the</p>

		<p>impact of sea level rise on copper lines and fiber cable locations, up to 30 years into the future.</p> <p>Given our energy costs and the importance of integrating resiliency into our network by planning for the effects of climate change, the magnitude of this impact is medium-high.</p>
Investment in R&D	Impacted	<p>AT&amp;T has 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&amp;T technology into business processes to drive energy and resource efficiency, innovations that require investment in R&amp;D to meet the demands of our customers and meet our 10x goal. As of the end of 2018, given our operational GHG footprint of 7.7M MT CO<sub>2</sub>e and our calculations of the reductions our technology solutions enabled of 17.1M MT CO<sub>2</sub>e, our current attainment toward our 10x carbon reduction goal is approximately 2.2x. 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&amp;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&amp;T technology to help enable emissions reductions, we can invite customers to the AT&amp;T Foundry, locations that provide a space for customers to collaborate directly with AT&amp;T engineers on technology integration projects. As part of the 10x program, we are inviting customers with climate-focused goals to collaborate with AT&amp;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&amp;D related to these products by driving an increase in R&amp;D to develop and bring to market those products and services. The impact of our 10x goal on our investment in R&amp;D is medium as we focus our 10x goal and the related technologies that enable carbon reductions on 8 specific impact areas. While we focus on those impact areas, we also invest in R&amp;D beyond these impact areas, and the impact of our 10x goal on our R&amp;D investment is medium. In general, we see demand for our lower-emissions products and services as an opportunity.</p>
Operations	Impacted	<p>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. 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</p>

		overall annualized water savings of 769 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 26% from this baseline.
Other, please specify		

## C2.6

**(C2.6) Describe where and how the identified risks and opportunities have been 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 2018 revenue of more than \$170 billion. 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. Impact: medium – the increased demand for technologies that enable customers to reduce emissions could have an impact on revenue as we expand sales of such products. We believe that the \$1 billion estimate is conservative and the opportunity could grow as we continue to develop technologies that enable emissions reductions and as more customers seek to reduce their environmental impact. In context of AT&T's 2018 revenue of \$170 billion, we believe that a conservative estimate of \$1B with upside represents more than a small opportunity, hence the assessment as 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 our environmental goals (our 10x goal to enable carbon savings 10 times the footprint of our operations by 2025; our goal to reduce water consumption intensity, etc.). Funding has been allocated for case study development, communications efforts and designated workforce across multiple business units. We also use historical data from

		<p>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, headcount and operating budget related to goal progress as normal parts of our financial planning processes. The solutions we implement to lower our water consumption require capital investment and expenses. As we require water to water-cool some of our facilities, an increase average temperature could impact our operating costs by requiring more water to water-cool those facilities. Depending on temperature changes there could be a 5-50% water cost increase, commensurate with our water usage changes.</p>
Capital expenditures / capital allocation	Impacted	<p>Based on historical data, including severe weather events, AT&amp;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&amp;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 April 2018, our NDR team conducted a full technology recovery drill in Washington, DC and. In addition, our NDR team’s Special Operations (hazmat) team conducted a joint exercise with the Loudoun County, VA Fire Department hazmat team. The magnitude of the impact of identified risks on capital expenditures/allocation is low as AT&amp;T uses tools and resources such as our WOC to best plan for risks such as severe weather events.</p>
Acquisitions and divestments	Not impacted	<p>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.</p>
Access to capital	Impacted	<p>AT&amp;T has 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&amp;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&amp;T.</p> <p>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</p>

		<p>(<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.</p>
Assets	Impacted for some suppliers, facilities, or product lines	<p>In 2018, we worked with the U.S. Department of Energy’s Argonne National Laboratory on a project that led AT&amp;T to develop a Climate Change Analysis tool that will help anticipate potential impacts of climate change on our network infrastructure and business operations 30 years into the future. The tool allows us to visualize climate risk on our infrastructure and make smarter, climate-informed decisions, so that AT&amp;T can better incorporate climate-related impacts into our financial planning processes, including in the evaluation of assets. For example, instead of relying on 10-day weather forecasts and historic events, we can now visualize climate-related events, such as projected sea-level rise, surrounding copper lines, fiber cable locations, cell sites, central offices and much more decades into the future. This information can be used to help us plan for maintenance, disaster recovery and future construction. We are piloting this tool in the southeast U.S., which has been hit hard by severe weather and hurricanes in recent years. The magnitude of climate-related risk impacts on our assets depends in part on the location of those assets, and thus can range from low to high. The tool can help us identify which assets are at higher risk of being impacted by climate-related events so that we can incorporate resiliency measures into managing those assets.</p>
Liabilities	Impacted for some suppliers, facilities, or product lines	<p>In 2018, we worked with the U.S. Department of Energy’s Argonne National Laboratory on a project that led AT&amp;T to develop a tool that will help anticipate potential impacts of climate change on our network infrastructure and business operations 30 years into the future. The tool allows us to visualize climate risk on our infrastructure and make smarter, climate-informed decisions, so that AT&amp;T could better incorporate climate-related impacts into our financial planning processes, including in the evaluation of liabilities. For example, instead of relying on 10-day weather forecasts and historic events, we can now visualize climate-related events, such as projected sea-level rise, surrounding copper lines, fiber cable locations, cell sites, central offices and much more decades into the future. This information can be used to help us plan for maintenance, disaster recovery and future construction. We are piloting this tool in the southeast U.S., which has been hit hard by severe weather and hurricanes in recent years. The magnitude of climate-related risk impacts on our liabilities depends in part on the location of those liabilities, and thus can range from low to high. The tool can help us identify which liabilities are at higher risk of being impacted by climate-related events so that we can incorporate resiliency measures into managing those liabilities.</p>

Other		
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## C3. Business Strategy

### C3.1

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

Yes

#### C3.1a

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

Yes, qualitative and quantitative

#### C3.1c

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

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 team, which have set 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 AT&T Board of Directors has oversight over all Corporate Social Responsibility issues, including environmental sustainability and the management of company greenhouse gas (GHG) emissions. Our Chief Sustainability Officer (CSO) reports to the PPCRC committee 3 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 (CSR) Governance Council is comprised of officers with responsibility for 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 to further integrate sustainable business practices across the company and its supply chain. The CSR Governance Council meets 3 times per year.

Various business units across the company are responsible for responding to climate-related issues. Our Business Continuity Planning and Disaster Recovery organizations and our 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.

Our public goal setting represents an example of how our business objectives and strategy have been influenced by climate-related issues. In addition to general corporate goals, we also set company-wide resource use and emissions reductions goals. We set a goal to reduce the electricity consumption of our company relative to data growth on our network 60% by 2020 (compared to a 2013 baseline of 233 MWh/PB (Petabyte)). Our current target is 93 MWh/PB by EOY 2020. AT&T achieved a 78% reduction from our 2013 baseline with the resulting energy intensity for 2018 equal to 51 MWh/PB. To address Scope 1 GHG emissions, including fleet related emissions, we set a goal to reduce our Scope 1 emissions 20% by 2020 (2008 Scope 1 baseline of 1,354,054 MT CO<sub>2</sub>e).

AT&T also has a fleet-specific carbon reduction goal. Our fleet goal is to reduce AT&T's U.S. fleet emissions by 30% by the end of 2020, from our 2008 baseline. Through 2018, AT&T has reduced U.S. fleet emissions by 26%.

Substantial business decisions: AT&T has dedicated personnel to address the challenges and opportunities related to GHG emissions reductions— 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 have invested in alternative fuel and hybrid vehicles.

Two of the most substantial business decisions AT&T made in the reporting year related to climate change were to commit to invest in renewable energy contracts and to develop a Climate Change Analysis Tool.

AT&T committed to invest in up to 820 MW of renewable energy. These renewable energy investments provide AT&T protection against escalating and volatile energy prices (aspect of climate change that impacted the decision) while also enabling us to reduce our carbon footprint.

Another significant decision made in 2018 was our work with the U.S. Department of Energy's Argonne National Labs on a project that led AT&T to develop a Climate Change Analysis Tool that will help anticipate potential physical impacts of climate change on our network infrastructure and business operations up to 30 years into the future. By combining Argonne National Laboratory's regional climate modelling data with sophisticated mapping capabilities, the tool allows AT&T to visualize climate change risk on company infrastructure and make smarter, climate-informed decisions for the future. For example, instead of relying on 10-day weather forecasts and historic events, we can now visualize future climate-related events such as projected sea-level rise against asset locations like copper lines, fiber cable locations, cell sites, central offices and other infrastructure. This information can be used to help us plan for maintenance, disaster recovery and future construction to best serve our customers and the communities we serve.

Lastly, in 2018 we made the significant business decision to join the Climate Leadership Council (CLC) as a founding member. We support the CLC's plan that envisions a rising fee on

carbon emissions, rebating revenues as dividends to all Americans, a border-adjustment mechanism and regulatory simplification. The CLC works to promote a carbon dividends plan as a bipartisan, market-based solution to help reduce U.S. emissions.

### C3.1d

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

Climate-related scenarios	Details
RCP 4.5 RCP 8.5	<ul style="list-style-type: none"> <li>• AT&amp;T’s Climate Change Analysis Tool (CCAT) uses climate data provided by Argonne National Labs (ANL). To develop high-resolution, regional climate model projections for N. America, ANL dynamically downscaled existing global climate model simulations developed for the IPCC 5th Assessment Report (AR5). This global climate dataset is the CMIP5 repository. The CMIP5 data was regionally downscaled for a business-as-usual (BAU) carbon emission scenario, known as RCP 8.5, and a 2nd case, known as RCP 4.5, closer to the Paris Agreement.</li> <li>ANL used 3 major regional-scale climate environment models for CCAT:                         <ol style="list-style-type: none"> <li>a. The Weather Research and Forecasting Model (WRF), developed by the National Center for Atmospheric Research and used to create the foundational dataset of dynamically downscaled historic and future climate information over North America.</li> <li>b. The WRF-Hydro® (Version 5) Model, run at a spatial resolution of 200m using output generated from the WRF downscaled climate output to simulate historic and future inland hydrology and flooding.</li> <li>c. The ADvanced Hydrodynamical CIRCulation Model (ADCIRC), used to perform coastal flooding simulations with input from the WRF downscaled climate projections and historical data for the recent major hurricane events to drive those simulations. This uses unstructured gridding and extremely high resolution (appx. 50m).</li> </ol> </li> <li>• CCAT looks at the mid-21st century timeframes (2045-2054). This approach provides more accurate projections of future climate and hydrologic impacts. Mid-century timeframes are relevant as we have various pieces of infrastructure that could still be in use at that time. We will also still be supporting customers in this timeframe, so we need to understand the impacts.</li> <li>• CCAT currently assesses the SE region of the US. All parts of our operations are in scope, including network, real estate, retail stores and distribution and logistics. We plan to expand the tool to additional regions of the U.S. and Mexico. As we expand into different regions we will also look at the most relevant climate impacts for those areas.</li> <li>• We use CCAT to run ongoing scenario analysis. The tool will add incalculable risk identification and mitigation value. For example, we can now cross reference fiber cable locations with projected sea level rise in 2060, making for smarter financial decision-making by mapping risky and conservative areas for new build plans. Offering anywhere from 10- to 100-yr return periods of climate change risk, CCAT will allow network planners to understand the range of possible impacts to assets such as copper wiring and align risk tolerance with the expected lifespan of those assets.</li> </ul>

	<p>The scenario analysis projected mid-century increased surface water accumulations &gt;5% in inland and coastal regions in the SE U.S. under a BAU emission scenario during warmer seasons by mid-century. With &gt;1.2M route miles of fiber cable and tens of thousands of other assets such as cell phone towers and stationary generators, it is important that we are best able to identify and plan for climate-related risk on our infrastructure, such as inland flooding.</p> <ul style="list-style-type: none"> <li>• Using data analysis, predictive modeling, and visualization, this tool enables us to react to climate changes by making the adaptations necessary to help increase safety, service, and connectivity for its employees, customers, and communities. This new way of doing business takes us beyond traditional business continuity planning and disaster recovery based on historical and near-term weather forecasts. The CCAT now allows us to make strategic long-term climate driven decisions.</li> </ul>
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## 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

**Targeted % reduction from base year**

20

**Base year**

2008

**Start year**

2011

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

1,354,054

**Target year**

2020

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

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

**% of target achieved**

100

**Target status**

Replaced

**Please explain**

We have set an absolute Scope 1 GHG emissions reduction goal to reduce our emissions 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. AT&T is 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

**Targeted % reduction from base year**

30

**Base year**

2008

**Start year**

2009

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

865,777

**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

**% of target achieved**

86

**Target status**

Replaced

**Please explain**

AT&T 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 regard 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. Thus far, we have achieved a 26% reduction to our baseline, which equates to 86% progress toward our 30% reduction goal.

## C4.1b

**(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**

100

**Targeted % reduction from base year**

60

**Metric**

Other, please specify  
MWh/Petabyte

**Base year**

2013

**Start year**

2013

**Normalized base year emissions covered by target (metric tons CO<sub>2</sub>e)**

127.56

**Target year**

2020

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

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

**% of target achieved**

100

**Target status**

Underway

**Please explain**

% emissions in scope rounded from 99.72%.

Emissions value related to Global Electric Power in metric tons CO2e/Petabyte Total Traffic.

Baseline: 8,087,566 mt CO2e / 63,522 PB (15M kWh / 63,522 PB)

2018 Result: 6,643,805 mt CO2e / 285,681 PB (14.7M kWh / 285,681 PB): 130% of targeted reduction.

As of 2018, AT&T includes both Network and Satellite traffic as component to Total Traffic in the metric denominator. Prior submissions did not yet include the satellite traffic.

AT&T is in the process of evaluating goals for emissions based on Science Based Targets.

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

25

**% 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)**

ATT Scope 1 + Scope 2 total emissions

**Base year**

**Start year**

2015

**Target year**

2025

**KPI in baseline year**

**KPI in target year**

**% achieved in reporting year**

22

**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**

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

Other, please specify

This goal demonstrates our commitment to addressing climate change. It combines our efforts to reduce our operational emissions (Scopes 1 and 2) with our efforts to develop technology solutions that can help our customers reduce their emissions.

**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 initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.**

	<b>Number of initiatives</b>	<b>Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)</b>
Under investigation	6,779	
To be implemented*	19,299	1,607,814,021
Implementation commenced*	850	83,763
Implemented*	28,578	402,199
Not to be implemented	2,994	

**C4.3b**

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

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**Initiative type**

Process emissions reductions

**Description of initiative**

Other, please specify  
Transportation/fleet

**Estimated annual CO<sub>2</sub>e savings (metric tonnes CO<sub>2</sub>e)**

11,335

**Scope**

Scope 1

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

3,493,053

**Investment required (unit currency – as specified in C0.4)**

28,400,000

**Payback period**

4 - 10 years

**Estimated lifetime of the initiative**

6-10 years

**Comment**

Transportation/fleet: Increased use of hybrid vehicles in passenger fleet

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**Initiative type**

Energy efficiency: Building services

**Description of initiative**

Other, please specify  
Lighting retrofits

**Estimated annual CO<sub>2</sub>e savings (metric tonnes CO<sub>2</sub>e)**

14,191

**Scope**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**



318,441

**Investment required (unit currency – as specified in C0.4)**

2,122,942

**Payback period**

4 - 10 years

**Estimated lifetime of the initiative**

Ongoing

**Comment**

3rd-party funded lighting retrofits, 169 projects completed

---

**Initiative type**

Energy efficiency: Building services

**Description of initiative**

Other, please specify  
Building optimization and repair

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

32,991

**Scope**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

2,426,415

**Investment required (unit currency – as specified in C0.4)**

34,067,189

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Energy impacting optimization and repair to building infrastructure, 819 projects completed

---

**Initiative type**

Process emissions reductions

**Description of initiative**

Other, please specify  
Network equipment decommissioning

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

231,534

**Scope**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

33,531,559

**Investment required (unit currency – as specified in C0.4)**

43,912,441

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Decommission of network assets, 12,038 projects completed

**Initiative type**

Process emissions reductions

**Description of initiative**

Other, please specify  
Real Estate decommission and disposition

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

30,660

**Scope**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

4,555,243

**Investment required (unit currency – as specified in C0.4)**

19,176,570

**Payback period**

4 - 10 years

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Energy impact of closure and reduction of square footage of real estate, 142 projects completed

---

**Initiative type**

Energy efficiency: Building services

**Description of initiative**

Other, please specify  
Small building energy modifications

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

56,302

**Scope**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

7,144,479

**Investment required (unit currency – as specified in C0.4)**

5,030,023

**Payback period**

<1 year

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Installation of set-back thermostats and thermal energy storage products to reduce energy use at Mobility cell sites, 8,572 projects completed

---

**Initiative type**

Process emissions reductions

**Description of initiative**

Other, please specify  
Dynamic resourcing of Network radio capacity

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

25,186

**Scope**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

3,156,874

**Investment required (unit currency – as specified in C0.4)**

178,280

**Payback period**

<1 year

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Energy savings related to configuration of radios serving cellular call and data traffic to 'go to sleep' during periods of lower traffic demand, 6,837 projects completed

---

**Initiative type**

Energy efficiency: Building services

**Description of initiative**

Other, please specify  
Associated gross grid loss savings

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

4,636

**Scope**

Scope 3

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

443,042

**Investment required (unit currency – as specified in C0.4)**

0

**Payback period**

<1 year

**Estimated lifetime of the initiative**

Ongoing

**Comment**

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

**Initiative type**

Process emissions reductions

**Description of initiative**

Other, please specify  
Associated gross grid loss savings

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

13,382

**Scope**

Scope 3

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

2,004,205

**Investment required (unit currency – as specified in C0.4)**

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 energy efficiency	The AT&T Global Infrastructure Optimization and Implementation organization has a dedicated Energy Assistant Vice President (AVP) and team which implements, governs and monitors energy efficiency and conservation projects. In 2018, we invested nearly \$26 million in energy efficiency projects, implementing more than 8,883 facility-based energy efficiency projects that grossed an annualized savings of over \$12 million.

	<p>We estimate that these projects will result in approximately 148 million kWh annualized energy savings (101,154 mtons CO<sub>2</sub>e).</p>
<p>Employee engagement</p>	<p>Employee engagement is important to our success, and there are several ways we engage our employees on environmental issues –energy savings in particular. GIOIdea, developed by the AT&amp;T Global Infrastructure Optimization and Implementation (GIOI) organization, is a new one-stop innovation and collaboration space for exchange of ideas and innovations with peers across the GIOI organization. Employees are highly encouraged to share their own ideas, as well as to evaluate and improve those of their peers. Many of the great content on GIOIdea has been related to innovation ultimately impacting our energy footprint. Our Do One Thing (DOT) program 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.</p>
<p>Internal incentives/recognition programs</p>	<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 1,200 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 and with the Network Decommissioning Program. The Scorecards are published quarterly to all 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.</p>
<p>Other</p>	<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</p>

	<p>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 LEED Platinum or Gold certifications.</p>
<p>Other</p>	<p>Historically, AT&amp;T's video customers have received their content through Set Top Boxes (STB), which are the receiver devices placed in the customer premises. We've made significant progress over the years in reducing the total energy consumption (TEC) of these devices and have been recognized on successive occasions by EnergyStar for having done so. While this focus has been instrumental in driving large reductions in AT&amp;T's Scope 3 footprint, technology innovation and emerging service offerings now include video content through Over-The-Top (OTT) methods, which require substantially less (typically no) additional equipment in the customer premise. These innovations now drive us to evaluate GHG emissions per subscriber, and to proactively upgrade customers to newer/more efficient STBs, and offer OTT delivery. Since 2013, AT&amp;T has seen a total reduction in customer entertainment emissions of more than 35% since 2013. AT&amp;T customer emissions declined 197k MTCO<sub>2e</sub> in 2018 and have reduced 1.8M MTCO<sub>2e</sub> since 2013. Focusing on CO<sub>2</sub>/entertainment customer as AT&amp;T's driving customer emissions metric, has resulted in an overall reduction of emissions per customer of 36% since 2013.</p>
<p>Other</p>	<p>We continue to close outlier facilities with low utilization and/or aging equipment. During 2018, we closed or reduced square footage of 142 owned or leased facilities (both domestic and international), reducing building space by more than 3.8 million square feet, and consolidating our operations to facilities that are more energy efficient. This program creates annual energy dollar and kWh savings of nearly \$4.6M and 44.8M kWh respectively, and reduces carbon emissions by nearly 30,660 mtons annually.</p>
<p>Other</p>	<p>In our Network organizations, programs and structures are in place to carefully engineer the transformation from our legacy network architecture toward AT&amp;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&amp;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 12,000 projects were completed in 2018 - many of which contained hundreds of sub-projects - driving more than 228 million kWh of annual</p>

	energy savings (more than 231,000 mtons CO2e). These decommissioning programs will continue to the foreseeable future.
Other	Because the cell sites that support our wireless coverage are significant contributors to the AT&T energy footprint, we are also creating industry leading innovations to reduce cell-site energy consumption. We are leveraging our ONAP-based Open Network Automation Platform— together with industry-leading, patented machine learning-based analytics—to make intelligent decisions that safely allow a subset of a cell site’s capacity to temporarily go into a sleep mode, maintaining activation of capacity only to the level needed to satisfy demand in a given time and location. Our intelligence will determine the timing and duration of the sleep mode, enabling us to reduce our energy footprint while maintaining a premium customer experience. In 2018, 'Sleeping Cells' implementation was rolled out to approximately 6,837 cell sites, and is driving nearly 37 million kWh annualized energy savings (more than 25,000 mtons of CO2e).

## 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.**

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### Level of aggregation

Product

### Description of product/Group of products

MODERN WORKPLACE: When we evaluated our carbon reduction impact at the end of 2018, we found technology solutions that have changed the way we work have the largest GHG reduction impact. The solutions included in this impact area are Video Conferencing (both TelePresence and desk-based), Cloud Connectivity, and Telecommuting/Remote Working. The details of the research and case studies that we used to estimate the carbon reduction potential of these solutions can be found in our 2018 10x Progress Update on [www.att.com/10x](http://www.att.com/10x).

### 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**

22

#### **Comment**

As reported in our 2018 corporate annual report, revenues from wireless and wireline services provided to business customers were \$37B, representing approximately 22% of our 2018 total segment operating revenues of approximately \$170B. The entire 22% is not necessarily generated from “climate change products”. For proprietary reasons, we do not disclose specific service offering revenues.

### **Level of aggregation**

Product

### **Description of product/Group of products**

TRANSPORTATION: When we evaluated our carbon reduction impact at the end of 2018, we found that technology solutions that change how we move people or things have the second largest GHG reduction impact. The solutions included in this impact area are Connected Shipping Pallet, Electric Vehicle Charging, and 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. The details of the research and case studies that we used to estimate the carbon reduction potential of these solutions can be found in our 2018 10x Progress Update on [www.att.com/10x](http://www.att.com/10x).

### **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**

22

#### **Comment**

As reported in our 2018 annual report, revenues from wireless and wireline services provided to business customers were \$37B, representing approximately 22% of our 2018 total segment operating revenues of approximately \$170B. The entire 22% is not necessarily generated from “climate change products”. 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. Through the end of 2018, we have developed eight 10x case studies that quantify the GHG emissions reduction potential that AT&T technology enables in a wide range of impact areas, from rice farming and smart buildings to food waste and efficient irrigation. These case studies can be found on our 10x goal website: [www.att.com/10x](http://www.att.com/10x). In all of these examples, AT&T connectivity enabled an operational or business model that reduced emissions. While modern workplace and transportation solutions represent the majority of our carbon-reducing solutions at this time, we also evaluated technology solutions in the following areas: Consumer/Retail; Energy; Food, Beverage & Agriculture; Healthcare; Industrial; Smart Cities and Buildings. The details of the research and case studies that we used to estimate the carbon reduction potential of these solutions can be found in our 2018 10x Progress Update on [www.att.com/10x](http://www.att.com/10x).

### 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

22

### Comment

As reported in our 2018 annual report, revenues from wireless and wireline services provided to business customers were \$37B, representing approximately 22% of our 2018 total segment operating revenues of approximately \$170B. The entire 22% is not necessarily generated from “climate change products”. For proprietary reasons, we do not disclose specific service offering revenues.

## C5. Emissions methodology

### C5.1

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

##### Scope 1

---

##### Base year start

January 1, 2008

##### Base year end

December 31, 2008

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

1,354,054

**Comment**

**Scope 2 (location-based)**

---

**Base year start**

January 1, 2013

**Base year end**

December 31, 2013

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

8,013,246

**Comment**

**Scope 2 (market-based)**

---

**Base year start**

**Base year end**

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

**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?**

**Reporting year**

---

**Gross global Scope 1 emissions (metric tons CO2e)**

1,019,696

**Start date**

January 1, 2018

**End date**

December 31, 2018

**Comment**

### 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 and natural gas purchases used for fuel cell operations. 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 CO2e?**

**Reporting year**

---

**Scope 2, location-based**

6,662,164

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

6,729,677

**Start date**

January 1, 2018

**End date**

December 31, 2018

**Comment**

Market-based totals are distinguished from location-based totals with regard to the addition of solar and wind that was generated and/or utilized by AT&T in 2018, and the use of utility-based emission factors where applicable.

**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 this 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 this 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 this 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**

2,208,205

**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 2017. 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 AT&T Communications suppliers not including content & entertainment companies, and not including suppliers' own upstream Scope 3 emissions. Calculations are based on economic allocation of 2017 data submitted by suppliers in 2018, 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 CO<sub>2</sub>e**

103,628

**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 2017. 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 AT&T Communications suppliers not including content & entertainment companies, and not including suppliers' own upstream Scope 3 emissions. Calculations are based on economic allocation of 2017 data submitted by suppliers in 2018, 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

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

143,815

### 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 2017. 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 AT&T Communications suppliers not including content & entertainment companies, and not including suppliers' own upstream Scope 3 emissions. Calculations are based on economic allocation of 2017 data submitted by suppliers in 2018, 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, calculated

### Metric tonnes CO<sub>2</sub>e

0

### Emissions calculation methodology

AT&T utilized the EPA's Waste Reduction Model (WARM) to report emissions from several different waste management practices.

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

100

### Explanation

AT&T waste generated includes corrugated containers, office paper, dimensional lumber, yard trimmings, mixed paper, mixed metals, mixed plastics, mixed recyclables, food waste, mixed organics and mixed municipal solid waste. AT&T utilized the EPA's Waste Reduction Model (WARM) to report emissions from several different waste



management practices. The result of application of the WARM model for 2018 is a negative emissions value of 25,920 mt CO<sub>2</sub>e.

## Business travel

---

### Evaluation status

Relevant, calculated

### Metric tonnes CO<sub>2</sub>e

92,543

### 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

100

### 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

### Explanation

## Upstream leased assets

---

### Evaluation status

Not relevant, explanation provided

### Explanation

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

## Downstream transportation and distribution

---

### Evaluation status

Relevant, not yet calculated

### Explanation

## Processing of sold products

---

**Evaluation status**

Not relevant, explanation provided

**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

**Explanation**

**End of life treatment of sold products**

---

**Evaluation status**

Relevant, not yet calculated

**Explanation**

**Downstream leased assets**

---

**Evaluation status**

Relevant, calculated

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

4,216,923

**Emissions calculation methodology**

The average estimated electricity usage per set-top box (STB) and per remote Gateway (RG) were multiplied by the number of STB/RG in circulation in 2018. 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/RGs 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**

0

**Explanation**

AT&T completed the calculations using its own inventory data from our Global Supply Chain and Marketing organizations, and using electrical test data for the subject components.

**Franchises**

---

**Evaluation status**

Not relevant, explanation provided

**Explanation**

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

**Investments**

---

**Evaluation status**

Not relevant, explanation provided

**Explanation**

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

**Other (upstream)**

---

**Evaluation status**

**Explanation**

**Other (downstream)**

---

**Evaluation status**

**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.**

**Row 1**

---

**Emissions from biologically sequestered carbon (metric tons CO2)**

7,271

**Comment**

## C6.10

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

---

**Intensity figure**

0.000044987

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

7,681,859.66

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

170,756,000,000

**Scope 2 figure used**

Location-based

**% change from previous year**

9.95

**Direction of change**

Decreased

**Reason for change**

Scope 1&2 Emissions: -4.22% (decrease) Revenue: +5.99% (Increase)

Our emissions reductions activities, including those described in C4.3b, such as network equipment decommissioning and building energy efficiency modifications, reduced our S1+2 emissions by 402,199 MTCO<sub>2</sub>e.

---

**Intensity figure**

26.89

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

7,681,859.66

**Metric denominator**

Other, please specify  
Petabyte

**Metric denominator: Unit total**

285,681

**Scope 2 figure used**

Location-based

**% change from previous year**

59.82

**Direction of change**

Decreased

**Reason for change**

Scope 1&2 Emissions: -4.22% (decrease)

Total Traffic Petabyte: +138.4% (Increase, Total Traffic = 147,094 PM Network + 138,587 PB Satellite = 285,681 PB)

As of 2019: Total Traffic = Network Traffic + Satellite Traffic).

Current methodology extended to prior year: -11.4% No changes to emissions. Total Traffic = 119,853 PB Network + 142,900 PB Satellite = 262,754 PB.

## C7. Emissions breakdowns

### C7.1

**(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?**

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	861,157	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	586	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	2,929	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	155,024	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	996,441
Other, please specify Rest of world	23,254

### 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 CO <sub>2</sub> e)
Ground fleet	654,438
Refrigerant	155,024
Stationary Generators	95,199
Natural Gas	82,568
FlightOps	12,155
Portable Generators	8,400
Propane	6,193
#2 Fuel Oil / Diesel	5,714
Gasoline	4

### C7.5

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

Country/Region	Scope 2, location-based (metric tons CO <sub>2</sub> e)	Scope 2, market-based (metric tons CO <sub>2</sub> e)	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	6,410,596	6,468,401	14,151,000	12,896
Other, please specify Rest of world	251,568	261,276	762,527	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 CO <sub>2</sub> e)	Scope 2, market-based emissions (metric tons CO <sub>2</sub> e)
Electric power	6,507,744	6,575,257
Steam	18,359	18,359
Electric Power - Natural Gas Fuel Cells	136,061	136,061

## 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 CO <sub>2</sub> e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change	0	
Other emissions reduction activities	402,199	Decreased	5	<p>See table C4.3 (Implemented*). Our energy efficiency activities are documented as carefully as possible, and allow for other energy growth as the business and operations needs evolve.</p> <p>Our emissions reductions activities, including those described in C4.3b such as network equipment decommissioning and building energy efficiency modifications, reduced our S1+2 emissions by 402,199 MTCO<sub>2</sub>e. Our CY2017 emissions were</p>

				8,020,251. 402,199 / 8,020,251 = 5.0%.
Divestment				
Acquisitions				
Mergers				
Change in output				
Change in methodology	0	No change	0	National average eGRID values have not changed from prior year reporting.
Change in boundary				
Change in physical operating conditions				
Unidentified	63,807	Increased	0.8	Other changes in operations offsetting decreases in emissions.  Our CY2017 emissions were 8,020,251. Our 2018 emissions, had we not engaged in other emissions reduction activities, and had our energy use remained constant, would have been 8,084,058.  8,084,058 - 8,020,251 = 63,807. 63,807 / 8,020,251 = 0.80%.
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)	HHV (higher heating value)	29,957	3,586,364	3,616,321
Consumption of purchased or acquired electricity		7,201	14,064,376	14,071,577
Consumption of purchased or acquired steam		0	81,071	81,071
Consumption of self-generated non-fuel renewable energy		5,696		5,696
Total energy consumption		42,853	17,731,811	17,774,664

## 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 heat	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

HHV (higher heating value)

### Total fuel MWh consumed by the organization

456,340

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

5,627

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

450,713

### Comment

---

### Fuels (excluding feedstocks)

Diesel

### Heating value

HHV (higher heating value)

### Total fuel MWh consumed by the organization

550,736

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

377,931

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

172,805

**Comment**

---

**Fuels (excluding feedstocks)**

Fuel Oil Number 2

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

8,935

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

0

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

8,935

**Comment**

---

**Fuels (excluding feedstocks)**

Propane Gas

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

47,080

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

18,123

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

28,957

**Comment**

---

**Fuels (excluding feedstocks)**

Liquefied Petroleum Gas (LPG)

**Heating value**

Unable to confirm heating value

**Total fuel MWh consumed by the organization**

2,296

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

0

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

2,296

**Comment**

---

**Fuels (excluding feedstocks)**

Other, please specify

Gasoline

**Heating value**

Unable to confirm heating value

**Total fuel MWh consumed by the organization**

2,569,442

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

993

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

2,568,449

**Comment**

---

**Fuels (excluding feedstocks)**

Compressed Natural Gas (CNG)

**Heating value**

Unable to confirm heating value

**Total fuel MWh consumed by the organization**

165,743

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

0

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

165,743

**Comment**

---

**Fuels (excluding feedstocks)**

Butane

**Heating value**

Unable to confirm heating value

**Total fuel MWh consumed by the organization**

4

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

4

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

0

**Comment**

---

**Fuels (excluding feedstocks)**

Kerosene

**Heating value**

Unable to confirm heating value

**Total fuel MWh consumed by the organization**

2,866

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

2,866

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

0

**Comment**

---

**Fuels (excluding feedstocks)**

Other, please specify

Jet fuel

**Heating value**

Unable to confirm heating value

**Total fuel MWh consumed by the organization**

49,156

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

0

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

49,156

**Comment**

---

**Fuels (excluding feedstocks)**

Other, please specify

Renewable natural gas

**Heating value**

Unable to confirm heating value

**Total fuel MWh consumed by the organization**

0

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

0

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

0

**Comment**

## C8.2d

(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

**Comment**

**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

**Comment**

**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

**Comment**

**Fuel Oil Number 2**

---

**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

**Comment**

**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

**Comment**

**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 CO2e per million Btu

**Emission factor source**

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

**Comment**

**Other**

---



**Emission factor**

2

**Unit**

kg CO2e per liter

**Emission factor source**

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

**Comment**

Gasoline

**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	368,795	368,795	5,696	5,696
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

**Region of consumption of low-carbon electricity, heat, steam or cooling**

North America

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

5,696

**Emission factor (in units of metric tons CO2e 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

**Region of consumption of low-carbon electricity, heat, steam or cooling**

North America

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

7,201

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

0

**Comment**

## C9. Additional metrics

### C9.1

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

**Description**

Energy usage

**Metric value**

26.89

**Metric numerator**

Total Scope 1+2 emissions

**Metric denominator (intensity metric only)**

Petabyte traffic on AT&T networks

**% change from previous year**

59.8

**Direction of change**

Decreased

**Please explain**

Emissions (Scope 1 + 2): -4.22% decrease  
 Network Traffic: 22.7% increase  
 Satellite Traffic: added to denominator, 138,587 PB  
 Total Traffic: 138.4% increase from 2017 reported value

**Description**

Energy usage

**Metric value**

28.64

**Metric numerator**

Total Scope 1 + 2 emissions

**Metric denominator (intensity metric only)**

AT&T employees

**% change from previous year**

9.3

**Direction of change**

Decreased

**Please explain**

Emissions (Scope 1 + 2): -4.22% decrease  
 Employees: 5.6% increase

## 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**

 ATT-GHG-Assurance-Statement-2018.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**

 ATT-GHG-Assurance-Statement-2018.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**

 ATT-GHG-Assurance-Statement-2018.pdf

**Page/ section reference**

1-2

**Relevant standard**

A1000AS

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

100

## C10.1b

**(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**

 ATT-GHG-Assurance-Statement-2018.pdf

**Page/section reference**

1-2

**Relevant standard**

AA1000AS

**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**

**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

**Period start date**

April 1, 2017

**Period end date**

March 31, 2018

**Allowances allocated**

114,934

**Allowances purchased**

114,934

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

4,995

**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 2018, we purchased **114,934** allowances for the **4,995** 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 2018 helped ensure we purchased the appropriate number of allowances for our business activities.

At present, we do not anticipate participating in any other jurisdiction that has a regulatory carbon pricing system.

**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

Climate change is integrated into supplier evaluation processes

**% of suppliers by number**

100

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

100

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

38

**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 2018, 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 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 (JAC), 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. If we become aware of suppliers at risk of non-compliance with social standards, we engage through the JAC with on-site CSR audits and corrective action plans. For JAC member suppliers, there were 561 corrective actions (CAs) opened in 2017: 4% unacceptable, 27% critical and 69% non-compliance. In 2018, JAC identified 768 additional CAs during the third-party audits. In 2018, JAC audits for AT&T suppliers included human rights reviews for over 14,000 individuals. In 2017 and 2018, 96% of the CAs identified were closed, including 100% of unacceptable, 93% of critical and 97% of non-compliance.

### 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)

80

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

36

### 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 met 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 AT&T Communications 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 2018, 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. We have a 2025 target to promote the use of sustainability metrics in industry sourcing. AT&T suppliers are currently using CDP supply chain and TIA Sustainability Assessor metrics to report GHG emissions and sustainability progress. This provides AT&T and other TIA-QuEST Forum participating companies the means to benchmark supplier emissions and work with suppliers on making improvements.

### **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.

### **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)**

80

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

36

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

In 2018, working with our TL 9000 industry group, TIA-QuEST Forum, we helped to advance an industry sustainability measurement tool, the QuEST Sustainability Assessor. This tool provides actionable best practices for organizations that help accelerate their sustainability programs. In 2018, we sent the new assessment tool for a second year to about 500 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**

AT&T annually reaches out to about 500 of our suppliers, representing approximately 80% of AT&T Communications spend. 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 and 2018, more than 290 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 TIA (formerly QuEST) Sustainability Assessor.

### **Comment**

## **C12.1b**

**(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 education customers about your climate change performance and strategy

### % of customers by number

22

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

0

### 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 our Business 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 potential new services that reduce 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. Through the end of 2018, we developed 8 10x case studies that quantify the GHG emissions reduction potential that AT&T technology enables in a wide range of impact areas, from rice farming and smart buildings to food waste and efficient irrigation. As of the end of 2018, our current attainment toward our 10x Carbon Reduction Goal was approximately 2.2x. These case studies can be found on [www.att.com/10x](http://www.att.com/10x). Using these real-world examples allows us to turn the idea of tech-enabled GHG reductions into a relatable story for other customers. We expect that these concrete examples can help expand the conversations we have with our customers. We plan to release additional case studies in the future. As reported in our 2018 annual report, the Business Solutions segment accounted for nearly \$37B in operating revenue, representing approximately 22% of our 2018 total segment operating revenues of approximately \$170B. The entire 22% is not necessarily generated from "climate change products". For proprietary reasons, we do not disclose specific service offering revenues.

### 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. In order to meet our goal, the annual 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 AT&T to track

progress toward our 10x goal. At the close of 2018, we calculated that our technology solutions enabled GHG reductions of 17.1M MT of CO<sub>2</sub>e, which is equivalent to more than 1.9 B gallons of gasoline. In 2018, our scope 1 and 2 GHG footprint was approximately 7.7 M MT of CO<sub>2</sub>e, putting our current 10x factor at approximately 2.2x. An overview of this calculation can be found at [www.att.com/10x](http://www.att.com/10x).

### 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	Support AT&T is 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 CO <sub>2</sub> 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 influenced, or are you attempting to influence their 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.

### 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>

### **How have you influenced, or are you attempting to influence their 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."

### **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 influenced, or are you attempting to influence their position?**

AT&T recognizes 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.

**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 influenced, or are you attempting to influence their 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.

**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 our internal 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 2018 to our Senior Executive Vice President and General Counsel, assuring further alignment.



## C12.4

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


**Publication**

In mainstream reports

**Status**

Complete

**Attach the document**

 2019-notice-of-annual-meeting-and-proxy-statement.pdf

**Page/Section reference**

31-32

**Content elements**

- Governance
- Strategy
- Emission targets
- Other metrics

**Comment**

## C14. Signoff

### C-FI

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

The list of countries in 0.3 reflects all countries where we have physical operations.

### C14.1

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

	<b>Job title</b>	<b>Corresponding job category</b>
Row 1	Senior Vice President - Corporate Social Responsibility and Chief Sustainability Officer	Chief Sustainability Officer (CSO)