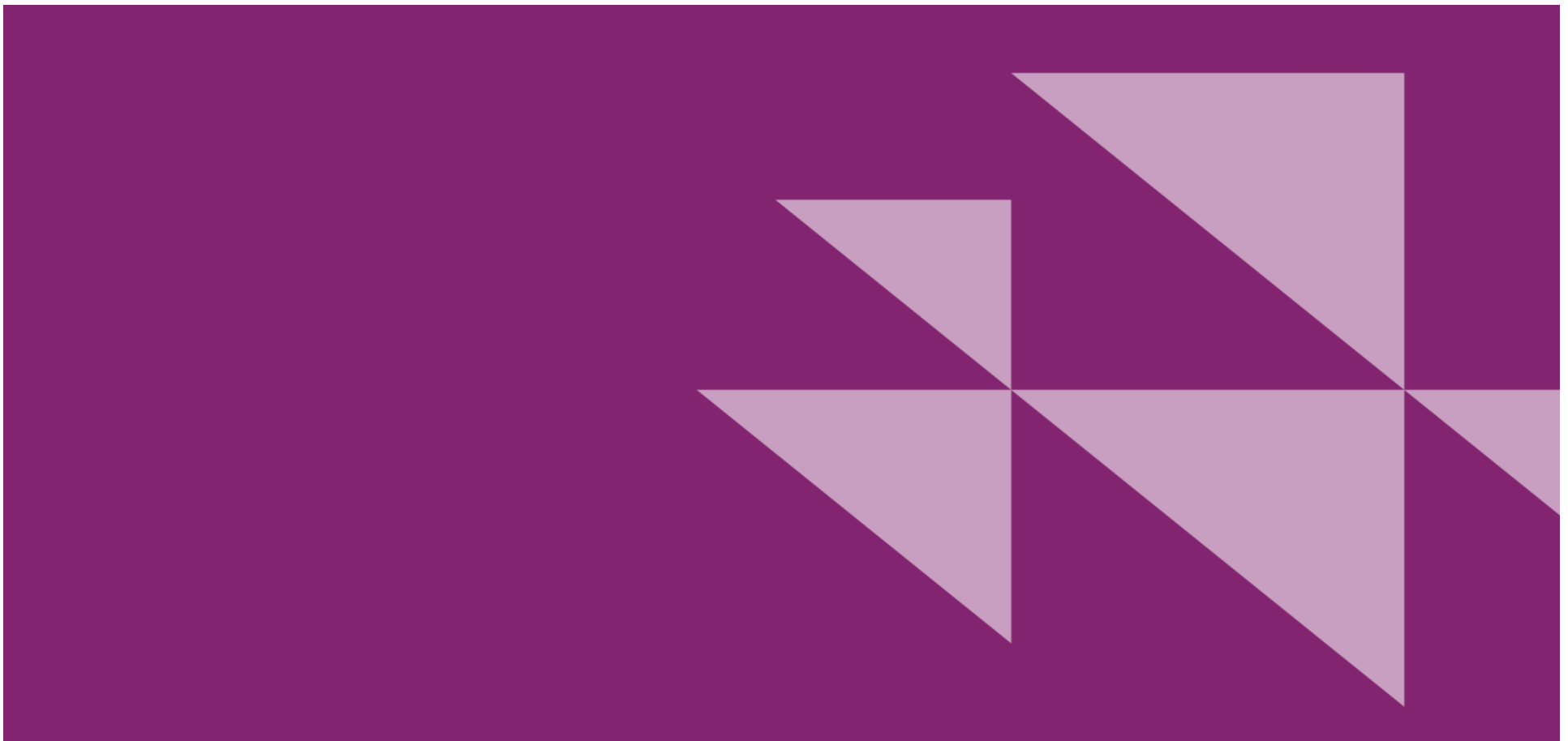

Microsoft CDP Climate Change Response 2018



C0 Introduction

Introduction

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

At Microsoft, our mission is to empower every person and every organization on the planet to achieve more. We strive to create local opportunity, growth, and impact in communities around the globe. Our strategy is to build best-in-class platforms and productivity services for an intelligent cloud and an intelligent edge infused with artificial intelligence (AI).

We know that climate change is a serious challenge that requires a comprehensive and global response from all sectors of society. We have a long-standing commitment to sustainability. Our sustainability mission is to empower every person and organization on the planet to thrive in a resource-constrained world, and we work to drive change at a global scale through our operations, with our technology, and with our customers and partners using this technology around the world. We are committed to measuring, reporting, and reducing the carbon footprint of our own operations, supply chain, and products and services. We strive to minimize our environmental impact, reduce waste, and conserve water and other raw materials. In pursuing these goals, we have policies in place to help our company be compliant with applicable environmental regulations and the specific environmental requirements of each country/region where we do business.

(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
07/01/2016	06/30/2017	No

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

Country
Other, please specify: Asia-Pacific (JAPA)
Canada
Other, please specify: EMEA
Other, please specify: LATAM
United States

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

Currency
USD

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

Operational control

C1 Governance

Board oversight

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

Yes

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

Position of individual(s)	Please explain
Board/Executive board	The charter for the Regulatory and Public Policy Committee of our Board of Directors includes the responsibility to "review and provide guidance to the board and management about the company's policies and programs that relate to corporate social responsibility, including human rights, environmental sustainability, responsible sourcing, and philanthropy." Each year, our President and Chief Legal Officer (CLO) presents to this committee on these topics, including climate change, as appropriate. The membership of the committee consists of at least two directors of the board and currently includes five directors.

(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 major plans of action	The Regulatory and Public Policy Committee meets three times a year with a varied agenda covering a breadth of corporate social responsibility (CSR) issues including updates on the company’s commitments to environmental sustainability, climate, and renewable energy procurement. At least one meeting each year, our President and Chief Legal Officer (CLO) and our Chief Environmental Strategist present to this committee on our overall sustainability agenda, including climate change, and solicit high-level input on new and emerging initiatives. In FY17 (the reporting period), for example, the committee received a briefing on our AI for Earth program.

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
President	Both assessing and managing climate-related risks and opportunities	Annually
Other: CVP, Technology and Civic Engagement	Both assessing and managing climate-related risks and opportunities	Annually
Environment/Sustainability manager	Both assessing and managing climate-related risks and opportunities	Annually

(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.

In FY17 (the reporting period), the President and Chief Legal Officer (CLO) was responsible for our Corporate, External, and Legal Affairs (CELA) group. The CELA group is the company’s legal, public policy, and social responsibility arm of the company, focused on building and maintaining trust with customers, investors, and stakeholders that Microsoft operates responsibly including in, but not limited to, the areas of environmental sustainability and climate change. The President and CLO presents to the Regulatory and Public Policy Committee of the Board of Directors on the company’s policies and programs that relate to corporate citizenship, including environmental sustainability and climate change as appropriate. In FY17, our Chief Environmental Strategist, who leads our Environmental Sustainability team, reported into the CELA Technology and Civic Engagement group. The Corporate Vice President for Technology and Civic Engagement also had executive-level oversight of the Chief Environmental Strategist role and Environmental Sustainability team, including the company’s climate change actions. The President and CLO monitored climate-related issues and the company’s progress toward climate objectives through quarterly business reviews and in more frequent individual meetings as appropriate.

The charter of the Environmental Sustainability team includes assessment and management of issues related to climate change. The team’s mission is to empower people and organizations around the planet to thrive in a resource-constrained world. The Environmental Sustainability team assesses progress on our environmental sustainability programs and supports our overall commitment to environmental sustainability goals, including our target to become carbon neutral from fiscal year 2013 (FY13, which started July 1, 2012) onward. It also brings leaders from across the corporation together to identify risks and opportunities and align on management measures, including energy efficiency, renewable energy procurement, and water stewardship. For guidance on globally changing dynamics, this team engages with experts around the world, including internal finance, regulatory/policy, technology, and environmental professionals, as well as external subject matter experts. Where applicable, it transitions identified risks and opportunities to local operating units for further evaluation and mitigation. The Environmental Sustainability team also manages a scorecard that tracks all business group commitments to environmental sustainability actions based on identified risks and opportunities. The Environmental Sustainability team participates in the Microsoft Enterprise Risk Management (ERM) program, which anticipates, identifies, assesses, and prioritizes risks to the company, reports material risks to senior management, and facilitates board governance through a biannual risk reporting cycle. The team solicits input from subject matter experts across the company to support this reporting. Through the program’s governance process, accountable leads are responsible for mitigating high-priority risks and reporting on a six-monthly basis back to the team on the current risk trending outlook and relevant response plan updates.

Employee incentives

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

Yes

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

Who is entitled to benefit from these incentives?	Types of incentives	Activity incentivized	Comment
Environment/Sustainability manager	Monetary reward	Emissions reduction target	Annual commitments—Both the Chief Environmental Strategist and the Senior Director of Environmental Sustainability roles have commitments connected with our organizational carbon footprint and our target to be carbon neutral for FY17, the reporting period for this response. Annual bonuses and performance ratings are directly connected with performance against these commitments as part of the annual review process.
Environment/Sustainability manager	Monetary reward	Emissions reduction target	Annual commitments—The LinkedIn Environmental Sustainability Program and Project Manager roles have commitments related to reporting energy use and carbon emissions, driving energy efficiency, procuring more renewable energy, and achieving carbon neutrality. Annual bonuses are partially based on performance against these commitments.

Who is entitled to benefit from these incentives?	Types of incentives	Activity incentivized	Comment
Other: Vice president	Monetary reward	Other: implementation of internal carbon fee	Carbon fee implementation and socialization—A LinkedIn VP was responsible for ensuring that an internal carbon fee was implemented and socialized across the LinkedIn enterprise in FY17 following the Microsoft acquisition of the organization. A quarterly performance rating and annual bonus were partially based on performance against this commitment.
Business unit manager	Monetary reward	Other: Renewable energy target	Annual commitments—The Microsoft Cloud Infrastructure and Operations (MCIO) organization, which in FY17 was responsible for the datacenters that support our cloud computing services, has set renewable energy targets. The Director of Energy Strategy for MCIO has specific commitments that are tied to renewable energy targets for the datacenter portfolio. Annual compensation is directly connected with performance against these commitments as part of the annual review process.
Facilities manager	Monetary reward	Energy reduction project	Energy conservation measures—Within our Real Estate and Facilities group, our facility managers are encouraged to submit ideas for energy conservation measures (ECMs). Their ideas are vetted by engineering and implemented if viable. For implemented projects, facility managers receive a monetary incentive and team recognition.
Other: Business groups	Monetary reward	Emissions reduction target	Carbon fee—The corporate-wide carbon fee provides a financial incentive for Microsoft business groups to reduce carbon by reducing the costs charged to compensate for carbon emissions associated with their operations. (The funds collected through the fee are used to attain our carbon neutral target.) In FY17, following its acquisition, LinkedIn instituted the internal carbon fee as well, allocating it to the LinkedIn datacenter business unit, global workplace services business unit, and individual travelers' business units, based on their proportional responsibility for carbon emissions generation.
Procurement manager	Monetary reward	Supply chain engagement	Annual commitments—Within Microsoft Procurement, procurement managers have commitments connected with the percentage of Microsoft indirect supplier spend with suppliers that disclose emissions and set targets through the CDP Supply Chain Program. Annual compensation is connected with performance against these commitments as part of the annual review process.
All employees	Monetary reward	Efficiency project	Sustainability grant funding—In FY17, individuals in our business groups and local operating units who identified opportunities for emissions or energy reduction projects could apply for funding for those projects through our sustainability grant

Who is entitled to benefit from these incentives?	Types of incentives	Activity incentivized	Comment
			program. Successful applications were highlighted on a company-wide SharePoint site when the grants were awarded.
All employees	Recognition (non-monetary)	Other: technology for environmental challenges	Hackathon—Each year, employees have the opportunity to participate in the Microsoft Hackathon, a company-wide, multiday, multilocation event that brings employees and interns from all over the organization together to create, innovate, and hack on ideas that inspire them. The Hackathon includes a sponsored executive challenge to “demonstrate new ways for technology to help solve the world’s greatest societal and environmental problems.” The first-place project receives recognition from the sponsoring executive. In FY17, one hackathon project related to climate change was the “Microsoft SmartGrid,” a project focused on using data, analytics, and automation to put clean, cheap energy use at the heart of Microsoft operations.

C2 Risks and opportunities

Time horizons

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

Time horizon	From (years)	To (years)	Comment
Short-term	0	1	
Medium-term	1	2	
Long-term	2	13	

Management processes

(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) 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
Six-monthly or more frequently	>6 years	The Microsoft Enterprise Risk Management (ERM) program anticipates, identifies, assesses, and prioritizes risks to the company over the forthcoming 24 months, reports material risks to senior management, and facilitates board governance through a biannual risk reporting cycle. A comprehensive physical climate risk assessment undertaken by the Environmental Sustainability team in FY17 considered risks out to 2030; we are working toward defining an ongoing cadence for revision and update of these assessments. Each year, the Environmental Sustainability team works with subject matter experts from across the company to identify climate-related risks, for the purposes of business continuity and risk mitigation. In addition, Microsoft Treasury assesses property risks annually for the purpose of valuing the global property insurance program (1- to 3-year time horizon).

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

At a company level, the Environmental Sustainability (ES) team brings leaders from across the corporation together to identify risks and opportunities. For guidance on globally changing dynamics, this team engages on an ongoing basis with experts around the world, including internal finance, regulatory/policy, technology, and environmental professionals, as well as external subject matter experts. Where applicable, it transitions identified risks to subsidiaries for further evaluation. This is complemented by formal risk identification and assessment processes: (1) Beginning in FY17, the ES team began participating in the Microsoft Enterprise Risk Management (ERM) program, which anticipates, identifies, assesses, and prioritizes risks to the company, reports material risks to senior management, and facilitates board governance through a biannual risk reporting cycle. (2) In FY17, the ES team also undertook a comprehensive physical climate risk assessment, focusing on critical facilities (owned and leased) within our operations; starting in FY18, the ES team is expanding this assessment to include key supplier facilities and key facilities from our LinkedIn acquisition and working to define an ongoing cadence for revision and update of these assessments. (3) Each year, the ES team works with subject matter experts from across the company (including datacenter, facility, device, and supplier teams) to identify climate-related risks for the purposes of reporting in our CDP climate response. (4) Microsoft Treasury assesses property risks annually to value the global property insurance program; our property inventory is updated and provided to our insurance broker, who uses industry-standard risk models to estimate the probable impact from hazards like hurricanes, floods, and fires, each of which may be subject to increasing frequency and severity due to climate change. This annual assessment also includes supplier mapping (to assess our exposure to supply chain disruptions) and a subjective assessment of political risks, which may be amplified by stresses on populations arising from climate change (including shifts in weather patterns).

At an asset level, individual divisions within Microsoft each have their own processes. For example, Microsoft Cloud Infrastructure & Operations (MCIO, responsible for Microsoft cloud service datacenters) has a defined process for how it identifies and assesses risk in the design and siting of new datacenters, including availability of renewable energy and water. Our Experiences + Devices Group (E+D) has a Safety, Compliance, and Sustainability team that evaluates risks and opportunities pursuant to the ISO 14001 framework in the context of energy efficiency and other regulatory and voluntary

environmental requirements at the global, regional, national, and local level for existing and planned Microsoft-branded hardware and related devices and packaging supply chain operations. Subsidiaries manage their processes based on regional and geographical factors that affect them individually (such as local regulations).

The Microsoft ERM program has a formal process for assessing the size, scope, and relative significance of the various risks that Microsoft faces, including those related to climate change. The process involves categorizing risks according to their inherent impact on a scale of 1 (minimal) to 5 (critical) in four categories: trust or reputational; operational scope; legal, compliance, or environmental; and enterprise value. Risks are then rated according to their inherent likelihood on a scale of 1 (remote) to 5 (expected). These two ratings are used to produce a "risk impact" score, and any risk for which the risk impact score exceeds a defined threshold is considered material for reporting to senior management. The rating of specific risks by inherent impact and likelihood is made through consultation with subject matter experts from across the company; in the case of risks related to climate change, this subject matter leadership resides with the ES team, led by the Chief Environmental Strategist. The ES team consults across the company and uses formal risk assessments (as described above) to inform this process.

In the above contexts, Microsoft defines substantive strategic or financial impact from climate change as follows:

- For offices/labs, an impact that would require significantly altering or relocating the operations of a facility/group of facilities that would affect our ability to deliver continuous customer services.
- For datacenters, an impact that would entail the need to significantly alter or relocate a datacenter that would affect our ability to deliver continuous customer services.
- For our business overall, an impact that would lead us to alter our business strategy as a result of changes in return on investment, capital expenditures, or the cost of key supplies (for example, electricity).

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

Risk type	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Any current regulation that imposes restrictions on how we operate or manufacture our devices has the potential to affect our business. In FY17, our Environmental Sustainability governance model included company experts in policy, energy, water, regulation, technology, law, marketing/branding, and value chain. This group meets monthly to discuss the latest environmental issues and review business implications. Beginning in FY17, the Environmental Sustainability team also began participating in the Microsoft Enterprise Risk Management (ERM) program, which anticipates, identifies, assesses, and prioritizes risks to the company, reports material risks to senior management, and facilitates board governance through a biannual risk reporting cycle; the team solicits input from subject matter experts across the company to support this reporting. The impact of current regulations is considered through both mechanisms. One example considered in the company’s risk assessments is the risk of increased device energy efficiency regulations in the European Union (EU) and the United States. We have been proactive in addressing this risk through our participation in voluntary best-in-class energy efficiency programs including Energy Star, EPEAT, and the EU Games Console Self-Regulatory Initiative.
Emerging regulation	Relevant, always included	Although the path of future regulation is uncertain and will likely be diverse among the geographies in which we operate and do business, any regulation that increases business costs or imposes restrictions on how we design, operate, or manufacture our devices and/or software could affect our business. In FY17, our Environmental Sustainability governance model included company experts in policy, energy, water, regulation, technology, law, marketing/branding, and value chain. This group meets monthly to discuss the latest environmental issues and review business implications. Beginning in FY17, the Environmental Sustainability team also began participating in the Microsoft Enterprise Risk Management (ERM) program, which anticipates, identifies, assesses, and prioritizes risks to the company, reports material risks to senior management, and facilitates board governance through a biannual risk reporting cycle; the team solicits input from subject matter experts across the company to support this reporting. The potential future impact of emerging regulations is considered through both mechanisms. Examples considered during our risk assessments are the risks of datacenter energy rules in the European Union (EU) and the United States and carbon tax proposals around the world. We have been proactive in addressing this risk since 2012 when we achieved carbon neutrality and are continuing to invest in the infrastructure efficiency of our datacenters.
Technology	Relevant, always included	As a technology company, Microsoft is continually assessing technology risks and opportunities. In FY17, our Environmental Sustainability governance model included company experts in policy, energy, water, regulation, technology, law, marketing/branding, and value chain. This group meets monthly to discuss the latest environmental issues and review business implications. Beginning in FY17, the Environmental Sustainability team also began participating in the Microsoft Enterprise Risk Management (ERM) program, which anticipates, identifies, assesses, and prioritizes risks to the company, reports material risks to senior management, and facilitates board governance through a biannual risk reporting cycle; the team solicits input from subject matter experts across the company to support this reporting. Technology risks are considered through both mechanisms. One example considered during

Risk type	Relevance & inclusion	Please explain
		our risk assessments is the environmental performance of Microsoft technologies in comparison with those of our main competitors.
Legal	Relevant, always included	As governments increase their expectations of corporate climate performance, we constantly update our practice to align with the most current regulatory environment or risk facing substantial costs for noncompliance as well as potential reputational impacts. In FY17, our Environmental Sustainability governance model included company experts in policy, energy, water, regulation, technology, law, marketing/branding, and value chain. This group meets monthly to discuss the latest environmental issues and review business implications. Beginning in FY17, the Environmental Sustainability team also began participating in the Microsoft Enterprise Risk Management (ERM) program, which anticipates, identifies, assesses, and prioritizes risks to the company, reports material risks to senior management, and facilitates board governance through a biannual risk reporting cycle; the team solicits input from subject matter experts across the company to support this reporting. Legal risks are considered through both mechanisms. One example considered during our risk assessments is whether the company is exposing itself to the risk of litigation for misrepresenting the environmental attributes of our products or services; our product groups, marketing teams, legal teams, and Environmental Sustainability (ES) team work together rigorously to help ensure that our product information and communications are accurate and transparent.
Market	Relevant, always included	Whether in response to environmental commitments, regulatory requirements, rising energy costs, or reputational risk, businesses are increasingly looking to reduce their carbon footprint. This includes the emissions associated with both their information and communications technology (ICT) (which, according to some estimates, accounts for 2 percent of global carbon emissions) and their broader operations. If Microsoft products and services do not quantifiably help our customers to reduce emissions, we could lose business to competitor products and services that do. For Microsoft, the risk (and opportunity) is to ensure that our strategic direction aligns with shifting customer preferences in the transition to a low-carbon future. In FY17, our Environmental Sustainability governance model included company experts in policy, energy, water, regulation, technology, law, marketing/branding, and value chain. This group meets monthly to discuss the latest environmental issues and review business implications. Beginning in FY17, the Environmental Sustainability team also began participating in the Microsoft Enterprise Risk Management (ERM) program, which anticipates, identifies, assesses, and prioritizes risks to the company, reports material risks to senior management, and facilitates board governance through a biannual risk reporting cycle; the team solicits input from subject matter experts across the company to support this reporting. Market risks are considered through both mechanisms. One example considered during our risk assessments is the environmental performance of Microsoft technologies in comparison with those of our main competitors. Another risk that we consider is loss of competitive edge related to recruitment and retention of talented employees who want to work for environmentally responsible companies.
Reputation	Relevant, always included	Reputation is an amplifier of all enterprise risks. Energy and water use within the information and communications technology (ICT) industry is drawing increased attention for its impact on the environment and climate change.

Risk type	Relevance & inclusion	Please explain
		<p>Consumers, businesses, and institutional investors are increasingly making investment decisions based on the environmental responsibility demonstrated by ICT companies. We are one of the largest ICT organizations in the world, and the perceived impact of our products and services on the environment is heightened. If our approach is not recognized as being as strong or stronger than our competitors, we could potentially lose business. In FY17, our Environmental Sustainability governance model included company experts in policy, energy, water, regulation, technology, law, marketing/branding, and value chain. This group meets monthly to discuss the latest environmental issues and review business implications. Beginning in FY17, the Environmental Sustainability team also began participating in the Microsoft Enterprise Risk Management (ERM) program, which anticipates, identifies, assesses, and prioritizes risks to the company, reports material risks to senior management, and facilitates board governance through a biannual risk reporting cycle; the team solicits input from subject matter experts across the company to support this reporting. Reputational risk—related to both our environmental impact/stewardship and our service reliability—is considered through both mechanisms. One example is the potential for damage to our reputation from any impact on the reliability of our cloud services. Microsoft has a reputation for reliable cloud services, increasingly powered by clean energy. A physical impact from climate change that compromised our reliability would be unacceptable to Microsoft and damaging to our customers and reputation, and thus we have an ongoing global business continuity program to monitor those risks and have in place business continuity measures to help ensure continued reliability. The program conducts annual testing of Microsoft’s critical infrastructure, applications, services, and business processes; scenarios vary but can involve loss of facilities, loss of systems, loss of workforce, loss of critical third-party suppliers of goods/services, cybersecurity events, or a combination of two or more of those scenarios.</p>
Acute physical	Relevant, always included	<p>As the physical impacts of climate change become more extreme, facilities that we operate in affected areas have the potential to experience damage. Depending on the extent of damage, this could lead to increased costs (for example, to repair or relocate the facilities). If one of the datacenters that power our cloud services were damaged sufficiently to prevent operations, this could potentially affect our ability to deliver continuous cloud services. This could lead to a loss of revenue, both in the short term (refunds for not meeting service level agreements [SLAs]) and long term (loss of customers should they believe that we cannot meet our SLAs and therefore offer business continuity assurance), and thus we have an ongoing global business continuity program to monitor those risks and have in place business continuity measures to help ensure continued reliability. The program conducts annual testing of Microsoft’s critical infrastructure, applications, services, and business processes; scenarios vary but can involve loss of facilities, loss of systems, loss of workforce, loss of critical third-party suppliers of goods/services, cybersecurity events, or a combination of two or more of those scenarios. Acute physical risks (including flooding, extreme weather, drought, sea level rise/storm surges) were included in our FY17 climate-related physical risk assessment, for which we are currently determining a future cadence of revisions and updates.</p>
Chronic physical	Relevant, always included	<p>Chronic physical risks from climate change are relevant to Microsoft in several ways. For example, changes in precipitation patterns—including both intense precipitation events that lead to flooding and extended or extreme</p>

Risk type	Relevance & inclusion	Please explain
		<p>drought—have the potential to affect the datacenters and facilities that Microsoft uses to provide cloud services and develop technology. Any facilities that we operate in flood-affected areas have the potential to experience damage. In the case of drought, depending on the cooling technology deployed, for some datacenters access to freshwater for cooling systems is vital for the continuous delivery of customer services. Depending on the extent of flood damage or the severity of a drought, this could lead to increased costs (for example, to repair or relocate the facilities or source an alternative water supply). If one of the datacenters that power our cloud services were damaged sufficiently to prevent operations or if we could not source sufficient water to cool the facility so that it could run at capacity, this could potentially affect our ability to deliver continuous cloud services. This could lead to a loss of revenue, both in the short term (refunds for not meeting service level agreements [SLAs]) and long term (loss of customers, should they believe that we cannot meet our SLAs and therefore provide them with business continuity assurance), and thus we have an ongoing global business continuity program to monitor those risks and have in place business continuity measures to help ensure continued reliability. The program conducts annual testing of Microsoft’s critical infrastructure, applications, services, and business processes; scenarios vary but can involve loss of facilities, loss of systems, loss of workforce, loss of critical third-party suppliers of goods/services, cybersecurity events, or a combination of two or more of those scenarios. In another example, an increase in the average temperature where we operate datacenters and development labs could lead to a corresponding increase in the cost to cool our facilities. Chronic physical risks (including water shortages, average temperature changes, increased demand for energy, saltwater intrusion from sea level rise) were included in our FY17 climate-related physical risk assessment, for which we are currently determining a future cadence of revisions and updates.</p>
Upstream	Relevant, always included	<p>Risks associated with climate change will not only affect Microsoft directly but will also affect our suppliers. A disruption to our supply chain could incur significant costs for our business. Microsoft Treasury assesses property risks annually to value the global property insurance program; this annual assessment includes supplier mapping (to assess our exposure to supply chain disruptions). Through these property risk assessments, the risk models identify the natural hazard risks that are relevant for any locations of identified vendors that support Microsoft and then model their probabilities. In addition, in FY17, our Environmental Sustainability governance model included company experts in policy, energy, water, regulation, technology, law, marketing/branding, and value chain. This group meets monthly to discuss the latest environmental issues and review business implications. In FY17, we also requested that 234 key suppliers complete the CDP Supply Chain questionnaire, and we received 177 responses who reported more than 900,000 mtCO2e in emission reductions (in FY17, our CDP Supply Chain program represented our key direct/manufacturing suppliers and indirect/nonmanufacturing suppliers; during this reporting period, we also initiated the inclusion of CDP climate reporting as a contractual requirement for all of our datacenter tier one server suppliers). In FY17, our Experiences + Devices Group (E+D) performed a hotspot analysis of its suppliers to identify a supplier within the purchased goods and services category to initiate a renewable energy project with, installing solar arrays to reduce energy dependency and sensor technology to increase energy efficiency. In FY18, we are expanding our assessment of risks from the physical impacts of climate change to include critical suppliers. Our</p>

Risk type	Relevance & inclusion	Please explain
		procurement processes consider supplier risks and take appropriate measures to mitigate issues related to the supply of key services and products.
Downstream	Relevant, always included	Downstream risks associated with climate change include effects on our customer base and the logistics of our ability to deliver products through our distribution chain. Risks related to our customer base are assessed by Microsoft Treasury through an annual global property risk assessment. An example of a risk to our distribution chain is in the shipping sector, which is responsible for a significant amount of global greenhouse gas emissions and is subject to regulations that will require switching to low-carbon fuels and technologies. Shipping sector action to reduce emissions will simultaneously increase costs for Microsoft product distribution and mitigate potential reputational risk associated with product provision. In addition, the electricity consumption of our retail stores is a visible symbol to our customers of our environmental footprint, which we have begun to mitigate through a smart retail pilot project. In FY17, our Environmental Sustainability governance model included company experts in policy, energy, water, regulation, technology, law, marketing/branding, and value chain (including downstream). This group meets monthly to discuss the latest environmental issues and review business implications.

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

The Environmental Sustainability team brings leaders from across the corporation together to align on management measures for identified risks and opportunities. Prioritization criteria include the scope of impact (for example, reputational, regulatory, and cost), potential return on investment, and time and resources required to implement changes. The team also manages a scorecard that tracks business group commitments based on identified risks and opportunities. Through the Enterprise Risk Management (ERM) program’s governance process, accountable leads are responsible for mitigating high-priority identified risks and reporting on a six-monthly basis back to the team on the current risk trending outlook and relevant response plan updates. An example of a physical risk managed through this process is the risk of facility damage from an acute weather event, such as flooding. To mitigate this risk, Microsoft has an established Enterprise Business Continuity Management (EBCM) program to help ensure the existence of effective, reliable, well-tested plans, systems, and processes that can be counted on during a disruptive event to support continuity of business operations and minimize adverse impacts. The EBCM program works with the ERM team to ensure consistent alignment among risks and risk ratings. (Note that this risk is not substantive; central to Microsoft cloud services design is geographic redundancy, which reduces our vulnerability to climate change and offers customers the option of a climate-resilient alternative to on-premises datacenters.) An example of a transition opportunity managed through this process is the opportunity to enhance our reputation by using renewable energy to reduce the carbon footprint of our datacenters. To capitalize on this opportunity, the Environmental Sustainability team has collaborated with the Microsoft Cloud Infrastructure & Operations (MCIO) team to develop and execute a renewable energy purchasing strategy.

Risk disclosure

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

No

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

Primary reason	Please explain
<p>Risks exist, but none with potential to have a substantive financial or strategic impact on business</p>	<p>Through the Microsoft Enterprise Risk Management (ERM) program and consultation with experts across the organization, we believe that while Microsoft, like all global organizations, faces transition risks—including increasing pricing of GHG emissions, changing customer behavior, shifts in consumer preferences, and stigmatization of the IT sector—none has the potential for substantive financial or strategic impact on our business (that is, would alter our business strategy or force a substantial closure of any facilities in a way that would disrupt business operations and our ability to deliver continuous customer services). Our most significant transition risk is reputational (stigmatization of the IT sector for increasing use of energy and water); however, we do not believe this poses undue risk to Microsoft at this time, in light of our existing business practices to be carbon neutral, purchase renewable electricity, and be responsible stewards of water resources. In addition, we have a longstanding commitment to environmentally sustainable operations, work actively to reduce the impact of our products and services, and drive ongoing behavior change and climate action through our carbon fee. In fact, we view this dynamic as more of an opportunity (reputational benefits of sourcing clean energy and delivering low-emission products and services) than a risk. Likewise, based on our FY17 assessment of physical climate risks, we have identified no substantive physical risk to our operations. This conclusion is consistent with our risk assessments through the ERM program and consultation with subject matter experts. The physical risks that all global companies face—including from the increasing severity of extreme weather events such as cyclones and floods, changes in precipitation patterns, extreme variability in weather patterns, and rising mean temperatures—are not substantive to Microsoft’s business. Central to Microsoft cloud services design is geographic redundancy, which not only reduces our own vulnerability to climate change but also offers our customers the option of a climate-resilient alternative to on-premises datacenters. In FY18 we are extending our physical climate risk assessment to our supply chain and formalizing our existing review of transition risk. We will continue to update our assessments as data sources and methodologies improve.</p>

Opportunity disclosure

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

Identifier	Where in the value chain does the opportunity occur?	Opportunity type	Primary climate-related opportunity	Type of financial impact	Company-specific description	Time horizon	Likelihood	Magnitude of impact	Potential financial impact	Explanation of financial impact	Strategy to realize opportunity	Cost to realize opportunity	Comment
Opp 1	Direct operations	Resource efficiency	Move to more efficient buildings	Reduced operating costs (e.g., through efficiency gains and cost reductions)	Microsoft has a significant physical presence globally, with owned and leased facilities covering 48 million square feet in FY17. The accompanying energy demands associated with operating these facilities, in particular for datacenters and software development labs, are high. Any measures taken to improve the energy efficiency of our facilities directly reduce our operating costs.	Current	Virtually certain	Medium-low		It is difficult to estimate the potential financial impact given the wide variety of activities that we will perform to achieve our building energy targets.	We are actively working to improve the energy efficiency of our facilities. For example, we design all new offices and labs to a minimum LEED Silver standard and are now committed to LEED Gold for new datacenters. We have an Energy Smart Buildings (ESB) program in our Puget Sound, Silicon Valley, Las Colinas, Beijing, and Shanghai facilities, with plans to expand to three more locations in FY18; this program helps us identify and address equipment faults that compromise efficiency and has reduced our energy costs by 6–10 percent. And we are investing in research and development to design more efficient		It is difficult to estimate the cost to realize this opportunity given the wide variety of activities that we will perform to achieve our building energy targets.

					operations, products, and services on the environment is heightened. Microsoft's environmental leadership (including in our energy choices and investments) helps improve our reputation and make it more likely for companies and consumers that prioritize environmental criteria to invest in our products and services. Location of effect: Microsoft is a global corporation and so this opportunity is not restricted to a specific geography or region.					emission sources of energy, the impact based on FY17 (the reporting period) revenue would have been an increase of \$2.9 billion.	agreements (PPAs), and renewable energy certificates (RECs) or their international equivalents. In FY17, we increased our purchase of renewable energy to 6,104,758 MWh. We also announced the signing of two agreements—the Bloom Wind project in Kansas and the Happy Jack/Silver Sage projects in Wyoming—for 237 MW of wind energy. We have set a goal to grow the percentage of wind, solar, and hydropower energy that we purchase directly and through the grid to power our datacenters to 50 percent by 2018, 60 percent early in the next decade, and to an ongoing and higher percentage in future years beyond that. In keeping with this commitment, a LinkedIn datacenter in Oregon that opened in FY17 has direct access to renewable electricity; this datacenter has earned the Uptime Institute Efficient IT (EIT) Stamp of Approval for the past two years.		
Opp 3	Customer	Products and services	Development and/or expansion of low emission goods and services	Increased revenue through demand for lower emissions	Whether in response to environmental commitments, regulatory requirements, rising energy costs, or	Current	Very likely	Medium-low	\$2,900,000,000	It is difficult to quantify the potential financial implications. Theoretically if we were to win—for	Our strategy is fourfold: 1) Focus on energy efficiency with our cloud services datacenters. We have pilot programs with NRG Energy and several battery manufacturers to	\$30,000,000	The annual cost to Microsoft to realize this opportunity reflects a dedicated sustainabilit

				<p>products and services</p> <p>reputational risk, our customers are increasingly looking to reduce the carbon footprint of their businesses. This includes the emissions associated with both their ICT (which, according to some estimates, accounts for 2 percent of global carbon emissions) and their broader operations. For Microsoft, the primary opportunity is to deliver low-emission cloud services, which enable enterprises to directly reduce their own carbon emissions and take advantage of the higher efficiency that large cloud service providers like Microsoft can achieve. We can also offer solutions that help customers reduce the emissions associated with</p>				<p>example—3 percent additional business from our competitors because we offered low-emissions products and services to help customers reduce their carbon footprint, the impact based on FY17 (the reporting period) revenue would have been an increase of \$2.9 billion.</p>	<p>advance energy storage at our datacenters globally. A LinkedIn datacenter in Oregon features efficiency innovations that enable it to operate at a PUE of 1.18; it has earned the Uptime Institute Efficient IT (EIT) Stamp of Approval for two years. We use outside air and adiabatic cooling where possible. Our LEED commitment for new datacenter design accrues to our energy efficiency metrics.</p> <p>2) Develop solutions to help organizations reduce emissions/energy consumption. We are innovating through a Smart Energy Azure IoT stack: Energy Smart Buildings technology to automatically identify energy-draining faults in real time and a carbon emissions data solution to let customers see the carbon intensity of their energy mix from the grid in real time. The Microsoft CityNext initiative and our partners can help cities reduce carbon emissions with solutions that span energy and water, building energy management, transportation, resource efficiency, and ecosystem services.</p> <p>3) Build hardware that meets or exceeds efficiency standards.</p>	<p>y budget across the company.</p>
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					<p>their operations, either directly or by reducing IT and operational energy consumption. Location of effect: Microsoft customers are global. We believe this opportunity is greatest with customers in regions where environmental criteria are more strongly weighted in purchasing decisions (such as Europe) and where government regulations impose a financial incentive to reduce emissions (such as through carbon taxes or emission trading schemes, such as in California or the European Union).</p>						<p>Surface Pro 4, Surface Pro, Surface Book 2, Surface Book, and Surface Laptop are ENERGY STAR and EPEAT certified. 4) Offer low-carbon technology alternatives for business activities. Skype for Business helps reduce the need for travel with online meetings for up to 250 people.</p>		
Opp 4	Customer	Products and services	Shift in consumer preferences	Better competitive position to reflect shifting consumer preferences, resulting in increased revenues	As businesses become more conscious of the environmental impact of their computing and as regulations and taxes related to climate change	Current	Very likely	Medium-low	\$2,900,000,000	We believe that a service provider's commitment to minimizing impact on the environment	Microsoft is investing to deliver cloud solutions across our product lines; two of our most significant services for businesses are Microsoft Office 365 and Microsoft Azure. Our global cloud service operations are supported by one of the	\$15,000,000,000	Microsoft has invested more than \$15 billion to build our global infrastructure in support of cloud computing

					<p>lead to rising energy costs, our customers are becoming increasingly interested in improving the efficiency of their IT infrastructures. Cloud computing enables companies to eliminate the greenhouse gas (GHG) emissions associated with running on-premises datacenters and take advantage of the efficiencies that public cloud service providers can achieve through the massive scale of their datacenters—while reducing their direct energy consumption. All businesses have the potential to reduce their emissions, energy consumption, and costs with the public cloud, though the greatest efficiency gains will be realized</p>				<p>will be among the criteria that customers use when they select a cloud service. Theoretically if we were to win—for example—3 percent additional business from our competitors because we have demonstrated our commitment to energy efficiency in the construction and running of our datacenters, the impact based on FY17 (the reporting period) revenue would have been an increase of \$2.9 billion.</p>	<p>largest physical networks in the world, with several industry certifications including ISO/IEC 27001:2005 and SAS70 Type II. We use geo-replicated customer workloads (keeping multiple copies of workloads in multiple locations) to improve reliability. We have more than 2,000 people working on cloud infrastructure and more than 30,000 software engineers involved in cloud-based activities. To support our cloud services, we are designing our datacenters to be more efficient. A LinkedIn datacenter in Oregon features efficiency innovations that enable it to operate at a PUE of 1.18, thereby minimizing energy use and carbon emissions; the datacenter has earned the Uptime Institute Efficient IT (EIT) Stamp of Approval for the past two years. We have pilot programs with NRG Energy and several battery manufacturers to advance energy storage at our datacenters globally. We continue researching fuel cell systems. We use outside air and adiabatic cooling (which reduces energy costs by ~30 percent) where possible. And our LEED commitment for</p>	<p>as a fundamental part of our business strategy. We also have an annual dedicated sustainability budget across the company of \$30 million.</p>
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					by smaller businesses. Since Microsoft has shifted the strategic focus of our business to the cloud, we are well positioned to benefit from this change in customer preferences. Location of effect: Interest in cloud computing is global, though business adoption will be predominantly in regions with reliable, high-speed access to the Internet, such as the United States and Europe.						new datacenter design accrues to our energy efficiency metrics. We are already making these investments, and environmental considerations are already playing a role in customers' decisions to transition to the cloud.		
Opp 5	Customer	Resilience	Resource substitutes/diversification	Increased revenue through new products and services related to ensuring resiliency	As the physical impacts of climate change become more extreme (for example, flooding caused by rises in sea level or increased precipitation and more severe weather events), our customers are increasingly looking to ensure that their businesses are climate resilient.	Current	Likely	Medium-low	\$2,900,000,000	It is difficult to quantify the potential financial implications. Theoretically if we were to win—for example—3 percent additional business from our competitors because we offered technology to help organization	Microsoft is investing to deliver cloud solutions across our product lines; two of our most significant services for businesses are Microsoft Office 365 and Microsoft Azure. Our global cloud service operations are supported by one of the largest physical networks in the world, with several industry certifications including ISO/IEC 27001:2005 and SAS70 Type II. We use geo-replicated customer workloads (keeping multiple copies of	\$15,000,000,000	Microsoft has invested more than \$15 billion to build our global infrastructure in support of cloud computing as a fundamental part of our business strategy. We also have an annual dedicated sustainabilit

				<p>Any disruption to business and government resulting from the physical impacts of climate change will be costly, particularly where technology infrastructure is damaged and/or operations cannot continue from an alternative site. Microsoft's opportunity is twofold. (1) We have an opportunity to provide technology and IT services that are resilient to the physical impacts of climate change, such as local disruptions from weather events. When an organization gets its technical infrastructure and software as a service through a cloud provider with georedundant datacenters, the likelihood of a significant weather-related disaster shutting</p>				<p>s and government s manage the impacts of climate change (through resilient cloud services and AI computing resources), the impact based on FY17 (the reporting period) revenue would have been an increase of \$2.9 billion.</p>	<p>workloads in multiple locations) to improve reliability. We have more than 2,000 people working on cloud infrastructure and more than 30,000 software engineers involved in cloud-based activities. To support our cloud services, we are designing our datacenters to be more efficient. In addition, AI for Earth is a Microsoft program aimed at empowering people and organizations to solve global environmental challenges—specifically in climate, water, agriculture, and biodiversity—by increasing access to AI tools and educational opportunities, while accelerating innovation. Funded with \$50 million over a 5-year commitment from Microsoft President Brad Smith in December 2017, the AI for Earth program is focused on deploying Microsoft's deep investments in AI research and technology to enable people and organizations to sustain and manage earth's life support systems. We are already making these investments, and environmental considerations are already playing a role in</p>	<p>y budget across the company of \$30 million (which will cover the \$50 million commitment , over five years, to AI for Earth).</p>
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				<p>down the services is low. Affected organizations can resume operations as soon as they are able to restore Internet access (or even continue operations without disruption from an alternative site with Internet access). (2) We are developing artificial intelligence (AI) computing resources to enable people, organizations, and governments to anticipate, predict, and manage climate change impacts. Location of effect: Microsoft technology and cloud services are offered globally. Those most at risk for business disruption from a climate-related weather event are likely coastal areas at increased risk from flooding</p>						customers' purchasing decisions.		
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					and severe storms.								
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Business impact assessment

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

Area	Impact	Description
Products and services	Impacted for some suppliers, facilities, or product lines	Microsoft has an opportunity to develop new products and services and expand our investment in existing products and services to help our customers reduce their carbon footprint, reduce their energy consumption, and plan for business continuity/resiliency with regard to climate change. Our commitment to minimizing the impact of our products and services on the environment will also help us meet shifting consumer demand for technology with a smaller carbon footprint. Our response to these opportunities reflects our cloud-based business strategy. Microsoft cloud services provide a favorable environmental alternative on the basis of energy efficiency and carbon savings relative to on-premises datacenters (as we have outlined in a 2018 study). We have made public commitments regarding the use of renewable energy in our business, including for the datacenters that power our cloud services. Furthermore, we use geo-replicated customer workloads (keeping multiple copies of workloads in multiple locations) to improve reliability and provide resiliency assurance (complemented by an ongoing global continuity program to monitor risks and having in place business continuity measures to help ensure continued reliability). We have developed a real-time carbon monitoring solution that enables customers to easily and quickly shift energy load to reduce carbon emissions. We build hardware that meets or exceeds efficiency standards. And we provide low-carbon alternatives for business activities, such as through Skype for Business. In addition, AI for Earth is a Microsoft program aimed at empowering people and organizations to address global environmental challenges—specifically in climate, water, agriculture, and biodiversity—by increasing access to AI tools and educational opportunities, while accelerating innovation. The magnitude of impact on our products and services from our climate-related opportunities is low to medium.
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	The impact of our climate-related opportunities on our supply chain is primarily in our prioritization of suppliers that can provide more energy-efficient and lower-emission components, products, and services. For example, Microsoft has an opportunity to reduce the energy consumption associated with our facilities (moving to more efficient building design and operation) and related material procurement. We also have an opportunity to deliver low-emission goods and services for our customers, which relies on our ability to source efficient components for our hardware and reduce the footprint of the datacenters that power our cloud services for our customers versus on-premises computing. We are prioritizing investment with suppliers that (1) meet our requirements for lower-emission components, goods, and services and (2) demonstrate a commitment to climate change performance, such as through emissions reporting and target setting (for example, engaging our top suppliers through the CDP Supply Chain program). In some cases, we are investing directly in reducing the carbon footprint of select suppliers; for example, we have invested more than \$1 million with one manufacturing supplier to install solar arrays and complete

Area	Impact	Description
		<p>an energy-smart building retrofit using sensor technology and data analytics tools to reduce energy consumption. The magnitude of impact on our supply chain from our climate-related opportunities is low to medium.</p>
<p>Adaptation and mitigation activities</p>	<p>Impacted</p>	<p>The impact of our climate-related opportunities is inseparable from our adaptation and mitigation activities. Every investment we make related to these opportunities is to support adaptation and mitigation on some level, whether for Microsoft, our customers, or society more broadly. Our investments in operational efficiency, renewable energy procurement, and carbon reduction across our business help reduce operating costs, increase revenue (from increasing demand for lower-emission products and services), and bolster our competitive position (as our customers increasingly shift their spending to environmentally responsible technology providers with mature climate strategies) while concurrently easing our transition to a low-carbon economy. For our customers, we deliver cloud services that represent a lower-carbon alternative to running on-premises IT solutions while offering resiliency from the physical impacts of climate change; according to a recently released study by WSP, the Microsoft Cloud is between 22 and 93 percent more energy efficient than traditional enterprise datacenters, depending on the services and deployment scenario. We are also developing solutions to help organizations reduce and manage emissions and energy consumption, such as through our Smart Energy Azure IoT (Internet of Things) stack. And societally, our investments in AI for Earth are specifically designed to empower people and organizations to address global environmental challenges—including those related to climate change—by increasing access to AI tools and educational opportunities, while accelerating innovation. The magnitude of impact on adaptation and mitigation activities from our climate-related opportunities is medium-high.</p>
<p>Investment in R&D</p>	<p>Impacted for some suppliers, facilities, or product lines</p>	<p>Microsoft is investing in research and development in both datacenter design and new technology solutions that will help us (1) increase our operating efficiency, (2) meet growing demand for lower-emission products and services, (3) establish a stronger competitive position as consumers increasingly prioritize environmental criteria in their purchasing decisions, and (4) contribute to climate resilience through technology innovation. We are constantly researching and developing more efficient datacenter designs. In some cases, this includes investing in external partnerships, such as our work with NRG Energy and several battery manufacturers to advance energy storage at our datacenters globally. We are also investing in the development of new solutions to help organizations reduce and manage emissions and energy consumption, such as through our Smart Energy Azure IoT (Internet of Things) stack. These investments also support our competitive position as an environmentally responsible technology provider. And through AI for Earth, we are developing artificial intelligence (AI) computing resources to help organizations and governments anticipate, predict, and manage climate change impacts. Funded with \$50 million and a 5-year commitment from Microsoft President Brad Smith in December 2017, the AI for Earth program is focused on deploying Microsoft's deep investments in AI research and technology to enable people and organizations to sustain and manage earth's life support systems. The magnitude of impact on our research and development investments from our climate-related opportunities is medium.</p>

Area	Impact	Description
Operations	Impacted	Our operations are the area impacted the most significantly by our climate-related opportunities. We have opportunities to reduce our operating costs and increase our revenue by moving to more efficient building designs and running our datacenters more efficiently (which will save us money, provide reputational benefits, and help us meet growing demand for lower-emission computing alternatives). This has meant investments, for example, in our growing Energy Smart Buildings (ESB) program (in our Puget Sound, Silicon Valley, Las Colinas, Beijing, and Shanghai facilities, with plans to expand to three more locations in FY18) and a commitment to design all new offices and labs to a minimum LEED Silver standard and new datacenters to LEED Gold. To support our cloud services, we are designing our datacenters to be more efficient. Another key impact is our commitment to use lower-emission sources of energy (which will help us meet rising customer expectations and realize reputational benefits). We achieve this commitment through a combination of direct sourcing, power purchase agreements (PPAs), and purchases of renewable energy certificates (RECs) or their international equivalents. In FY17, we announced the signing of two agreements—the Bloom Wind project in Kansas and the Happy Jack/Silver Sage projects in Wyoming—for 237 MW of wind energy. We have also set a goal to grow the percentage of wind, solar, and hydropower energy that we purchase directly and through the grid to power our datacenters to 50 percent by 2018, 60 percent early in the next decade, and to an ongoing and higher percentage in future years beyond that. The magnitude of impact on our operations from our climate-related opportunities is high.
Other, please specify		

Financial planning assessment

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

Area	Relevance	Description
Revenues	Impacted for some suppliers, facilities, or product lines	Microsoft has opportunities to gain a better competitive position and increase revenue by meeting (1) shifting consumer preferences for more environmentally responsible suppliers, (2) increasing demand for lower-emission products and services, and (3) increasing demand for climate-resilient services. Cloud, artificial intelligence (AI), and Azure Internet of Things (IoT) investments are key to realizing these opportunities, and associated revenue projections are central to Microsoft financial planning. Our investments in these areas drive consumption of Microsoft Azure, position us as an environmentally preferred technology provider, and have a projected net increase on our revenue. The magnitude of impact on our financial planning process for revenues is low.
Operating costs	Impacted for some suppliers,	Microsoft has opportunities to move to more efficient building and datacenter designs and operation (both to reduce our operating costs and to deliver cloud services that enable our customers to reduce their own carbon

Area	Relevance	Description
	facilities, or product lines	footprints) and to use lower-emission sources of energy (to gain reputational benefits). These opportunities have implications for our operating costs and associated financial planning. For example, we increasingly use long-term power purchase agreements (PPAs), which can help us gain more stability in long-term energy pricing. We implemented a carbon fee in July 2012, in part to cover the costs of offsetting emissions associated with energy consumption by investing in renewable energy; this fee is administered through the finance department and charged to each business group based on their emissions. Our datacenter and real estate operating budgets include both the costs and savings associated with energy efficiency and the costs associated with renewable electricity procurement. The magnitude of impact on our financial planning process for operating costs is low to medium.
Capital expenditures/capital allocation	Impacted for some suppliers, facilities, or product lines	Microsoft has an opportunity to move to more efficient building and datacenter designs/operation, both to reduce our operating costs and to deliver cloud services that enable our customers to reduce their own carbon footprints. This has implications for our capital expenses and associated financial planning. Our datacenter and real estate capital budgets reflect investments in energy-efficient infrastructure and design to support cost-effective service delivery. We design all new offices and labs to a minimum LEED Silver standard and are now committed to LEED Gold for new datacenters. The magnitude of impact on our financial planning process for capital costs is low, because investments in energy-efficient design have been part of our planning process for many years.
Acquisitions and divestments	Impacted for some suppliers, facilities, or product lines	Microsoft has opportunities to increase revenue and gain a better competitive position by meeting shifting consumer preferences for more environmentally responsible suppliers and the growing demand for lower-emission products and services. Therefore, the associated impact of acquisitions on our financial planning processes has been focused on how we integrate new acquisitions into the Microsoft business in such a way as to maximize environmental performance and maintain our focus on providing low-emission goods and services. For example, we have fully integrated LinkedIn into our environmental sustainability governance model, including, but not limited to, our fulfillment of our carbon neutrality commitment. The magnitude of impact on our financial planning process for acquisitions and divestments is low.
Access to capital	Impacted for some suppliers, facilities, or product lines	Microsoft has opportunities to gain reputational benefits, a better competitive position, and increased revenue by meeting shifting consumer preferences for more environmentally responsible suppliers and the growing demand for lower-emission and climate-resilient products and services. We view our sustainability performance, carbon neutrality commitment, and strategy to realize these climate-related opportunities as key competitive advantages when engaging with our investment community, and we integrate information on our sustainability performance in meetings with our large institutional investors. The magnitude of impact on our financial planning process for access to capital is low to medium.
Assets	Impacted for some suppliers,	Microsoft has opportunities to reduce operating costs by moving to more efficient buildings and to meet growing demand for lower-emission services through cloud computing versus on-premises computing. We believe these opportunities have contributed to the increase in the value of our assets in two primary areas in the past year: (1)

Area	Relevance	Description
	facilities, or product lines	property and equipment and (2) goodwill. Our investments to retrofit existing offices, to build new smart buildings and new efficient datacenters, and to expand responsible cloud computing (including operating more efficiently than on-premises computing and with lower-emission energy sources) may have contributed to these increases, although we have not directly substantiated the connection. The magnitude of impact on our financial planning process for assets is low, because investments in energy-efficient design have been part of our planning process for many years.
Liabilities	Impacted for some suppliers, facilities, or product lines	Microsoft has an opportunity to gain reputational benefits from using lower-emission sources of energy. Over the past several years, our financial planning process has evolved given our commitment to the use of renewable energy, the development of strategic long-term power purchase agreements (PPAs), and budgeting for on-site renewable power generation. Microsoft also has opportunities to gain a better competitive position and increase revenue through our cloud business by meeting (1) shifting consumer preferences for more environmentally responsible suppliers, (2) increasing demand for lower-emission products and services, and (3) increasing demand for climate-resilient services. As we have expanded our cloud business, our financial planning process for liabilities has evolved to reflect growing lease obligations for our expanding network of datacenters. The magnitude of impact on our financial planning process for liabilities is low to medium.
Other, please specify		

C3 Business Strategy

Business strategy

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

Yes

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

Yes, qualitative and quantitative

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

i. Our Environmental Sustainability (ES) team leads cross-organizational integration of climate change/sustainability into our business strategy through cross-company communications and sustainability programs, principles, and policies. The team:

- Works with our facilities, datacenter, device, and travel groups to influence policy and track progress against goals.
- Shares operational best practices with customers and partners.

As an example of how our business strategy was influenced in FY17 (the reporting period), we initiated the integration of a climate change risk assessment into corporate-wide risk management processes.

ii. In support of our business strategy, we have had a carbon neutral target since FY13. In addition, in 2017, we committed to reducing our Scope 1 and market-based Scope 2 emissions by 75 percent by 2030, against a 2013 baseline.

iii. Examples of substantial climate-related business decisions in FY17:

- **Renewable energy:** Announced a direct access agreement with Puget Sound Energy (PSE) to obtain more power from zero-carbon sources in the open market for the majority of our Puget Sound portfolio; installed smart metering infrastructure at our Puget Sound campus to facilitate this pending change. Powered our datacenter in Cheyenne entirely by wind power through our largest wind energy purchase to date (237 MW). Signed one of the first proxy-generation PPAs (a novel structure through which we pay a fixed annual amount rather than a variable amount based on actual generation, providing cost predictability for our company and a guaranteed revenue stream for the wind project), for the 178-MW Bloom Wind Project in Kansas. Upgraded all Bay Area LinkedIn workplaces to 100 percent renewable energy green tariffs with two Community Choice Aggregators: Silicon Valley Clean Energy and Clean Power SF.
- **New Silicon Valley campus:** Committed to using cross-laminated timber as the main structural component for the 643,000-square-foot campus. Committed to make the campus a net-zero non-potable water campus, using onsite collection and treatment for 100 percent of the campus's non-potable water needs.
- **R&D:** Partnered with the University of Texas at San Antonio and NRG Energy to research how batteries can help ease the transition to a grid powered by renewables. Launched a pilot project with Agder Energi and Powel to build a cloud-powered intelligent grid. Launched a predictive policy tool with Advanced Energy Economy (AEE). Funded a new grant for The Nature Conservancy to support web-based mapping tools.
- **Supply chain:** Established a supply chain engagement plan to measure and reduce emissions. Invested more than \$1 million with a top supplier to install solar arrays and complete an energy-smart building retrofit using sensor technology and data analytics tools to reduce energy consumption.

The aspects of climate change that influenced these decisions are the international negotiations agenda (COP21), increasing cost of electricity, rising customer expectations for energy efficiency and the use of renewable energy from Microsoft as a supplier, and the increasing urgency, severity, and frequency of climate change impacts.

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

Climate-related scenarios	Details
Other: RCP 8.5	<p>In FY16, the Environmental Sustainability team initiated a climate change vulnerability assessment, including a forward-looking quantitative and qualitative scenario analysis of the physical impacts of climate change out to 2030 based on the IPCC RCP 8.5 scenario. We used a select ensemble of global models, drawing from the Coupled Model Intercomparison Project Phase 5 (CMIP5) (including CCSM4 [National Center for Atmospheric Research, USA], HadGEM2-ES [Met Office Hadley Centre, UK], NorESM1-M [Norwegian Climate Centre, Norway], MPI-ESM-MR [Max Planck Institute for Meteorology, Germany] and GFDL-ESM2M [Geophysical Fluid Dynamics Laboratory, USA]) and regional climate models where appropriate. Our primary source of downscaled data was the NASA Earth Exchange Global Daily Downscaled Projections (NEX-GDDP) (Thrasher et al. 2012), which downscales existing industry-standard global climate models developed under CMIP5 using knowledge about geographical climate influencers and statistical methods to increase the spatial granularity of the data. The NEX-GDDP data is statistically downscaled to a spatial resolution of 0.25 degrees, allowing for forecasts that cover an area as small as ~25km by 25km, which lends itself well to the local information requirements of adaptation planning. We selected RCP 8.5 because it most closely represents a business-as-usual scenario and, in our view, is a worst case for the physical impacts through 2030. We selected this worst case to create a boundary condition, knowing that under more climate-favorable scenarios the physical risks to our assets would be diminished. We selected the 2030 horizon because it balanced a time period sufficient for variation in the models attributable to climate change to appear with a time period sufficiently imminent to be actionable within our current risk management and business planning processes. We looked at our most critical facilities based on maximum feasible loss calculations, insurance values and business judgment. These facilities spanned multiple business areas, most notably Real Estate and Facilities (primarily offices and labs) and Microsoft Cloud Infrastructure and Operations (datacenters). We looked at seven possible stressors for these facilities: increased energy demand, extreme temperature changes, extreme heat days, drought length, drought frequency, flood intensity and sea level rise. For each stressor, we assessed the magnitude of change in 2030 compared with the baseline climate conditions found in 1975-2005. As we establish our cadence for revision/updating of our risk analysis, we will refine the stressors evaluated. While we identified some risks, Microsoft is well capitalized and geographically diverse in both customer markets and location of product/service delivery; we determined none of these risks to be material or substantive at this time and identified mitigation measures that are a normal part of our business. We will continue to monitor these and similar risks in future years to confirm that these conclusions remain valid. In FY17, we began integrating the results of this assessment into the Microsoft Enterprise Risk Management (ERM) program, which anticipates, identifies, assesses and prioritizes risks to the company over the forthcoming 24 months, reports material risks to senior management, and facilitates board governance through a biannual risk reporting cycle. Through the ERM program review of this assessment, we raised awareness in the company’s senior leadership team about datacenter consumption of electricity and water; our Puget Sound Energy direct access agreement on renewable electricity; and potential future regulations associated with devices. This analysis did not directly change Microsoft business strategy, but it helped mainstream climate considerations in a wider range of internal stakeholder routine discussions. In FY18, we have laid the groundwork for quantitative analysis of transition risks in the coming year.</p>

Climate-related scenarios	Details
Nationally determined contributions (NDCs)	In FY17, the Microsoft Windows and Devices Group (WDG) (now Experiences + Devices Group [E+D]) conducted a hotspot analysis and used Nationally Determined Contributions (NDCs) data to identify which supplier to invest over \$1 million with in installing solar arrays and completing an energy-smart building retrofit using sensor technology and data analytics tools to reduce energy consumption. The supplier was selected based on annual spend by Microsoft, current energy efficiency of the supplier's operations, local and supplier impact, supplier mechanical and IT infrastructure, availability of renewable energy, and other factors. The project took 18 months to complete, requiring significant infrastructure upgrades and installation of solar panels and sensors. The solar arrays were operational as of January 2018, producing 11,900 kWh of energy per month with anticipated 380,000 kWh annually.

C4 Targets and performance

Targets

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

Absolute target

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

Target reference number	Scope	% emissions in Scope	% reduction from base year	Base year	Start year	Base year emissions covered by target (metric tons CO2e)	Target year	Is this a science-based target?	% achieved (emissions)	Target status	Please explain
Abs1	Other: Scope 1 + Scope 2 (market-based) + Scope 3 (upstream business air travel only)	100	100	2016	2013	0	2017	No, but we are reporting another target that is science-based	100	Underway	Microsoft has a target to be carbon neutral every year from fiscal year (FY) 2013 onward (beginning July 1, 2012). We achieved carbon neutrality in FY17 (the reporting period) through a combination of onsite renewable electricity generation, internal energy efficiency projects, and purchases of

Target reference number	Scope	% emissions in Scope	% reduction from base year	Base year	Start year	Base year emissions covered by target (metric tons CO2e)	Target year	Is this a science-based target?	% achieved (emissions)	Target status	Please explain
											renewable electricity and carbon offsets. We understand that CDP guidance requests that companies not consider carbon offsets when reporting targets in C4.1. However, we have elected to report offsets in order to communicate this achievement; we have also reported additional targets without offsets (see Abs2 and Abs3). Note that the base and target years reported are based on the Microsoft fiscal year. Our start year for this commitment is FY13—the first year in which we achieved carbon neutrality—and we have committed to achieving carbon neutrality in all subsequent years. Because our commitment is ongoing and achieved annually, the base year is equivalent to the target year. FY16 was selected as a base year because this is an ongoing target. The FY16 base year emissions reported here are zero because we achieved our carbon neutral target in FY16.

Target reference number	Scope	% emissions in Scope	% reduction from base year	Base year	Start year	Base year emissions covered by target (metric tons CO2e)	Target year	Is this a science-based target?	% achieved (emissions)	Target status	Please explain
Abs2	Scope 1 + 2 (market-based)	100	75	2013	2017	920661	2030	Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science-Based Targets initiative	99	Underway	In 2017, Microsoft committed to cutting absolute Scope 1 + Scope 2 (market-based) emissions by 75 percent by 2030, against a 2013 baseline. We'll do this through continued progress against our carbon neutrality and renewable electricity commitments, as well as investments in energy efficiency. This puts Microsoft on a path, as a company, to meet the goals set in the Paris climate agreement, which is a level of decarbonization that many scientists believe is necessary to keep global temperature increase below 2 degrees Celsius. We estimate this will help avoid more than 10 million metric tons of carbon emissions by 2030.
Abs3	Scope 1 + 2 (market-based)	100	75	2013	2017	920661	2045	Yes, we consider this a science-based target, but this target has not been approved as science-	99	Underway	Abs3 is not a standalone target but rather the outcome of our carbon neutral (Abs1) and renewable electricity commitments; it is an extension of Abs2. As a result of our indefinite commitments to carbon neutrality and renewable electricity, we will maintain a 75 percent Scope 1 and Scope 2

Target reference number	Scope	% emissions in Scope	% reduction from base year	Base year	Start year	Base year emissions covered by target (metric tons CO2e)	Target year	Is this a science-based target?	% achieved (emissions)	Target status	Please explain
								based by the Science-Based Targets initiative			(market) decrease from our FY13 base year beyond the 2030 target year in Abs2.

Other climate-related targets

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

Target	KPI – Metric numerator	KPI – Metric denominator (intensity targets only)	Baseline year	Start year	Target year	KPI in baseline year	KPI in target year	% achieved in reporting year	Target status	Please explain	Part of emissions target	Is this target part of an overarching initiative?
Renewable energy consumption	%		2014	2014	2030	70	100	87	Underway	Our FY17 percentage of renewable electricity was 96 percent. This indicates that we are 87 percent complete on this target from a 2014 baseline of 70 percent. The scope of this target is electricity consumption, which represents 99.9 percent of our global Scope 2 (location-based) emissions and 95 percent of our global Scope 1 and Scope 2 (market-based) emissions. As part of our carbon neutral target and 100 percent renewable	Abs1, Abs2, Abs3	RE100

Target	KPI – Metric numerator	KPI – Metric denominator (intensity targets only)	Baseline year	Start year	Target year	KPI in baseline year	KPI in target year	% achieved in reporting year	Target status	Please explain	Part of emissions target	Is this target part of an overarching initiative?
										electricity commitment through the RE100 program, Microsoft plans to achieve 100 percent renewable energy by 2030.		
Renewable energy consumption	%		2015	2016	2018	44	50	50	Underway	In addition to our overall renewable energy target, Microsoft has set a target to grow the percentage of wind, solar, and hydropower energy that we purchase directly and through the grid for our datacenters to 50 percent by 2018, 60 percent early in the next decade, and to an ongoing and higher percentage in future years beyond that. At the end of FY17, we had achieved 47 percent direct renewable energy purchasing.	Abs1, Abs2, Abs3	RE100

Emissions reduction initiatives

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

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tons CO2e (only for rows marked *)
Under investigation	7	
To be implemented*	15	891705
Implementation commenced*	10	836330
Implemented*	2999	524985
Not to be implemented	5	

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

Activity type	Description of activity	Estimated annual CO2e savings (metric tons CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency, as specified in C0.4)	Investment required (unit currency, as specified in C0.4)	Payback period	Estimated lifetime of the initiative	Comment
Low carbon energy purchase	Other: Wind and solar	435120	Scope 2 (market-based)	Voluntary	0			<1 year	Renewable electricity tracking instruments (1 project). We continue to make a significant investment in low-carbon energy purchases through the following market-based tracking instruments: renewable energy certificates (RECs; USA and Canada), guarantees of origin (GOs; EU), GreenPower (Australia), international RECs (I-RECs; Brazil, Chile, China, East Africa, Malaysia, Philippines, South Africa, Thailand, Turkey, Vietnam), PowerPlus (India, Mexico, Pakistan, South Korea), Green Power Certificates (GECs; Japan), and GoldPower (Taiwan). These include new investments from LinkedIn's upgrade to 100 percent renewable electricity for all workplaces in the Bay Area, CA, by enrolling in a green tariff program with CleanPower SF for one building in San Francisco and with Silicon Valley Clean Energy (SVCE) for nine buildings in Sunnyvale and Mountain View. The purchases reduced the Scope 2 market-based emissions included within our carbon neutral target. The expected lifetime is one year and occurs in the year the renewable electricity was generated

Activity type	Description of activity	Estimated annual CO2e savings (metric tons CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency, as specified in C0.4)	Investment required (unit currency, as specified in C0.4)	Payback period	Estimated lifetime of the initiative	Comment
									and accounted for by Microsoft (FY17, the reporting period for this response). We have only reported incremental REC purchases here per CDP guidance; therefore, this figure does not represent the full scale of the commitment that we have made to using renewable electricity, which for the reporting period avoided market-based Scope 2 emissions by more than 1,700,000 mtCO2e.
Low carbon energy purchase	Other: Wind	75985	Scope 2 (market-based)	Voluntary	0			<1 year	Power purchase agreements (PPAs) (3 projects). Beginning in FY17, Microsoft began receiving renewable electricity from the Happy Jack and Silver Sage wind farms, for which Microsoft has entered into a long-term agreement with Black Hills Energy. Microsoft and Black Hills Energy also worked together to create a new tariff, available to all eligible customers, that allows the utility to tap the local datacenter's backup generators, thereby eliminating the need for Black Hills Energy to construct a new power plant. These low-carbon energy purchases were voluntary and not in relation to external regulation. The purchases resulted in the reduction of Scope 2 market-based emissions included within our carbon neutral target. The expected lifetime of the power purchased in FY17 is one year and occurs in the year the renewable electricity was generated and accounted for by Microsoft (FY17, the reporting period for this response), though all PPAs are long-term (15- to 20-year) agreements. Microsoft has only reported incremental purchases here per CDP guidance; therefore, this figure does not represent the full scale of the commitment that we have made to using renewable electricity derived from long-term commitments such as PPAs, which for the reporting period avoided market-based Scope 2 emissions by approximately 400,000 mtCO2e.
Energy Efficiency: Building Services	HVAC	30	Scope 2 (location-based) Scope 2 (market-based)	Voluntary	\$19190	\$400000	16-20 years	16-20 years	LinkedIn ILFI Net Zero Energy Building project: HVAC (1 project). A LinkedIn building in Sunnyvale, CA, was designed and built to satisfy the Net Zero Energy Petal of the Living Building Challenge of the International Living Future Institute (ILFI). This building design calls for a 60 percent reduction in energy used for temperature control and lighting compared with standard buildings using ultra-efficient heating, ventilation, and air conditioning (HVAC) and light-emitting diode (LED) lighting. The emissions savings reported here reflect those achieved through the use of ultra-efficient HVAC systems.

Activity type	Description of activity	Estimated annual CO2e savings (metric tons CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency, as specified in C0.4)	Investment required (unit currency, as specified in C0.4)	Payback period	Estimated lifetime of the initiative	Comment
Energy Efficiency: Building Services	Lighting	5	Scope 2 (location-based) Scope 2 (market-based)	Mandatory	\$7960	\$0	<1 year	16-20 years	LinkedIn ILFI Net Zero Energy Building project: LED lighting (1 project). A LinkedIn building in Sunnyvale, CA, was designed and built to satisfy the Net Zero Energy Petal of the Living Building Challenge of the International Living Future Institute (ILFI). This building design calls for a 60 percent reduction in energy used for temperature control and lighting compared with standard buildings using ultra-efficient heating, ventilation, and air conditioning (HVAC) and light-emitting diode (LED) lighting. The emissions savings reported here reflect those achieved through the use of LED lighting. The use of LED lighting in California is now a code requirement, so there is no additional cost over standard construction costs.
Low carbon energy installation	Solar PV	35	Scope 2 (location-based) Scope 2 (market-based)	Voluntary	\$60000	\$612500	4-10 years	21-30 years	LinkedIn ILFI Net Zero Energy Building project: solar PV (1 project). A LinkedIn building in Sunnyvale, CA, was designed and built to satisfy the Net Zero Energy Petal of the Living Building Challenge of the International Living Future Institute (ILFI). Solar PV replaced fossil fuel to power operations. This implementation produces ~120,000 kWh of solar power annually.
Energy Efficiency: Building Services	Building Controls	80	Scope 2 (location-based) Scope 2 (market-based)	Voluntary	\$50000	\$30000	<1 year	Ongoing	LinkedIn Gridium initiative (1 project). LinkedIn used a smart meter platform to drive reductions in energy use for 11 buildings in our Bay Area, CA, portfolio. Through data visualization and expert consulting, this service provided LinkedIn with an annualized reduction of over 430,000 kWh in its first year and 270,000 kWh in the second year (FY17, the reporting period), with ongoing savings for each year of using the service. Additionally, through active peak demand management, LinkedIn is helping lower demand and use on days when California grid power is the most carbon intensive.
Energy Efficiency: Building Services	Other: Cooling technology	2005	Scope 2 (location-based) Scope 2 (market-based)	Voluntary	\$558000		4-10 years	11-15 years	LinkedIn Oregon datacenter: cooling technology (1 project). The newest LinkedIn datacenter, in Oregon, uses innovative cooling technology, including ChilledDoor from MotivAir (a rear door heat exchanger that neutralizes the heat closer to the source). In addition, an advanced water side economizer cooling system communicates with outside air sensors to use Oregon's naturally cool temperatures, instead of using energy to create cool air. These efficiency innovations enable the datacenter to operate at a

Activity type	Description of activity	Estimated annual CO2e savings (metric tons CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency, as specified in C0.4)	Investment required (unit currency, as specified in C0.4)	Payback period	Estimated lifetime of the initiative	Comment
									PUE (power usage effectiveness) of 1.18, thereby minimizing energy use and carbon emissions.
Energy efficiency: Building services	Building controls	7640	Scope 2 (location-based) Scope 2 (market-based)	Voluntary	\$2063000	\$5466000	1-3 years	Ongoing	Real Estate and Facilities Energy Smart Buildings (ESB) projects (2,914 projects). Using ESB efficiency optimization software on our Puget Sound, Silicon Valley, and Las Colinas campuses, we identified energy inefficiencies due to broken equipment and suboptimal control settings. The 2,914 projects described include repairs to equipment and updates to controls. This initiative affects the Scope 2 emissions included in our carbon neutral target.
Energy efficiency: Building services	Building Controls	115	Scope 2 (location-based) Scope 2 (market-based)	Voluntary	\$40180	\$415240	4-10 years	16-20 years	Real Estate and Facilities building control projects (3 projects). Investments on our Puget Sound and UK campuses included upgraded heating, ventilation, and air conditioning (HVAC) controls, new variable air volume (VAV) systems with direct digital controls (DDCs), temperature resets for both an air handling unit (AHU) and a chilled water (CHW) system, building management system (BMS) fault detection, replacement of Cylon controls with up-to-date Trend controls (including sensors), and replacement of fan coil units. This initiative affects the Scope 2 emissions included in our carbon neutral target.
Energy efficiency: Building services	HVAC	660	Scope 2 (location-based) Scope 2 (market-based)	Voluntary	\$123995	\$19800	<1 year	6-10 years	Real Estate and Facilities HVAC projects (3 projects). Investments in Beijing and Hyderabad included optimizing the runtime for exhaust fans and variable air volume (VAV) systems by 57 percent, resetting a chilled water differential pressure setpoint from 250 kPa to 85 kPa (to reduce working load and save energy), and upgrading filtration to a cooling tower to optimize condenser performance (which saves 50 percent water and 1 percent energy consumption). This initiative affects the Scope 2 emissions included in our carbon neutral target.
Energy efficiency: Building services	Lighting	245	Scope 2 (location-based) Scope 2 (market-based)	Voluntary	\$73330	\$221380	1-3 years	>30 years	Real Estate and Facilities lighting projects (3 projects). Investments in Fargo, Shanghai, and Hyderabad included replacing fluorescent, incandescent, halogen, and metal halide lamps with 6,166 light-emitting diode (LED) lights. This initiative affects the Scope 2 emissions included in our carbon neutral target.

Activity type	Description of activity	Estimated annual CO2e savings (metric tons CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency, as specified in C0.4)	Investment required (unit currency, as specified in C0.4)	Payback period	Estimated lifetime of the initiative	Comment
Energy efficiency: Building services	Motors and drives	370	Scope 2 (location-based) Scope 2 (market-based)	Voluntary	\$98615	\$549810	4-10 years	16-20 years	Real Estate and Facilities motor and drive projects (21 projects). Investments in Puget Sound included adding variable frequency drives (VFDs) to exhaust fans and a chiller plant as well as a plate frame heat exchanger. This initiative affects the Scope 2 emissions included in our carbon neutral target.
Energy efficiency: Building services	Other: Lighting, fan coil units, and generator improvements	90	Scope 2 (location-based) Scope 2 (market-based)	Voluntary	\$24000	\$245975	4-10 years	11-15 years	Real Estate and Facilities additional projects (39 projects). Additional investments in Puget Sound and the UK included adding passive infrared (PIR) sensors to lights and fan coil units to limit runtime and retrofitting generators with block heaters to reduce heat losses. This initiative affects the Scope 2 emissions included in our carbon neutral target.
Energy Efficiency: Building services	Lighting	65	Scope 2 (location-based) Scope 2 (market-based)	Voluntary	\$12000	\$40000	1-3 years	6-10 years	FY17 Carbon Fund (3 projects). Global energy efficiency programs are funded by Microsoft's carbon fund and supported by internal fees charged to Microsoft business groups. Funds are channeled back to efficiency projects that would otherwise not happen in the fiscal year (FY17, the reporting period for this response) due to timing of project identification against budget timelines. This initiative included three lighting projects in Brazil. This initiative affects the Scope 2 emissions included in our carbon neutral target.
Energy Efficiency: Building services	HVAC	595	Scope 2 (location-based) Scope 2 (market-based)	Voluntary	\$17000	\$69000	4-10 years	6-10 years	FY17 Carbon Fund (1 project). Global energy efficiency programs are funded by Microsoft's carbon fund and supported by internal fees charged to Microsoft business groups. Funds are channeled back to efficiency projects that would otherwise not happen in the fiscal year (FY17, the reporting period for this response) due to timing of project identification against budget timelines. This included one project in the United States that improved heating, ventilation, and air conditioning (HVAC) efficiency. This initiative affects the Scope 2 emissions included in our carbon neutral target.
Energy Efficiency: Building services	Building controls	115	Scope 2 (location-based) Scope 2	Voluntary	\$14000	\$194000	11-15 years	6-10 years	FY17 Carbon Fund (1 project). Global energy efficiency programs are funded by Microsoft's carbon fund and supported by internal fees charged to Microsoft business groups. Funds are channeled back to efficiency projects that would otherwise not happen in the fiscal year (FY17, the reporting period for this response) due to

Activity type	Description of activity	Estimated annual CO2e savings (metric tons CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency, as specified in C0.4)	Investment required (unit currency, as specified in C0.4)	Payback period	Estimated lifetime of the initiative	Comment
			(market-based)						timing of project identification against budget timelines. This included one project in the United States that involved a feasibility study and piloting of energy performance upgrades in five retail locations. This initiative affects the Scope 2 emissions included in our carbon neutral target.
Other, please specify	Electric vehicle leases	325	Scope 1	Voluntary	\$0	\$0	<1 year	3-5 years	Microsoft-leased clean vehicles (1 project). We leased approximately 50 hybrid or electric vehicles in Europe, Middle East, and Africa (EMEA) in FY17 (the reporting period). The emissions savings reported represent the emissions savings in comparison with a standard gasoline vehicle. There is no capital investment cost as these are leased vehicles. There are no cost savings to Microsoft as the fuel savings are realized by employees. The typical lease period is 4 years. This initiative affects the Scope 1 emissions included in our carbon neutral target.
Other, please specify	E-waste recycling and reuse	1505	Scope 3	Voluntary	\$1900000	\$0	<1 year	Ongoing	E-waste recycling program expansion (1 project). The Microsoft Responsible Recycle program was set up to support the recycling and reuse of our internal operational e-waste, helping reduce energy consumption, greenhouse gases, and hazardous waste. In FY17, we expanded this program to include collections in an additional 10 countries (Slovenia, Romania, Slovakia, Germany, Sri Lanka, Cambodia, Malaysia, Philippines, Indonesia, and South Korea). The data provided here reflects the program expansion only and not the existing savings or costs of the program.

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

Method	Comment
Dedicated budget for energy efficiency	Our datacenter operations team has dedicated headcount and budget for designing more efficient datacenter designs, optimizing existing datacenters, and tracking energy use and efficiency. Our Real Estate and Facilities group also has dedicated budget for headcount and addressing energy efficiency in global office spaces and research labs.

Method	Comment
Dedicated budget for other emissions reduction activities	A component of our carbon fee is a dedicated fund focused on investments that reduce Microsoft energy use and carbon emissions. We select the initiatives funded through the carbon fee using a formal grant application process. In addition, across Microsoft, various business units have dedicated budget for emissions reduction activities. The Real Estate and Facilities group continues to use an energy management program in our Puget Sound, Silicon Valley, and Las Colinas campuses, is deploying to its Beijing and Shanghai campuses, and is fulfilling plans to expand to three other campuses in FY18 to gain better insight into and management of energy use. Our travel organization has dedicated headcount and budget for analyzing travel patterns and practices to identify trends and recommend new reduction initiatives.
Employee engagement	Microsoft has a number of green employee communities across the company that provide opportunities for employees who want to be more directly involved in the company's sustainability work. These green communities play a critical role in our engagement strategy because they allow us to create local relevance on the sustainability issues that matter most to people and groups within the company. One of our more popular green communities is MS Green, a grassroots community group that focuses on increasing the environmental awareness of employees and educating them about programs such as mass transit, energy conservation, organic farming, and other local resources. Other voluntary green communities—sponsored by our Digital, Services, and Success group but with membership from across the company—focus on customer engagements calling for sustainability, energy savings, or efficiency around the world; a few examples are the Worldwide Smart Buildings, Worldwide Smart Cities and Worldwide Power, and Utilities communities. Furthermore, Microsoft has one of the largest living laboratories for sustainability in the form of our expansive worldwide campuses that use our Energy Smart Buildings (ESB) program. In addition, our travel tool shows the carbon emissions generated for each trip to help employees make more responsible travel choices. In FY17, LinkedIn launched an employee Go Green team, which receives a monthly update on the company's sustainability programs and goals and supports energy efficiency and waste diversion activities in their workplaces; there are 950 members worldwide. Furthermore, all occupants of the new LinkedIn Net Zero Energy building were engaged in two teams to hack energy consumption; the employee teams achieved a 26 percent reduction in energy use that has been maintained for the subsequent 8 months. LinkedIn is now scaling this successful model globally, and in April 2018 held a month-long workplace energy competition in our largest LinkedIn sites in America and Europe.
Financial optimization calculations	Our Real Estate and Facilities organization leads the design of new buildings, including cost/benefit analysis of more efficient designs and equipment. Our Microsoft Cloud Infrastructure and Operations (MCIO) organization analyzes the cost/benefit of datacenter designs and hardware and is investing for greater efficiencies, reduced energy and water use, and more renewable energy to power its operations. With the Environmental Sustainability team, our travel organization analyzes flight miles and class to help stakeholders from across the company identify potential areas of additional efficiency that can result in budget reductions.
Internal finance mechanisms	A component of our carbon fee is a dedicated fund focused on investments that reduce Microsoft energy use and carbon emissions. We select the initiatives funded through the carbon fee using a formal grant application process. Our travel organization sets employee policies around air travel, including class of travel, and is involved in annual budget setting.

Method	Comment
	Furthermore, the team has deployed business intelligence (BI) tools that provide managers with much greater visibility into their teams' traveling patterns. Business unit managers have the authority to balance the level of travel/entertainment budget within their overall operational budget and, using the BI tools, they can now easily identify opportunities to reduce travel for internal meetings as well as the use of business class, the main drivers for travel-related emissions. Product groups in the Puget Sound region are charged directly for their actual energy usage in research and development labs.
Internal price on carbon	From July 2012 (the start of Microsoft FY13), we introduced an internal carbon fee chargeback model, administered through the finance group: business groups responsible for carbon emissions associated with their use of Microsoft datacenters, software development labs, offices, manufacturing facilities, and business air travel are charged an internal fee to cover the cost to offset those emissions through investments in renewable energy, carbon offset community projects, sustainability grants (to drive climate-related energy and technology innovation), and track-and-report projects (to ensure transparency and accountability). A carbon fee program was also introduced in the LinkedIn organization in January 2018 following the Microsoft acquisition of the organization.
Marginal abatement cost curve	A component of our carbon fee is a dedicated fund focused on investments that reduce Microsoft energy use and carbon emissions. We select the initiatives funded through the carbon fee using a formal grant application process, which requires the calculation of the marginal abatement cost (MAC) for each project. The MAC is used as one of the decision criteria for selecting projects.

Low-carbon products

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

Level of aggregation	Description of product/ Group of products	Are these low-carbon product(s) or do they enable avoided emissions?	Taxonomy, project, or methodology used to classify product(s) as low-carbon or to calculate avoided emissions	% revenue from low-carbon product(s) in the reporting year	Comment
Group of products	<p>Cloud computing services: By outsourcing IT services to the Microsoft cloud instead of running those same services in their own datacenters, our customers can reduce their Scope 2 emissions, assuming that they currently have either (1) no in-house equipment and decide to use the Microsoft cloud instead of purchasing new equipment or (2) in-house equipment and decide to downsize equipment and outsource the services to the Microsoft cloud. With the massive scale and multitenancy of our datacenters, we can run these services at greater efficiencies than a typical enterprise, so the energy use and emissions are not merely transferred to another source but reduced as well. Furthermore, Microsoft purchases renewable energy, and therefore emissions from our datacenters are far below industry averages and most customers' on-premises situations.</p>	Avoided emissions	Evaluating the carbon reducing impacts of ICT		<p>An FY18 report by Microsoft, in partnership with WSP, shows significant energy and carbon emissions reduction potential from the Microsoft Cloud when compared with on-premises datacenters. Specifically, the study compared four applications in the Microsoft Cloud with their on-premises equivalents: Microsoft Azure Compute, Microsoft Azure Storage, Microsoft Exchange Online, and Microsoft SharePoint Online. The results show that the Microsoft Cloud is between 22 and 93 percent more energy efficient than traditional enterprise datacenters, depending on the specific comparison being made. When taking into account Microsoft renewable energy purchases, the Microsoft Cloud is between 72 and 98 percent more carbon efficient. These savings are attributable to four key features of the Microsoft Cloud: IT operational efficiency, IT equipment efficiency, datacenter infrastructure efficiency, and renewable electricity. To conduct this study, we engaged WSP, a global consultancy with expertise in environmental and</p>

Level of aggregation	Description of product/ Group of products	Are these low-carbon product(s) or do they enable avoided emissions?	Taxonomy, project, or methodology used to classify product(s) as low-carbon or to calculate avoided emissions	% revenue from low-carbon product(s) in the reporting year	Comment
					sustainability issues, to model the environmental impact of using Microsoft Cloud services instead of on-premises deployments. Stanford University IT sustainability and compute energy expert Dr. Jonathan Koomey served as an in-depth technical reviewer. Note that Microsoft revenue is reported at the business group level and so the specific revenue attributable to cloud computing services is not available.
Group of products	Cloud-computing services: All Microsoft services hosted in Microsoft datacenters—including Microsoft Azure, Microsoft Office 365, and Skype for Business—are low-carbon options because of the efficiency of our datacenters versus on-premises computing and our use of renewable energy. Microsoft purchases renewable energy, and therefore emissions from our datacenters are far below industry averages and most customers' on-premises situations.	Low carbon product	Evaluating the carbon reducing impacts of ICT		An FY18 report by Microsoft, in partnership with WSP, shows significant energy and carbon emissions reduction potential from the Microsoft Cloud when compared with on-premises datacenters. Specifically, the study compared four applications in the Microsoft Cloud with their on-premises equivalents: Microsoft Azure Compute, Microsoft Azure Storage, Microsoft Exchange Online, and Microsoft SharePoint Online. The results show that the Microsoft Cloud is between 22 and 93 percent more energy efficient than traditional enterprise datacenters, depending on the specific comparison being made. When taking into account Microsoft renewable energy purchases, the Microsoft Cloud is

Level of aggregation	Description of product/ Group of products	Are these low-carbon product(s) or do they enable avoided emissions?	Taxonomy, project, or methodology used to classify product(s) as low-carbon or to calculate avoided emissions	% revenue from low-carbon product(s) in the reporting year	Comment
					<p>between 72 and 98 percent more carbon efficient. These savings are attributable to four key features of the Microsoft Cloud: IT operational efficiency, IT equipment efficiency, datacenter infrastructure efficiency, and renewable electricity. To conduct this study, we engaged WSP, a global consultancy with expertise in environmental and sustainability issues, to model the environmental impact of using Microsoft Cloud services instead of on-premises deployments. Stanford University IT sustainability and compute energy expert Dr. Jonathan Koomey served as an in-depth technical reviewer. Note that Microsoft revenue is reported at the business group level and so the specific revenue attributable to cloud computing services is not available.</p>
Product	<p>Skype for Business: Skype for Business helps to reduce the need for travel by providing the means for individuals and companies to host online meetings for up to 250 people. By using the audio, high-definition video, and web conferencing options to host meetings, people can avoid travel by car or even plane. Furthermore, people can use Skype for Business to broadcast meetings online to</p>	Avoided emissions	Climate Bonds Taxonomy		<p>Included on the basis of the “technology substitution” inclusion in the ICT section of the Climate Bonds Taxonomy. Note that Microsoft revenue is reported at the business group level and so the specific revenue attributable to Skype for Business is not available.</p>

Level of aggregation	Description of product/ Group of products	Are these low-carbon product(s) or do they enable avoided emissions?	Taxonomy, project, or methodology used to classify product(s) as low-carbon or to calculate avoided emissions	% revenue from low-carbon product(s) in the reporting year	Comment
	up to 10,000 people, for even greater travel avoidance.				
Group of products	<p>Microsoft CityNext: The Microsoft CityNext initiative and our partners can help cities improve sustainability (including reducing carbon emissions) with solutions that span energy and water, building energy management, transportation, resource efficiency, and ecosystem services.</p> <ul style="list-style-type: none"> Energy management and analytics solutions: Microsoft and our partners create scalable energy management solutions that can involve cloud computing, big data, mobile, and social technologies. These solutions enable officials to collect and integrate data from virtually any data source, including renewable energy systems, sensors, and applications. Civic leaders can analyze real-time data to gain valuable insights on how to detect impending equipment failures and prevent them through timely maintenance. The data also points the way to balancing the supply and demand of power and to operating more cost efficiently. Carbon management: CityNext carbon management solutions can help governments tap into data sources to better understand their energy consumption and emission patterns. To create an "Internet of Things," we connect infrastructure such as sensors and video cameras as well as applications such as weather reporting sites, social media, and cloud services. This interconnected digital network 	Avoided emissions	Climate Bonds Taxonomy		Included on the basis of the "products and technologies that support smart grid applications" inclusion in the ICT section of the Climate Bonds Taxonomy. Note that Microsoft revenue is reported at the business group level and so the specific revenue attributable to CityNext is not available.

Level of aggregation	Description of product/ Group of products	Are these low-carbon product(s) or do they enable avoided emissions?	Taxonomy, project, or methodology used to classify product(s) as low-carbon or to calculate avoided emissions	% revenue from low-carbon product(s) in the reporting year	Comment
	can offer accurate insights into a city's carbon footprint. For example, our solution can collect data in real time from air quality sensors in the city that measure emissions from cars, planes, trains, buildings, and streetlights. Specialists can analyze this data to find and eliminate wasted energy.				

C5 Emissions methodology

Base year emissions

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

Scope	Base year start	Base year end	Base year emissions (metric tons CO _{2e})
Scope 1	07/01/2012	06/30/2013	100561
Scope 2 (location-based)	07/01/2012	06/30/2013	1430648
Scope 2 (market-based)	07/01/2012	06/30/2013	820100

Emissions methodology

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

[The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard \(Revised Edition\)](#)

C6 Emissions data

Scope 1 emissions data

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO_{2e}?

Gross global Scope 1 emissions (metric tons CO _{2e})	Comment
97639	

Scope 2 emissions reporting

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

Scope 2, location-based	Scope 2, market-based	Comment
We are reporting a Scope 2, location-based figure	We are reporting a Scope 2, market-based figure	

Scope 2 emissions data

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

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
2692709	139110	Microsoft is committed to global renewable electricity procurement through power purchase agreements (PPAs) and other contracting instruments and, as a result, has low-carbon operations in Scope 2 market-based emissions.

(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?

No

Scope 3 emissions data

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

Sources of Scope 3 emissions	Evaluation status	Metric tons CO ₂ e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services	Relevant, calculated	14000000	Corporate-wide expense data for all company divisions was obtained from finance. The spend was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra/DECC's GHG Conversion Factors for Company Reporting," Annex 13—updated per the latest inflation and currency conversion rates. Sectors already included in Scope 1 and Scope 2 (such as electricity purchases) and other Scope 3 categories (such as capital goods) were removed to prevent double counting. Global warming potentials (GWPs) are from the IPCC Second Assessment Report, 100-year average.	0	The reported emissions for this category represent an estimate based on broad-based assumptions and have therefore been rounded. This category may be under-reported or over-reported by as much as 50 percent.
Capital goods	Relevant, calculated	200000	Corporate-wide expense data for all company divisions was obtained from finance. The spend for capital goods was mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra/DECC's GHG Conversion Factors for Company Reporting," Annex 13—updated per the latest inflation and currency conversion rates. Global warming potentials (GWPs) are from the IPCC Second Assessment Report, 100-year average.	0	The reported emissions for this category represent an estimate based on broad-based assumptions and have therefore been rounded. This category may be under-reported or over-reported by as much as 50 percent.

Sources of Scope 3 emissions	Evaluation status	Metric tons CO ₂ e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Relevant, calculated	89000	Fuel- and energy-related activities (not included in Scope 1 or 2) include three emission sources. First, upstream emissions of purchased electricity were calculated by multiplying electricity use by emission factors from lifecycle analysis tools for the US and UK Defra 2015 Guidelines for non-US countries. This year we have calculated the upstream electricity emissions from activities reflected in market-based accounting, as this better captures Microsoft emissions reduction activities through renewable electricity procurement. In previous years, Microsoft had conservatively based upstream emissions from electricity use on the emissions of generating sources included in location-based and not market-based electric generating mixes. Second, fuel consumption was multiplied by emission factors from lifecycle analysis tools. And third, transmission and distribution losses (by energy use type) were multiplied by emission factors from EPA's eGRID2012 database for the United States and from UK Defra 2015 Guidelines for other countries. Global warming potentials (GWPs) are from the IPCC Fourth Assessment Report, 100-year average.	0	
Upstream transportation and distribution	Relevant, calculated	100000	Upstream transportation and distribution emissions are derived from corporate-wide expense data for all company divisions obtained from finance. The spend for transportation was mapped to corresponding industry sectors (for example, road transport, ancillary transport services) and then multiplied by cradle-to-gate emission factors by sector from UK Defra's "2012 Guidelines to Defra/DECC's GHG Conversion Factors for Company	0	The reported emissions for this category represent an estimate based on broad-based assumptions and have therefore been rounded. This category may be under-reported

Sources of Scope 3 emissions	Evaluation status	Metric tons CO ₂ e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			Reporting," Annex 13—updated per the latest inflation and currency conversion rates. Global warming potentials (GWPs) are from the IPCC Second Assessment Report, 100-year average.		or over-reported by as much as 50 percent.
Waste generated in operations	Relevant, calculated	700	The waste figure represents emissions from waste disposed via landfilling or incineration and does not include waste from recycling or compost. This data includes the Microsoft Puget Sound headquarters campus, US field campuses, and many other sites, representing more than 50 percent of the Microsoft global real estate portfolio. Emissions from waste are calculated using methodologies and emission factors from the EPA's Waste Reduction Model (WARM), version 14, 2016. This model bases its emissions calculations on a lifecycle analysis, including emissions from the long-term decomposition of waste in a landfill or from upstream sources/sinks. Global warming potentials (GWPs) are from the IPCC Fourth Assessment Report, 100-year average.	0	
Business travel	Relevant, calculated	343860	Included in this category are emissions from commercial air travel. Microsoft Corporate Travel provides flight-level airport codes and cabin class data. The airport codes are used to calculate distances to determine whether the flights were short, medium, or long haul. The distance thresholds and cabin class are used with appropriate emission factors to calculate CO ₂ e (CO ₂ , CH ₄ , and N ₂ O emission factors source: 2017 Guidelines to Defra/DECC's GHG Conversion Factors for Company Reporting). Global warming potentials	100	

Sources of Scope 3 emissions	Evaluation status	Metric tons CO ₂ e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			(GWPs) are from the IPCC Fourth Assessment Report, 100-year average.		
Employee commuting	Relevant, calculated	330000	This category captures emissions from commuting by all employees and contractors that work in Microsoft buildings. It does not include commuting in shuttles and buses owned or operated by Microsoft because these emissions are already included in the Microsoft Scope 1 inventory. A survey was conducted in May 2017 to capture detailed commuting habits from workers at the Microsoft Puget Sound campus, representing roughly 30 percent of global Microsoft headcount. The results of this survey were scaled to estimate global commuting emissions for Microsoft. CO ₂ emission rates for passenger vehicles (single occupancy vehicle [SOV] and carpool) are based on fuel consumption and miles travelled. A weighted average fuel economy was derived using the 2012 EPA Fuel Economy Trends Report 1975–2012, which provides combined fuel economy for cars and trucks by year, and a set of car and truck age fractions provided by the Puget Sound Regional Council. This data was used to develop a weighted average fuel economy for the Puget Sound area. Emission factors are derived from the Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2010, Annex 2 (Methodology for estimating CO ₂ emissions from fossil fuel combustion). CO ₂ rates per passenger mile are based on Federal Transit Administration, 2010 (Public Transportation’s Role in Responding to Climate Change, US DOT, Federal Transit Administration, January 2010). Global	0	The reported emissions for this category represent an estimate based on broad-based assumptions and have therefore been rounded.

Sources of Scope 3 emissions	Evaluation status	Metric tons CO ₂ e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			warming potentials (GWPs) are from the IPCC Fourth Assessment Report, 100-year average.		
Upstream leased assets	Not relevant, explanation provided				Microsoft includes leased assets in its Scope 1 and Scope 2 emissions reporting boundary.
Downstream transportation and distribution	Relevant, calculated	80000	Included in this category are the emissions from transporting and warehousing Microsoft devices sold in FY17 (including Xbox devices, Microsoft Surface devices, keyboards, mice, and other peripherals) from Microsoft manufacturing sites to retailers and customers. Calculations are based on standard assumptions of distance between retailers and their distribution centers and warehouse floorspace from an MWPVL analysis of Walmart's distribution center network. Assumptions about the energy intensity of warehouses come from the EIA's Commercial Buildings Energy Consumption Survey (2012). Emission factors for shipping come from the Gabi database. Global warming potentials (GWPs) are from the IPCC Fourth Assessment Report, 100-year average.	0	The reported emissions for this category represent an estimate based on broad-based assumptions and have therefore been rounded.
Processing of sold products	Not relevant, explanation provided				Microsoft did not have any physical intermediate products in the reporting year.
Use of sold products	Relevant, calculated	6000000	Included in this category is the lifetime electricity use of Microsoft devices sold in FY17 including	0	The reported emissions for this category

Sources of Scope 3 emissions	Evaluation status	Metric tons CO ₂ e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			Xbox devices, Surface devices, keyboards, mice, and other peripherals. Lifetime energy use per device is calculated based on standard product-use assumptions as included in our ISO 14040– and ISO 14044–compliant lifecycle analyses. Sales geography is used to determine the electricity emission factor used to calculate emissions. Global warming potentials (GWPs) are from the IPCC Fourth Assessment Report, 100-year average.		represent an estimate based on broad-based assumptions and have therefore been rounded.
End of life treatment of sold products	Relevant, calculated	110000	Included in this category is the end-of-life treatment of Microsoft devices sold in FY17 including Xbox devices, Surface devices, keyboards, mice, and other peripherals. End-of-life emissions for each product are based on modeling within our ISO 14040– and ISO 14044–compliant lifecycle analyses. To generate a conservative estimate for this category, it is assumed that all devices are sent to landfills at the end of their useful life. Global warming potentials (GWPs) are from the IPCC Fourth Assessment Report, 100-year average.	0	The reported emissions for this category represent an estimate based on broad-based assumptions and have therefore been rounded.
Downstream leased assets	Relevant, calculated	700	Emissions associated with sublets are calculated using the intensities derived from data collected for the primary leased space (for example, kWh/SF) and prorated for the square footage of the sublet space. In this way, it is assumed that the emissions intensities of the leased spaces are the same as the overall buildings in which they reside. Estimated refrigerants are calculated using the same methodology and intensity as used to calculate refrigerant intensities for assets occupied by Microsoft. Electricity emission factors used are	0	

Sources of Scope 3 emissions	Evaluation status	Metric tons CO ₂ e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			those appropriate to each location. Global warming potentials (GWPs) are from the IPCC Fourth Assessment Report, 100-year average.		
Franchises	Not relevant, explanation provided				Microsoft did not operate franchises in the reporting year.
Investments	Not relevant, explanation provided				Joint ventures, actively managed investments, and direct equity investments totaled less than 2 percent of Microsoft market capitalization at the end of the reporting period. Microsoft has not engaged in the long-term financing of projects and the proceeds for each debt issuance have been for general corporate purposes.
Other (upstream)					
Other (downstream)					

Carbon dioxide emissions from biologically sequestered carbon

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

No

Emissions intensities

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

Intensity figure	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator: Unit total	Scope 2 figure used	% change from previous year	Direction of change	Reason for change
0.000002452	236749	unit total revenue	96571000000	Market-based	1	Decreased	Scope 1 + Scope 2 market-based emissions increased by 12 percent from FY16 to FY17, while revenue increased 13 percent. If not for our extensive emissions reduction activities as outlined in C4.3b, our Scope 1 + Scope 2 market-based emissions per revenue would have increased by 220 percent.
1.909263165	236749	full time equivalent (FTE) employee	124000	Market-based	13	Increased	After the FY16 values were adjusted for the addition of LinkedIn employees and operations, Scope 1 + Scope 2 market-based emissions increased by 12 percent from FY16 to FY17, while FTEs decreased by 1 percent. If not for our extensive emissions reduction activities as outlined in C4.3b, our Scope 1 + Scope 2 market-based emissions per FTE would have increased by 265 percent.

C7 Emissions breakdown

Scope 1 breakdown: GHGs

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

Yes

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

Greenhouse gas	Scope 1 emissions (metric tons of selected GHG, in CO ₂ e)	GWP Reference
CO ₂	73112	IPCC Fourth Assessment Report (AR4 - 100 year)
CH ₄	27	IPCC Fourth Assessment Report (AR4 - 100 year)
N ₂ O	186	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	24314	IPCC Fourth Assessment Report (AR4 - 100 year)

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

Country/Region	Scope 1 emissions (metric tons CO ₂ e)
Asia Pacific (or JAPA)	8454
Canada	694
Europe, Middle East and Africa (EMEA)	43158
Latin America (LATAM)	3632
United States of America	41701

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

By activity

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

Activity	Scope 1 emissions (metric tons CO2e)
Datacenter	18202
Ground transportation	41774
Manufacturing	2324
Office	27913
Travel	7426

Scope 2 breakdown: country

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Asia Pacific (JAPA)	439033	121931	688705	466242
Canada	3188	195	93894	71395
Europe, Middle East and Africa (EMEA)	395104	14460	978785	941343
Latin America (LATAM)	21012	2096	91029	85935
United States of America	1834372	428	4541736	4539844

Scope 2: business breakdowns

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

By activity

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

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Datacenter	2252172	116772
Manufacturing	55500	1204
Office	385037	21134

Emissions performance

(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?

Increased

(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.

Reason	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	511105	Decreased	243	We have decreased our Scope 2 emissions related to our operations—including offices, datacenters, and software development labs—through purchasing renewable energy certificates (RECs) (or their international equivalents) and securing power purchase agreements (PPAs) for renewable electricity. In FY17, because of significant datacenter growth and as part of our 100 percent renewable electricity commitment, we made a substantial investment in RECs and PPAs, resulting in the incremental avoidance of an additional 511,105 mtCO2e in Scope 2 emissions over the previous year. This incremental emission avoidance is larger than last year’s Scope 1 + Scope 2 market-based emissions, leading to a high reduction percentage. FY16 Scope 1 +

Reason	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
				Scope 2 market-based emissions were 210,605 mtCO2e. We arrived at a 243 percent reduction by dividing the reductions due to renewable energy purchases by the FY16 gross emissions $[(511,105/210,605)*100%=243\%]$.
Other emissions reduction activities	12375	Decreased	6	We have decreased our Scope 1 and 2 emissions related to our operations—including offices, datacenters, and software development labs—through emissions reduction activities. Examples of emissions reduction activities include: <ul style="list-style-type: none"> • Identifying and addressing thousands of equipment faults through our Energy Smart Buildings (ESB) program on our Puget Sound, Silicon Valley, and Las Colinas campuses. • Reducing energy use using a smart meter platform and data visualization service at a LinkedIn Oregon datacenter. • Investing in new and upgraded building controls. • Investing in efficient HVAC (heating, ventilation, and air conditioning) systems, light-emitting diode (LED) lighting, innovative cooling technology, building controls projects, and motor and drive projects (such as adding variable frequency drives [VFDs]), as well as optimizing existing systems. • Funding global energy efficiency programs through our carbon fund (including three lighting projects, an HVAC project, and a feasibility study and piloting of energy performance upgrades in five retail locations). • Leasing approximately 50 hybrid or electric vehicles in Europe, Middle East, and Africa (EMEA), in place of gasoline vehicles. In addition, we are working to make our datacenters energy efficient, such as by improving datacenter cooling efficiency using outside air, adiabatic cooling, and water-side economizers for cooling. In FY17 we reduced our Scope 1 and 2 emissions by 12,375 mtCO2e through these internal energy efficiency projects. FY16 Scope 1 + Scope 2 market-based emissions were 210,605 mtCO2e. We arrived at a 6 percent reduction by dividing the reductions due to other emissions reduction activities by the FY16 gross emissions $[(12,375/210,605)*100%=6\%]$.
Divestment				
Acquisitions				
Mergers				
Change in output	26143	Increased	12	Because of significant datacenter growth in FY17, our overall Scope 1 + Scope 2 emissions increased relative to FY16 emissions. We arrived at 12 percent by dividing the increase by FY16 gross emissions $[(26,143/210,605)*100%=12\%]$.

Reason	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in methodology				
Change in boundary				
Change in physical operating conditions				
Unidentified				
Other				

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

Market-based

C8 Energy

Energy spend

(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%

Energy-related activities

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

Activity	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes

Activity	Indicate whether your organization undertakes this energy-related activity
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	Yes
Generation of electricity, heat, steam, or cooling	Yes

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

Energy carrier	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	324795	324795
Consumption of purchased or acquired electricity	N/A	6104341	239721	6344061
Consumption of purchased or acquired heat	N/A			
Consumption of purchased or acquired steam	N/A	0	19549	19549
Consumption of purchased or acquired cooling	N/A	0	30121	30121
Consumption of self-generated non-fuel renewable energy	N/A	418	N/A	418
Total energy consumption	N/A	6104759	614186	6718944

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

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

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

Fuels	Heating value	Total MWh consumed by the organization	MWh consumed for the self-generation of electricity	MWh consumed for the self-generation of heat	MWh consumed for the generation of steam	MWh consumed for the generation of cooling	MWh consumed for cogeneration or trigeneration
Diesel	HHV	116949	0	116949			
Fuel Oil No 2	HHV	21859	21859	0			
Fuel Oil No 6	HHV	220	0	220			
Jet kerosene	HHV	29862	0	29862			
Liquefied petroleum gas	HHV	13539	0	13539			
Motor gasoline	HHV	34679	0	34679			
Natural gas	HHV	107687	0	107687			

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

Fuels	Emission factor (in units of metric tons CO2e per MWh LHV)	Unit	Emission factor source	Comment
Diesel	0.25	metric tons CO2e per MWh	CO2 and Heat Content: Federal Register (2009) EPA; 40 CFR Parts 86, 87, 89 et al; Mandatory Reporting of Greenhouse Gases; Final Rule, 30Oct09, 261 pp. Tables C-1 and C-2 at FR pp. 56409-56410. CH4 and N2O: US EPA (2015); Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013. All values are calculated from Tables A-105 through A-107.	
Fuel Oil No 2	0.25	metric tons CO2e per MWh	Solid, gaseous, liquid, and biomass fuels: Federal Register (2009) EPA; 40 CFR Parts 86, 87, 89 et al; Mandatory Reporting of Greenhouse Gases; Final Rule, 30Oct09, 261 pp. Tables C-1 and C-2 at FR pp. 56409-56410. Revised emission factors for selected fuels: Federal Register (2010) EPA;	

Fuels	Emission factor (in units of metric tons CO2e per MWh LHV)	Unit	Emission factor source	Comment
			40 CFR Part 98; Mandatory Reporting of Greenhouse Gases; Final Rule, 17Dec10, 81 pp.	
Fuel Oil No 6	0.26	metric tons CO2e per MWh	Solid, gaseous, liquid, and biomass fuels: Federal Register (2009) EPA; 40 CFR Parts 86, 87, 89 et al; Mandatory Reporting of Greenhouse Gases; Final Rule, 30Oct09, 261 pp. Tables C-1 and C-2 at FR pp. 56409-56410. Revised emission factors for selected fuels: Federal Register (2010) EPA; 40 CFR Part 98; Mandatory Reporting of Greenhouse Gases; Final Rule, 17Dec10, 81 pp.	
Jet kerosene	0.25	metric tons CO2e per MWh	CO2 and Heat Content: Federal Register (2009) EPA; 40 CFR Parts 86, 87, 89 et al; Mandatory Reporting of Greenhouse Gases; Final Rule, 30Oct09, 261 pp. Tables C-1 and C-2 at FR pp. 56409-56410. CH4 and N2O: US EPA (2015); Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013. All values are calculated from Table A-108.	
Liquefied petroleum gas (LPG)	0.21	metric tons CO2e per MWh	CO2 and Heat Content: Federal Register (2009) EPA; 40 CFR Parts 86, 87, 89 et al; Mandatory Reporting of Greenhouse Gases; Final Rule, 30Oct09, 261 pp. Tables C-1 and C-2 at FR pp. 56409-56410. CH4 and N2O: US EPA (2015); Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013. All values are calculated from Table A-108.	
Motor gasoline	0.24	metric tons CO2e per MWh	CO2 and Heat Content: Federal Register (2009) EPA; 40 CFR Parts 86, 87, 89 et al; Mandatory Reporting of Greenhouse Gases; Final Rule, 30Oct09, 261 pp. Tables C-1 and C-2 at FR pp. 56409-56410. CH4 and N2O: US EPA (2015); Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013. All values are calculated from Tables A-102 through A-106.	
Natural gas	0.18	metric tons CO2e per MWh	Solid, gaseous, liquid, and biomass fuels: Federal Register (2009) EPA; 40 CFR Parts 86, 87, 89 et al; Mandatory Reporting of Greenhouse Gases; Final Rule, 30Oct09, 261 pp. Tables C-1 and C-2 at FR pp. 56409-56410. Revised emission factors for selected fuels: Federal Register (2010) EPA; 40 CFR Part 98; Mandatory Reporting of Greenhouse Gases; Final Rule, 17Dec10, 81 pp.	

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

Energy Carrier	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	8068	8068	418	418
Heat	86150	86150	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

(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	Low-carbon technology type	MWh consumed associate with low-carbon electricity, heat, steam or cooling	Emission factor (in units of metric tons CO2e per MWh)	Comment
Off-grid energy consumption from an on-site installation or through a direct line to an off-site generator owned by another company	Solar PV	418	0	Microsoft owns and operates a bank of solar panels at our Silicon Valley campus in Mountain View, CA. Our solar array helps us reduce energy demand, costs, and harmful emissions while we conserve natural resources.
Power Purchase Agreement (PPA) with energy attribute certificates	Wind	984464	0	Starting in FY15, Microsoft entered into a virtual PPA with Enbridge LLC to procure 100 percent wind energy in the state of Texas. In FY16, an additional PPA, signed with EDF Renewable Energy, came online to deliver 100 percent wind energy in the state of Illinois. In FY17, an additional attribute PPA (APPA), signed with Black Hills, came online to deliver 100 percent wind energy in the state of

Basis for applying a low-carbon emission factor	Low-carbon technology type	MWh consumed associate with low-carbon electricity, heat, steam or cooling	Emission factor (in units of metric tons CO2e per MWh)	Comment
				Wyoming. Securing long-term PPAs is part of the comprehensive Microsoft strategy to procure 100 percent renewable electricity, and Microsoft is currently developing additional PPAs.
Energy attribute certificates, Renewable Energy Certificates (RECs)	Wind	3643791	0	In the United States and Canada, we are supplied with 100 percent renewable electricity through the purchase of RECs. All RECs are Green-e certified.
Energy attribute certificates, Guarantees of Origin	Wind	934960	0	In the European Union (EU), we are supplied with 100 percent renewable electricity through the purchase of guarantees of origin.
Energy attribute certificates, I-RECs	Wind Solar PV Hydropower Biomass	364370	0	In Brazil, Chile, China, East Africa, Malaysia, the Philippines, South Africa, Taiwan, Thailand, Turkey, and Vietnam, we are supplied with 100 percent renewable electricity through the purchase of I-RECs instruments.
Other: PowerPlus instruments	Wind	118286	0	In India, Mexico, Pakistan, and South Korea, we are supplied with renewable electricity through the purchase of PowerPlus instruments.
Other: GECs	Biomass	56842	0	In Japan, we are supplied with 100 percent renewable electricity through the purchase of Japanese compliance instruments (GECs).
Other: Australian GreenPower instruments	Wind	928	0	In Australia, we are supplied with renewable electricity through the purchase of Australian GreenPower instruments.

Basis for applying a low-carbon emission factor	Low-carbon technology type	MWh consumed associate with low-carbon electricity, heat, steam or cooling	Emission factor (in units of metric tons CO2e per MWh)	Comment
Other: GoldPower instruments	Wind	700	0	In Taiwan, we are supplied with renewable electricity through the purchase of GoldPower instruments.

C9 Additional metrics

Other climate-related metrics

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

Description	Metric value	Metric numerator	Metric denominator (intensity metric only)	% change from previous year	Direction of change	Please explain

C10 Verification

Verification

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

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

Scope	Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported emissions verified (%)
Scope 1	Annual process	Complete	Limited assurance		1	ISO14064-3	100
Scope 2 location-based	Annual process	Complete	Limited assurance		1	ISO14064-3	100
Scope 2 market-based	Annual process	Complete	Limited assurance		1	ISO14064-3	100

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

Scope	Verification or assurance cycle in place	Status in the current reporting year	Attach the statement	Page/ section reference	Relevant standard
Scope 3 - at least one applicable category	Annual process	Complete		1	ISO14064-3

Other verified data

(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?

Yes

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C4. Targets and performance	Progress against emissions reduction target	ISO14064-3	Verification of carbon neutral commitment, which includes verification of emissions reductions from carbon offset purchases in the reporting year as outlined in question C4.1a (Abs1).

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C4. Targets and performance	Other: Progress against renewable energy target	ISO14064-3	Verification of global electricity consumption and renewable energy purchases equivalent to global electricity consumption, in support of the Microsoft 100 percent renewable electricity target, as outlined in question C4.2 (RE1).
C7. Emissions breakdown	Other: CO2 emissions data from Microsoft-owned manufacturing sites and select manufacturing suppliers	ISO 14001	ISO 14001 certification of all Microsoft-owned manufacturing sites. Microsoft Experiences + Devices Group (E+D) verifies third-party supplier/factory certifications such as ISO 14001.

C11 Carbon pricing

Carbon pricing systems

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

Beijing pilot ETS

Other ETS: UK Carbon Reduction Commitment (CRC) Energy Efficiency Scheme

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

System name	% of Scope 1 emissions covered by the ETS	Period start date	Period end date	Allowances allocated	Allowances purchased	Verified emissions in metric tons CO2e	Details of ownership	Comment
Beijing pilot ETS	1%	01/01/2017	12/31/2017	0	0	19522	Facilities we own and operate	The verified emissions provided include both the Scope 1 and the Scope 2 emissions taxed under this scheme. Ninety-six percent of the 19,522 mtCO2e of emissions covered under this trading scheme result from electricity consumption and are based on Scope 2 location-based accounting.
Other ETS: CRC	1%	01/01/2017	12/31/2017	7881	7881	7881	Other, please specify: Participation is based on direct payment of utility bills, not building ownership. This applies to multiple UK sites.	UK Carbon Reduction Commitment (CRC) Energy Efficiency Scheme. The verified emissions provided include both the Scope 1 and the Scope 2 emissions taxed under this scheme. Ninety percent of the 7,881 mtCO2e of emissions covered under this trading scheme result from electricity consumption and are based on Scope 2 location-based accounting.

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

Microsoft's strategy for complying with the Beijing pilot ETS is to stay under the cap by optimizing operations and pursuing progressive energy conservation measures. For example, in FY17 we applied this strategy by actively improving the efficiency of our operations by lowering the chilled water differential pressure setpoint, installing variable frequency drives on condensed water pumps, optimizing the operation of the exhaust fans and variable air volume system, and running an Energy Smart Building (ESB) program. We measure and monitor our emissions to ensure that we have not exceeded the limit. Since we began participating in the scheme in 2014, we have not exceeded the limits, and so there has been no requirement to purchase additional allowances. Our strategy for complying with the UK Carbon Reduction Commitment (CRC) Energy Efficiency Scheme is to actively work to reduce carbon emissions from our UK operations as well as to inventory all carbon emissions from those operations for the purposes of reporting (both in compliance with the scheme and in support of companywide emissions disclosure). For example, in FY17 we applied this strategy at the Reading, UK campus by adding to the building management system (BMS) metering infrastructure, upgrading BMS controls, retrofitting lights with light-emitting diodes (LEDs), and replacing fan coils. We tracked and reported 7,881 mtCO2e and paid the corresponding costs. Microsoft has an internal carbon fee that we use to reduce carbon emissions and fund carbon neutrality.

Project-based carbon credits

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

Yes

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tons CO2e)	Number of credits (metric tons CO2e): Risk adjusted volume	Credits cancelled	Purpose, e.g. compliance
Credit purchase	Forests	Acre Amazonian Rainforest Conservation REDD+	Other: VCS & CCB	15000	15000	Yes	Voluntary offsetting
Credit purchase	Forests	Alto Mayo REDD+	Other: VCS & CCB	20000	20000	Yes	Voluntary offsetting
Credit purchase	Forests	Darkwoods Forest Carbon	Other: VCS & CCB	75381	75381	Yes	Voluntary offsetting
Credit purchase	Energy efficiency: households	Guatemala Water Treatment and Cookstoves	Gold Standard	101090	101090	Yes	Voluntary offsetting
Credit purchase	Energy efficiency: own generation	India Solar Water Heating	Gold Standard	60060	60060	Yes	Voluntary offsetting
Credit purchase	Energy efficiency: households	Kenya Improved Cookstoves	Gold Standard	45000	45000	Yes	Voluntary offsetting
Credit purchase	Forests	Kulera Landscape REDD+ and Cookstoves	Other: VCS & CCB	20000	20000	Yes	Voluntary offsetting

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tons CO2e)	Number of credits (metric tons CO2e): Risk adjusted volume	Credits cancelled	Purpose, e.g. compliance
Credit purchase	Energy efficiency: households	Light it Up Improved Cooking Technique	Gold Standard	27690	27690	Yes	Voluntary offsetting
Credit purchase	Forests	Lompico Forest Carbon	CAR (The Climate Action Reserve)	1800	1800	Yes	Voluntary offsetting
Credit purchase	Forests	Lower Zambezi Community Conservation	Other: VCS & CCB	729	729	Yes	Voluntary offsetting
Credit purchase	Forests	Mississippi Valley Restored Ecosystem	Other: ACR	29395	29395	Yes	Voluntary offsetting
Credit purchase	Forests	Native Forest Restoration	Other: Carbon Farming Initiative	30000	30000	Yes	Voluntary offsetting
Credit purchase	Forests	Nisqually Improved Forest Management	Other: California ARB	800	800	Yes	Voluntary offsetting
Credit purchase	Solar	Orb Energy Solar Program	Gold Standard	60000	60000	Yes	Voluntary offsetting
Credit purchase	Methane avoidance	Sichuan Household Biodigesters	Gold Standard	22832	22832	Yes	Voluntary offsetting
Credit purchase	Energy efficiency: industry	Singapore Energy Efficiency	VCS (Verified Carbon Standard)	8977	8977	Yes	Voluntary offsetting
Credit purchase	Forests	Tasmania Improved Forest Management	VCS (Verified Carbon Standard)	20000	20000	Yes	Voluntary offsetting
Credit purchase	Forests	The Conservation Fund's Garcia River Improved Forest Management	CAR (The Climate Action Reserve)	20313	20313	Yes	Voluntary offsetting

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tons CO2e)	Number of credits (metric tons CO2e): Risk adjusted volume	Credits cancelled	Purpose, e.g. compliance
Credit purchase	Forests	Virginia Improved Forest Management	CAR (The Climate Action Reserve)	14804	14804	Yes	Voluntary offsetting

Internal price on carbon

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

Yes

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price	GHG Scope	Application	Actual price(s) used (Currency /metric ton)	Variance of price(s) used	Type of internal carbon price	Impact & implication
Change internal behavior Drive energy efficiency Drive low-carbon investment Identify and seize low-carbon opportunities Supplier engagement	Scope 1 Scope 2 Scope 3	Business units	8.03	We reevaluate the carbon price annually. The carbon price reflects our total investment strategy to reduce our emissions, achieve our commitments and targets (including carbon neutrality), and drive innovation. The same price is used companywide, including 12	Internal fee	From July 2012, the start of our FY13, we began charging an incremental fee based on the emissions associated with our operations. The carbon fee applies a carbon price to Scope 1, Scope 2, and Scope 3 business air travel emissions across the company. The fee is charged to individual business groups based on the emissions they incur through their use of offices, software development labs, datacenters, manufacturing sites, and business air travel. The funds collected go into a central fund that is invested in four categories to enable Microsoft to reduce emissions, achieve our commitments/targets (including carbon neutrality), and drive innovation: (1) renewable energy, helping expand the renewable energy market worldwide; (2) carbon offset community projects, supporting sustainable

Objective for implementing an internal carbon price	GHG Scope	Application	Actual price(s) used (Currency /metric ton)	Variance of price(s) used	Type of internal carbon price	Impact & implication
				divisions in more than 100 countries. It is set and administered through our Environmental Sustainability team in partnership with the corporate finance department.		development globally, in particular in the areas of our datacenter operations; (3) Sustainability Grants, driving climate-related energy and technology innovation, both for internal operations and to contribute to global climate action; and (4) track-and-report projects, helping to ensure transparency/accountability of our global carbon program. By charging business groups based on the emissions that they generate, we help to drive efficiency initiatives and innovation across our business. The carbon fee affects investment decisions by providing an incentive, the financial justification and in some cases the funds for climate-related energy and technology innovation and the development of carbon reduction projects. With our carbon neutral commitment, the fee also helps drive culture change by raising internal awareness of the environmental implications of our business and establishing an expectation for environmental and climate responsibility in our company. In FY17, the carbon fee fund was used to support investments in: <ul style="list-style-type: none"> a. 4,557,278 MWh in renewable electricity in the United States, earning Microsoft the US EPA Green Power Partnership as the number one purchaser in the United States. b. 19 carbon offset projects in 13 countries to reduce more than 570,000 mtCO2e and support the development of a low-carbon economy in emerging nations. c. Technology innovation projects that formed the basis of our newly announced (FY18) AI for Earth program. d. Five internal efficiency initiatives that otherwise

Objective for implementing an internal carbon price	GHG Scope	Application	Actual price(s) used (Currency used /metric ton)	Variance of price(s) used	Type of internal carbon price	Impact & implication
						likely would not have taken place, for a project lifetime reduction of 776 mtCO2e.

C12 Engagement

Value chain engagement

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

Yes, our suppliers

Yes, our customers

Yes, other partners in the value chain

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

Type of engagement	Details of engagement	% of suppliers by number	% total procurement spend (direct and indirect)	% Scope 3 emissions as reported in C6.5	Rationale for the coverage of your engagement	Impact of engagement, including measures of success	Comment
Information collection (understanding supplier behavior)	Collect climate change and carbon information at least annually from suppliers	1	46	30	In FY17 (the reporting period for this response), we requested 234 of our top suppliers to participate in the CDP Supply Chain program; 177 (including 100 percent of those contractually required to) responded. We selected these suppliers as they represent the majority of our spend and carbon	We measure the success of our CDP Supply Chain program based on number and percentage of our suppliers that disclose emissions and set emissions reduction targets. In FY17 (the reporting period for this response), our suppliers reported emissions reduction activities totaling about 1 million metric tons. This year, 145 suppliers reported their	One of our goals is to improve the capabilities of our most strategic indirect/nonmanufacturing suppliers. To do this, we engage the CDP Supply Chain program to provide webinar training to our suppliers on a variety of topics. This program provides the richest training that we

Type of engagement	Details of engagement	% of suppliers by number	% total procurement spend (direct and indirect)	% Scope 3 emissions as reported in C6.5	Rationale for the coverage of your engagement	Impact of engagement, including measures of success	Comment
					impact from our supply chain.	GHG emissions and 127 suppliers reported having an emissions reduction or renewable energy target. In addition to participating in the CDP Supply Chain program, in FY17 we worked with CDP and the US White House Council on Environmental Quality (CEQ) to develop an aligned Greenhouse Gas Management scorecard; this scorecard enables us to manage our indirect supplier spend and direct it towards the highest performers on this issue. As soon as most of our spend with indirect/nonmanufacturing suppliers is tracked by CDP, we plan to evolve our decision criteria to move beyond transparency to rewarding supplier performance. We plan to integrate CDP scores into award decisions to recognize suppliers who have a mature climate change strategy. Requesting suppliers to respond to CDP Supply Chain has enabled us to understand supplier behavior and lay the foundation to set Scope 3 targets in the future.	have been able to identify to address the needs of suppliers of various sizes, industries, and geographies.

Type of engagement	Details of engagement	% of suppliers by number	% total procurement spend (direct and indirect)	% Scope 3 emissions as reported in C6.5	Rationale for the coverage of your engagement	Impact of engagement, including measures of success	Comment
Engagement & incentivization (changing supplier behavior)	Climate change performance is featured in supplier awards scheme	49	49	32	We have an annual Climate Performance supplier award for performance, service, and innovation for our nonmanufacturing (indirect) suppliers. We make the award available to the full pool of indirect suppliers to reflect the influence that indirect procurement can have. To win the award, a supplier must demonstrate activities that have generated significant GHG reductions, that these reductions are likely to be long lived and additional to business-as-usual, and that these activities yield ancillary benefits such as reduction of criteria pollutants and reduced supply chain risk, among other things. The award criteria were developed in collaboration with CDP and the US Environmental Protection Agency (EPA) award team to recognize exceptional performance. These stakeholders (plus additional esteemed judges) provide our	All Microsoft indirect/nonmanufacturing suppliers are eligible for the award, but the preliminary criterion for consideration is inclusion on the CDP "A" list for climate performance. Our Climate Performance supplier award plays a valuable role in enabling Microsoft account management teams to better understand supplier climate performance and attributes of our spend with respect to climate impact. We measure the success of this program indirectly by tracking increases in supplier participation and performance in the CDP Supply Chain program. Further, our suppliers covet this award, which has provided the opportunity for recognition not only by Microsoft but also by esteemed judges such as CDP and the US EPA. Our indirect procurement team is actively looking for another public partner to sponsor this award.	In FY17, no supplier met the bar we set for our suppliers and so no award was granted. We will continue to offer this award to incent our suppliers to perform in this area. In the previous year, we gave the award to Infosys in recognition of its leadership on climate change. Recognizing that reducing its overall carbon footprint can directly reduce Microsoft's supply chain emissions, Infosys had put in place a comprehensive program to both rapidly reduce emissions on a per-employee basis and ultimately reach carbon neutrality through the purchase of renewable energy. The Infosys program incorporated a broad array of efficiency measures in buildings and the large-scale procurement of wind

Type of engagement	Details of engagement	% of suppliers by number	% total procurement spend (direct and indirect)	% Scope 3 emissions as reported in C6.5	Rationale for the coverage of your engagement	Impact of engagement, including measures of success	Comment
					suppliers with an opportunity to be recognized for excellence in performance with respect to climate change. This award scheme is run by Microsoft Procurement and so is specific to indirect/nonmanufacturing suppliers.		and solar-powered energy.
Compliance and onboarding	Code of conduct featuring climate change KPIs Included climate change in supplier selection / management mechanism Climate change is integrated into supplier evaluation processes				Microsoft requires all suppliers with a Microsoft Services Agreement (MSA) to uphold the ethical environmental practices outlined in our Supplier Code of Conduct. Beyond this, we focus the majority of our supplier compliance and onboarding efforts on our top suppliers, as these are the suppliers that represent the majority of our spend and carbon impact from our supply chain. For example: for our indirect/nonmanufacturing suppliers, we engage our "premier" suppliers, representing ~60–70 percent of our indirect supplier spend.	Requiring suppliers to comply with the environmental standards in our Code of Conduct ensures that we have a global baseline for our suppliers' environmental performance. The contract allows us to ask our suppliers to provide assurance regarding this compliance on an ongoing basis. We measure the success of our RFP and ongoing management processes with regard to climate change in a variety of ways, including the number of suppliers that disclose emissions and set emissions reduction targets. For example, in FY17, nearly 50 percent of our indirect/nonmanufacturing supplier spend was with suppliers who disclose their	

Type of engagement	Details of engagement	% of suppliers by number	% total procurement spend (direct and indirect)	% Scope 3 emissions as reported in C6.5	Rationale for the coverage of your engagement	Impact of engagement, including measures of success	Comment
					<p>RFPs for strategic indirect/nonmanufacturing procurements request information on climate emissions disclosures and performance; this information is then included in the evaluation process and is a tie-breaker, rewarding climate leaders. In addition, in FY18, LinkedIn added a Sustainability Questionnaire to its Global RFP Template that asks if suppliers report to CDP for carbon and water, have carbon emission reduction targets, and have won any recent environmental awards; 100 percent of new LinkedIn RFPs include this questionnaire (this is specific to LinkedIn RFPs, and does not affect existing LinkedIn suppliers unless they submit a new RFP). For ongoing supplier management, we systematically and proactively engage with our top suppliers to communicate sustainability</p>	<p>emissions through the CDP Supply Chain program. Although these suppliers currently represent just a little over 1 percent of our indirect suppliers in total, we have begun a segmentation of our indirect/nonmanufacturing supplier program so that this number will reflect 62 percent of our “premier” suppliers. For FY19, we plan to target 100 percent of our premier suppliers for participation in the CDP Supply Chain program, with a goal to have 60–70 percent of spend with our indirect suppliers covered under the CDP Supply Chain program. Overall, we help ensure that our top suppliers meet sustainability requirements by actively engaging with them through capability-building training, consultations, systematic program implementation and improvement, and monitoring. For LinkedIn, the preliminary goal in adding the Sustainability Questionnaire to the RFP template was to signal to the market that environmental disclosure and performance are</p>	

Type of engagement	Details of engagement	% of suppliers by number	% total procurement spend (direct and indirect)	% Scope 3 emissions as reported in C6.5	Rationale for the coverage of your engagement	Impact of engagement, including measures of success	Comment
					requirements. Our processes include: (1) onboarding requirements (including the Supplier Code of Conduct); (2) assessments, audits, and scorecards; (3) corrective action and validation (to resolve issues identified during the audits and assessments); and (4) continuous improvement (by routinely sharing experiences and best practices to help suppliers enhance their long-term sustainability capabilities).	important; the next step will be to include supplier responses in the scoring for RFPs under evaluation. The ultimate measure of success will be the percentage of successful RFPs from suppliers that report to CDP.	

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

Engagement category	Engagement type	Size of engagement	% Scope 3 emissions as reported in C6.5	Please explain the rationale for selecting this group of customers and scope of engagement	Impact of engagement, including measures of success
Education/information sharing	Run an engagement campaign to educate customers about your climate change performance and strategy	100	28	We view climate performance as a key selling point of our technology products and services, and so we aim to share related stories as widely as possible to reach all of our current and potential future customers globally through	The impact of this engagement includes enhanced reputation, increased customer education, and direct feedback to Microsoft on our climate change strategy. We conduct regular media analyses and benchmarking reviews to determine the impact of our marketing and communications engagements. We track customer and stakeholder inquiries on climate-related issues to shape our policies and performance.

Engagement category	Engagement type	Size of engagement	% Scope 3 emissions as reported in C6.5	Please explain the rationale for selecting this group of customers and scope of engagement	Impact of engagement, including measures of success
				our website, events, outreach, and public relations (PR) activities.	We also track the inclusion of sustainability-related topics in our executive briefing conferences with existing and prospective customers, to assess how many customers we've reached over the course of the year on a quarterly basis. For all other PR engagements, including earned stories in external outlets, owned stories on our own blog properties and social media platforms, and value of events, we use standard metrics, including reach, impressions, and engagements with the posts. We also directly share key earned and owned stories with our sales teams and customers. For example, to affirm our commitment for the Paris Agreement, President Brad Smith tweeted, posted on LinkedIn, and communicated directly with key customers and employees; much of this was picked up in earned media leading to 7 million Twitter impressions and 189 articles—many of which were shared directly with customers by our sales representatives.
Education/information sharing	Share information about your products and relevant certification schemes (i.e. Energy STAR)	100	28	We publish the environmental labels and certifications for our devices both on our website and through Eco profiles for our leading products. All customers have access to this information. Our rationale is to provide transparency regarding the environmental footprint of the products that our customers purchase and use.	The greatest impact of sharing information on the environmental footprint of our products with our customers is in informing our design teams about our customer use habits. The Eco profiles help us assess where improvements can occur in the next generation of projects.

(C12.1c) Give details of your climate-related engagement strategy with other partners in the value chain.

We collaborate with technology partners to engage with customers on sustainability solutions in energy/water, buildings, infrastructure/planning, and transportation. We also engage with partners in our value chain, including technology partners, non-governmental organizations (NGOs), governments, scientists, and universities, through one-on-one meetings, consortiums, events, and industry associations. During these engagements, we collaborate on best practices to solve energy/environmental issues and work to advance energy-related and climate-related issues.

Our strategy for prioritizing engagements with members of our value chain is to evaluate the impact we are able to deliver and the resources required to deliver effectively. Guiding our engagement process are our overarching carbon and energy commitments, which focus on:

- Reducing our absolute greenhouse gas emissions 75 percent by 2030, relative to 2013 base year, and offsetting the rest.
- Enabling the measurement and management of global carbon and climate change impacts through technology solutions.
- Using 50 percent wind, hydro, and solar by 2018, 60 percent early in the next decade, and improving from there.
- Helping green the grid and accelerate the transition to a zero-carbon energy future.
- Enabling energy efficiency with and through technology that enables a transition to a cleaner, more energy-efficient economy.
- Accelerating research breakthroughs by working with leading scientists to expand the boundaries of our knowledge of the planet.

We communicate our progress externally through third-party organizations like CDP and the Dow Jones Sustainability Indices (DJSI) as well as our own Corporate Social Responsibility (CSR) Annual Report. Our relative transparency and performance are evaluated by those organizations and the public, influencing perceptions and the company's overall brand value. To measure the success of direct engagements focused on driving sustainability through technology, we look at customer satisfaction surveys, revenue, and whether we have enough technology partners offering sustainability solutions to meet demand.

An example of our climate-related engagement strategy with our technology partners is our Microsoft CityNext initiative. With our partners, Microsoft is working with cities to engage their citizens, empower city employees, optimize city operations and infrastructure, and transform to accelerate innovation and opportunity. The CityNext initiative and our partners can help cities reduce carbon emissions with solutions that span energy and water, building energy management, transportation, resource efficiency, and ecosystem services. The portfolio organizes solution categories across five broad functional areas, including Sustainable Cities. Through CityNext we have more than 360 partners delivering more than 1,100 solutions across 50 industry scenarios globally.

Public policy engagement

(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

Funding research organizations

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Other: Climate action	Support	<p>Ratification and US participation in the Paris Agreement. In 2016, Microsoft pushed for the fast ratification of the Paris Agreement. In 2017, Microsoft actively engaged the Trump administration on the business case for remaining in the Paris Agreement. We sent letters to and held meetings on this topic with senior officials in the US State Department and the White House. And we joined with other American business leaders to take out full-page advertisements in the New York Times, Wall Street Journal, and New York Post, urging the Administration to keep the United States in the Paris Agreement. Microsoft has been and remains a staunch supporter of the Paris Agreement. We are proud to have joined more than 1,000 American business leaders, mayors, and university presidents in issuing the “We Are Still In” pledge to support climate action under the Paris Agreement. Geography: United States.</p>	<p>We support the Paris Agreement as it provides assurance and clear direction for not only national governments but also corporations around the world. It will help companies to move forward in accelerating their low-carbon investments and helping to build a low-carbon global economy.</p>
Other: Regulation of the use of HFCs	Support	<p>Montreal Protocol Amendment to phase out hydrofluorocarbons (HFCs). In October 2016, Microsoft signed on to a White House statement in support of an amendment to the Montreal Protocol to phase out HFCs, a powerful pollutant and greenhouse gas not covered by the Paris Agreement. Microsoft is among a group of more than 500 countries, cities, and companies that called for the amendment at the annual treaty meeting in October. Geography: global.</p>	<p>We support the Montreal Protocol Amendment, as this action could avoid up to 0.5° Celsius of warming by the end of the century, making the Montreal Protocol an important step in implementing the goals in the Paris Agreement to limit global temperature rise.</p>
Adaptation or resilience	Support	<p>Federal resiliency efforts. In October 2016, Microsoft helped form the White House Partnership for Resilience and Preparedness (PREP), a public-private collaboration among federal agencies, non-governmental organizations, private sector companies, and civil society organizations focused on using data to boost climate resiliency. Microsoft joined the partnership as a working group member. We will work with PREP to help test and demonstrate new tools, services, and business models that enable smart urban infrastructure and environmental management. Geography: United States.</p>	<p>We support continued US government participation in public-private partnerships to advance resiliency. There is no corresponding legislation.</p>

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Clean energy generation	Support	<p>Clean Power Plan (CPP). In March 2017, Microsoft, Amazon, Apple, and Google (collectively working as “Tech Amici”) issued a joint statement in response to recent executive action on the CPP. Previously (in April 2016), Tech Amici had filed an amicus brief with the Washington, D.C., Circuit Court in support of the CPP. The CPP would empower the US Environmental Protection Agency (EPA) to limit power companies’ carbon emissions, reducing the US carbon footprint and driving investment in clean, renewable energy. Geography: United States.</p>	<p>We believe that strong clean energy and climate policies, like the CPP, can make renewable energy supplies more robust and address the serious threat of climate change while also supporting American competitiveness, innovation, and job growth.</p>
Clean energy generation	Oppose	<p>Proposed Federal Energy Regulatory Commission (FERC) Grid Reliability Rule. In 2017, we engaged heavily with FERC to reject the proposed rule on grid resilience pricing through various channels—submitting individual comments, meetings with key policymakers, and pushing our various associations to weigh in. Geography: United States.</p>	<p>We are deeply concerned that the proposed Grid Reliability Rule, as drafted, would distort energy markets in ways that increase energy prices for all consumers, reduce competition, impede innovation, and stand in the way of continued progress toward a more resilient and environmentally sustainable grid. We believe the matter is best handled by existing reliability mechanisms at regulatory proceedings at the regional transmission authority. No legislative solution has yet been proposed.</p>
Clean energy generation	Support	<p>Proposed Federal Energy Regulatory Commission (FERC) Storage and Distributed Energy Resources Rule. In 2017, we supported efforts to advance FERC’s proposed rule to allow storage and distributed energy resources to participate in the wholesale market. We provided comments to the various versions of the rule through the Advanced Energy Economy (AEE), and we met with several of the commissioners to voice our support for the storage rule and demonstrate proof points of how Microsoft is developing storage at its datacenters. Geography: United States.</p>	<p>We support the proposed FERC Storage and Distributed Energy Resources Rule.</p>
Clean energy generation	Oppose	<p>US solar tariffs. In 2017, Microsoft worked with a number of our associations to oppose and ultimately moderate the severity of the</p>	<p>We do not support the imposition of undue solar tariffs on solar imports in</p>

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
		solar tariffs President Trump imposed in January 2018. The tariffs were in response to a ruling by the US International Trade Commission that imports adversely impact domestic manufacturers. Geography: United States.	the United States. We believe there are more effective non-tariff measures to address domestic manufacturers' concerns. No legislative solution has yet been proposed.
Clean energy generation	Support	Renewable energy market access in Virginia. In Virginia, we are actively working to support renewable energy market access and expand the ability of customers to choose renewables. In November 2016, we submitted a public comment (along with 17 other corporations) encouraging the creation of legislation in support of increased and diversified renewable energy supplies in Virginia and asking for an explicit legal framework allowing companies choices to procure, lease, and access renewable energy resources from the state's utilities and from private third-party sellers. Geography: Virginia, United States.	We support expanded and opened access to renewable energy in Virginia. We believe that increasing the supply of renewable energy available through utilities and from third parties will not only enable companies like Microsoft to meet their greenhouse gas reduction and renewable energy commitments but also benefit all Virginians through new investments, tax revenue, jobs, and infrastructure upgrades that will accompany the resulting advanced energy growth.
Clean energy generation	Support	Renewable energy access across the United States. We continue to support the launch of the Corporate Sourcing of Renewables Campaign and are actively working through the Renewable Energy Buyers Alliance (REBA) to deliver on our renewable energy goals. Geography: global.	We support the Corporate Sourcing of Renewables Campaign.
Clean energy generation	Support	Renewable energy market design consultation in Ireland. In 2017, we participated in the Irish Department of Communications, Climate Action and Environment's public consultation process regarding the future renewable electricity support scheme. Geography: Ireland.	We support a competitive renewable energy market.
Clean energy generation	Support	Renewable energy market access in the European Union (EU). In 2017, we engaged the EU Parliament, EU Commission, and Council of Europe through the Energy Solutions Network and other advocacy groups (including meetings and coalition letters) on the EU clean energy package, including reforms to make it easier and cheaper for corporates to invest in renewables. Geography: EU.	We support the EU clean energy package. We believe that policies that encourage greater corporate involvement in the production, distribution, and consumption of

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
			renewable energy will help accelerate Europe's clean energy transition.
Clean energy generation	Support	Renewable energy market access in Japan. In 2017, Microsoft joined other companies to engage the Japanese government (through meetings and letters) on policy proposals to encourage greater access to renewable energy. In particular, we supported a proposal by the Renewable Energy Institute that the following three elements be included in the design of the "non-fossil value trading market" policy to be implemented by the Japanese government in FY2017: "(1) Allow power consumers to declare the use of renewable power. (2) Divide non-fossil power sources into renewable energy and nuclear energy. (3) Show a breakdown of renewable energy by type, such as solar PV, wind power, small-scale hydropower and biomass." Geography: Japan.	We support legislation that provides more options for customers to purchase renewable energy in Japan, including through renewable energy certificates (RECs) or the equivalent. As of FY17 (the reporting period), a legislative solution had not yet been finalized.

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

Yes

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

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you influenced, or are you attempting to influence the position?
Information Technology Council (ITI)	Consistent	ITI believes and advocates that innovative technologies are at the heart of the world's ability to develop clean, renewable energy sources and to use less energy where we live and work. Whether through the development of next-generation batteries or high-end computers that rely on less power to operate, through new approaches to recycling e-waste or by creating more effective ways to reduce our energy footprint, technology holds the key to energy independence. Smart grids, smart logistics, intelligent transportation systems, telework, and other information communications technology (ICT) can make a huge difference as we seek to broaden access to sustainable energy. ITI is committed to advancing policies that will strengthen energy security and	We engage with the White House, federal agencies, and Congress to ensure that together we can successfully tap the potential of ICT to contribute to future security, sustainability, and competitiveness. We also work proactively with the US Environmental Protection Agency (EPA) through ITI as an active partner in and advisor to the ENERGY STAR program (the ITI Energy Efficiency Working Group [EEWG] helps

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you influenced, or are you attempting to influence the position?
		<p>global competitiveness while fostering long-term sustainable economic growth. It believes that ICT innovations will be essential to achieving the sustainability and growth targets that governments have established for themselves, and yet there remain barriers to realizing the full potential of ICT. ITI is determined to help governments identify and remove these barriers. For more information, see www.itic.org/policy/energy.</p>	<p>coordinate meetings between the computer industry and the Department of Energy, which runs the ENERGY STAR program).</p>
Consumer Technology Association (CTA)	Consistent	<p>CTA, formerly the Consumer Electronics Association (CEA), represents the \$287 billion US consumer technology industry. More than 2,200 companies are CTA members. CTA benefits include policy advocacy, market research, technical education, industry promotion, standards development, and the fostering of business and strategic relationships. CTA is also engaged in consumer education and collaborative partnerships to help meet the challenge of building a more sustainable economy. CTA's position is that "we all have a stake in finding solutions for climate change and diminishing natural resources. Our global economy is also a global eco-system, and it's never been more important to share the responsibility of preserving our planet." The CTA 2015 Sustainability Report illustrates the industry's progress in pushing green initiatives. The report also provides transparency on the consumer electronics industry's sustainability practices. For more information, see www.cta.tech/Government-Affairs/Issues-Pages/Furthering-Industry-Sustainability-and-Green-Initi.aspx.</p>	<p>Through the CTA, we collaborate with the membership toward finding common ground on the progress of energy efficiency measures.</p>
Center for Climate and Energy Solutions (C2ES)	Consistent	<p>The C2ES mission is to advance strong policy and action to reduce greenhouse gas emissions, promote clean energy, and strengthen resilience to climate impacts. C2ES believes a sound climate strategy is essential to ensure a strong, sustainable economy. C2ES is widely recognized as an influential and pragmatic voice on climate issues. It ranks regularly among the top environmental think tanks in the world, providing timely, impartial information and analysis on our pressing climate and energy challenges. It brings city, state, and national policymakers together with businesses and other stakeholders to achieve common</p>	<p>Through C2ES, we collaborate with members to review and propose policy and corporate approaches to reduce carbon emissions, including voluntary carbon programs.</p>

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		<p>understanding and consensus solutions. It develops market-based solutions and other practical policy approaches that deliver real and lasting climate progress. And it works with Fortune 500 companies to strengthen business action and business support for effective climate policy. For more information, see C2ES.org.</p>	
Advanced Energy Economy (AEE)	Consistent	<p>AEE is a national association of business leaders who are making the global energy system more secure, clean, and affordable. Its mission is to transform public policy to enable rapid growth of advanced energy companies. Its efforts in support of EPA regulation of electricity sector carbon emissions are an example of its stance on climate change: "EPA's regulation of carbon emissions from the electric power sector under Section 111(d) of the Clean Air Act represents an opportunity to modernize the electric power system, making it higher performing and more consumer-focused while reducing emissions. Advanced energy technologies and services make it possible to cut emissions while improving reliability, reducing costs, increasing competition, and creating new services for consumers." For more information, see www.aee.net/initiatives.</p>	<p>We are on the board for AEE. We regularly engage with AEE and its members on the creation of research reports and policy recommendations focused on advancing the adoption of alternative energy.</p>
AEE Advanced Energy (AE) Buyers Group	Consistent	<p>The AE Buyers Group is a coalition of leading advanced energy purchasers who have come together to engage on the energy policy issues that will help them achieve their ambitious clean energy targets. By tapping into AEE's existing energy policy expertise and state engagement network, and by working collaboratively with other companies, corporate purchasers participating in the AE Buyers Group will maximize the impact of their policy engagement. For more information, see www.aee.net/contact/ae-buyers.</p>	<p>We collaborate with other AEE members to advance policies and engage policymakers in support of advanced energy procurement.</p>
Renewable Energy Buyers Alliance (REBA)	Consistent	<p>REBA is helping grow corporate demand for renewable power and helping utilities and others meet it. REBA exists to make the transition to renewable energy easier by helping companies understand the benefits of moving to renewables, connecting corporate demand to renewable energy supply, and helping</p>	<p>As a founding member, we collaborate with other REBA members to share best practices and formulate new approaches to corporate procurement of renewable energy.</p>

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		<p>utilities better understand and serve the needs of corporations. REBA is led by four nonprofit organizations that have brought together their deep expertise in transforming energy markets. Collectively they work with more than 60 iconic, multinational companies that represent enormous demand for renewable power and, as part of that, coordinate with the We Mean Business' RE100 campaign, supporting companies who have signed onto their 100 percent renewable energy commitment. Their goal is to help corporations purchase 60 gigawatts (GW) of additional renewable energy in the United States by 2025. For more information, see Rebuyers.org.</p>	
Center for Environmental Health	Consistent	<p>The Center for Environmental Health conducts research and spearheads policy advocacy promoting use of healthy, non-toxic materials in the construction and furnishing of commercial buildings. For more information, see Ceh.org.</p>	<p>LinkedIn has been engaged with the center since FY17. In FY17, we signed the Healthy Furnishing Purchaser Pledge (presented to furniture makers) in support of the center.</p>
TechNet	Consistent	<p>TechNet is committed to advancing public policies and private sector initiatives that make the United States the most innovative nation in the world. TechNet champions policies that foster a climate for innovation, allowing technology companies to create, thrive, and compete. TechNet members work together to identify key policy priorities and execute successful legislative strategies at the federal, state, and local levels. For more information, see Technet.org.</p>	<p>We regularly engage with TechNet and its members on policy recommendations focused on advancing the adoption of alternative energy.</p>
Alliance to Save Energy	Consistent	<p>The Alliance to Save Energy is a nonprofit, bipartisan alliance of business, government, environmental, and consumer leaders advocating for enhanced energy productivity to achieve economic growth, a cleaner environment, and greater energy security, affordability and reliability. Its mission is to improve energy productivity by: leading bipartisan initiatives that drive technological innovation and energy efficiency across all sectors of the economy, through policy advocacy, education, communications, and research; and convening and engaging in</p>	<p>We are on the board for the Alliance. We regularly engage with the Alliance and its members on policy recommendations focused on improving energy productivity.</p>

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you influenced, or are you attempting to influence the position?
		diverse public private partnerships, collaborative efforts, and strategic alliances to optimize resources and expand its sphere of influence. For more information, see Ase.org .	

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?

No

(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?

We strive to ensure that our participation in the political process is open, transparent, and based on reasons that are clear and justifiable to our shareholders and the public. We are pleased that Microsoft gained the second highest rating given by the CPA-Zicklin Index of Corporate Political Accountability and Disclosure for our policies that ensure the accountability and transparency of our public policy engagement. (Full guidelines governing our policy engagement and details of campaign contributions and advocacy spending are available through the corporate social responsibility section of the Microsoft website.)

Our Director of Sustainability Policy role at Microsoft leads the company's policy efforts on sustainability and energy issues and ensures that our advocacy work is consistent with our climate change and sustainability strategy.

The Regulatory and Public Policy Committee of the Microsoft Board of Directors is responsible for providing oversight of the company's public policy work and addresses environmental and social risks. The charter for the Regulatory and Public Policy Committee of our Board of Directors includes the responsibility to "review and provide guidance to the board and management about the company's policies and programs that relate to corporate social responsibility, including human rights, environmental sustainability, responsible sourcing, and philanthropy."

We have articulated our public policy position on climate change both (1) by integrating it into our Global Public Policy Agenda and (2) in a direct statement:

1. The Global Public Policy Agenda calls on governments to "Address energy and environmental challenges.... Government policies should stimulate innovation in energy technology and provide market-based incentives for private investment in the transition to sustainable, low-carbon energy sources and technologies. Given Microsoft's carbon-neutral commitment and imposition of an internal fee on carbon associated with our energy use, we gain business value from cost-effective policies that increase the availability of low-carbon and renewable energy for use in our operations...and share these insights with our customers and government to help them with reducing their energy use."

2. Our Climate Change Policy Statement states: "Climate change is a serious challenge that requires a comprehensive and global response from all sectors of society. We see an important role for governments to provide the frameworks that spur the transition to a low-carbon economy, including:

- Direct funding for accelerating research into renewable and sustainable low-carbon energy sources;

- Market-based mechanisms that are stable and predictable over the long-term which incent the private sector to invest in the transition to sustainable low-carbon and carbon-free energy sources and technologies;
- Regulatory systems that support innovation and eliminate barriers to the adoption of sustainable low-carbon and carbon-free technologies;
- Policies that promote the accurate measurement and transparent reporting of energy use and carbon footprints; and
- Ensuring that smart grids and other energy and environmental IT applications promote security, privacy, and interoperability without mandating the use of specific technologies.”

Microsoft’s “Principles and Policies for Guiding Participation in the Public Policy Process” in the United States includes principles on oversight of trade association memberships. Those policies note, “Like all major corporations, Microsoft is a member of trade associations (organized under section 501(c)(6) of the Internal Revenue Code) in the United States to help advance our public policy agenda and related business goals. We review these memberships annually to assess their business value and alignment with Microsoft’s overall public policy agenda. We work with many of these groups on narrowly-tailored technology policy issues relevant to specific business objectives and it is unrealistic to expect any group’s agenda to align with ours in all policy areas. Therefore our engagement with a particular group does not and should not imply our endorsement of all the policy positions those groups have taken. However, we will not support groups that spend an abundance of their time working against our direct business interests and public policy agenda.” In a few instances where we have felt clarification is needed about the public policy position taken by an industry association we belong to, we have issued statements that they are not representing Microsoft on that policy (for example, climate change and renewable energy).

Communications

(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	Status	Attach the document	Content elements
In mainstream reports	Complete	10K	Risks & Opportunities
In voluntary sustainability report	Complete	CSR report	Governance Strategy Emissions figures Emissions targets Other metrics
In voluntary communications	Complete	Environmental fact sheet	Emissions figures Other metrics
In voluntary communications	Complete	Microsoft Green blog extracts	Strategy

Publication	Status	Attach the document	Content elements
			Other: Environmental action
In voluntary communications	Complete	Microsoft on the Issues blog extracts	Strategy Other: Environmental action
In voluntary communications	Complete	LinkedIn's Next Generation Data Center Goes Live	Strategy
In voluntary communications	Complete	Stewards for the environment: A look at 4 Microsoft employees making a difference	Other: Employee engagement

C14 Signoff

Signoff

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

Job title	Corresponding job category
President, Chief Legal Officer	President