Module: Introduction

Page: Introduction

CC0.1

Introduction
Please give a general description and introduction to your organization.

Akamai® is the leading cloud platform helping our customer move faster forward by making the Internet business-ready: fast, reliable and secure on any device, anywhere, any time. Akamai removes the complexities of connecting the increasingly mobile world, supporting 24/7 consumer demand, and enabling enterprises to securely leverage the cloud. At the core of the Company's solutions is the Akamai Intelligent Platform™ providing global reach, coupled with unmatched reliability, security, visibility and expertise. Our Platform is designed to address these challenges and make it easier for companies to be successful online by ensuring performance, instant expansion and scalability, robust security and useful data. Made up of over 216,000 servers, deployed in more than 120 countries and spanning over 1,500 of the networks within the Internet, the Akamai platform is "intelligent" – constantly monitoring for network outages, security threats, congestion, etc., and making adjustments so it can deliver the scale, performance and security our customers need to be successful.

With all this computing power, we're also able to build rich functionality into our platform so our customers can spend less on IT infrastructure and get better results. One out of every three Global 500 companies trust Akamai.

The Information Communications Technology (ICT) industry – the large and rapidly expanding sector in which we operate our businesses – must play a key role in building a more sustainable world. Akamai's Sustainability Initiative has a primary focus on measuring and mitigating the environmental impact of our business operations. Akamai's customers leverage our shared, distributed cloud platform to facilitate the dematerialization of traditional brick and mortar activities as these activities move to the Internet. This shift is driving dramatic efficiencies across industries and around the globe. Our challenge is that this rapid adoption of the Internet fuels our network growth and concomitant environmental impacts. Our most important efforts to offset the environmental impacts of this rapid growth and improve our levels of environmental sustainability center on working to innovate and improve network energy and carbon efficiency, and on broadening and accelerating these reductions for our customers.

Akamai's network operations currently represent more than 76% of our environmental footprint in terms of energy consumption and carbon emissions including Scope 3. To hold ourselves accountable, we have a commitment to reduce our network energy and GHG intensity relative to traffic 30% year-over-year. Over the past eight years we've averaged 25% per year energy and carbon intensity reductions, and total reductions of 91% since January 2009.

To further reduce our impacts Akamai has set a target to decarbonize our energy consumption. By 2020, we commit to reduce the absolute greenhouse gas

emissions of our network operations below 2015 levels (a 40% reduction relative to business-as-usual) by powering 50% of our global network operations with renewable energy.

As a result of these long term efforts to innovate around network productivity and efficiency, our absolute energy consumption and greenhouse gas emissions have decoupled from our network traffic growth, flattening even as our traffic continues to grow exponentially.

We also expanded our focus on efficiency to our data center partners where approximately 40% of our network energy consumption occurs.

Akamai's major business operations and activities as they apply to our greenhouse gas (GHG) emissions as of 31 December 2016, consist of:

- Corporate offices:
  o 6,100 employees/contractors
  o 24 U.S. locations (22 leased; 2 managed)
  o 80 international locations (24 leased; 56 managed): Australia, Austria, Belgium, Brazil, Canada, China, Cost Rica, Czechoslovakia, France, Germany, Hong Kong, India, Italy, Israel, Japan, South Korea, Poland, Malaysia, The Netherlands, Singapore, Spain, Sweden, Switzerland, Taiwan, Turkey, UAE, UK
  o Distributed network server infrastructure:
  o more than 216,000 servers
  o more than 2,000 collocation facilities*
  o 120+ countries and territories on all 7 continents
- Shipping and distribution
- Employee travel
- Employee commuting
- Marketing activities
- Supplier activities

* Akamai leases all of its office space, outsources its data center operations, and owns no vehicle fleets. We own and operate our network server infrastructure.

Akamai considers the geographic breakdown of its operations by country to be proprietary (competitive) information. Therefore we provide information at an aggregated level: Africa, Asia, Europe, Middle East, North America, Oceania, and South America.

CC0.2

Reporting Year

Please state the start and end date of the year for which you are reporting data.

The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.

We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.

Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed
Fri 01 Jan 2016 - Sat 31 Dec 2016

CC0.3

Country list configuration

Please select the countries for which you will be supplying data. If you are responding to the Electric Utilities module, this selection will be carried forward to assist you in completing your response.

Select country
United States of America
Rest of world

CC0.4

Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

USD($)

CC0.6

Modules
As part of the request for information on behalf of investors, companies in the electric utility sector, companies in the automobile and auto component manufacturing sector, companies in the oil and gas sector, companies in the information and communications technology sector (ICT) and companies in the food, beverage and tobacco sector (FBT) should complete supplementary questions in addition to the core questionnaire.

If you are in these sector groupings, the corresponding sector modules will not appear among the options of question CC0.6 but will automatically appear in the ORS navigation bar when you save this page. If you want to query your classification, please email respond@cdp.net.
If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below in CC0.6.

Further Information

Module: Management

Page: CC1. Governance

CC1.1

Where is the highest level of direct responsibility for climate change within your organization?

Board or individual/sub-set of the Board or other committee appointed by the Board

CC1.1a

Please identify the position of the individual or name of the committee with this responsibility

Tom Leighton, Chief Executive Officer of Akamai Technologies and member of the Board of Directors.

CC1.2

Do you provide incentives for the management of climate change issues, including the attainment of targets?

Yes

CC1.2a

Please provide further details on the incentives provided for the management of climate change issues

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
Executive officer	Monetary reward	Efficiency project	Some officers have a management by objective (MBO) to reduce cost of goods sold per unit of traffic for network operations that includes energy efficiency savings. Financial compensation is tied to achieving MBO's.
Business unit managers	Monetary reward	Efficiency project	Some business unit managers have a management by objective (MBO) to reduce cost of goods sold per unit of traffic for network operations that includes energy efficiency savings. Financial compensation is tied to achieving MBO's.

Further Information

Page: CC2. Strategy

CC2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company wide risk management processes

CC2.1a

Please provide further details on your risk management procedures with regard to climate change risks and opportunities

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Six-monthly or more frequently	Board or individual/sub-set of the Board or committee appointed by the Board	Akamai considers all geographical region in which we have operations. Akamai currently operates in 92 countries, including countries in these regions: North America, South America, Latin America, Africa, EMEA, Asia (including India and China), and Oceania.	3 to 6 years	The Board plays an active role in overseeing management of Akamai's risks. Should a climate change related risk reach a material threshold the Board would be alerted through the enterprise risk management process. The Board and its committees perform this through both formal and informal mechanisms. The Board holds the CEO accountable for overall risk management.

CC2.1b

Please describe how your risk and opportunity identification processes are applied at both company and asset level

A company-wide assessment of business risks, led by Senior Director of Internal Audit, is conducted annually for the purpose of Enterprise Risk Management (ERM). Should any risk, including those related to climate change, meet a material threshold, it will be assessed through the ERM process. Results are reviewed by executive management and the Audit Committee of Akamai's Board of Directors. Company-wide risks are also reviewed quarterly by our Disclosure Committee comprised of our General Counsel, Assistant General Counsel, Sr. Director of Internal Audit, Vice President of Finance, Assistant Controller, and Chief Human Resources Officer. Such risks are disclosed by the Company with its quarterly SEC filings.

Climate change risks are identified and assessed across various business units on an ongoing basis. This risk analysis also includes asset level such as Akamai's network architecture and deployment, office operations, business continuity, and critical supply chain. Should a risk related to regulatory, physical or other related climate impacts meet a material threshold it will be escalated to business unit executives as appropriate. Executives reporting to the CEO communicate business unit level risks to the CEO, per the above ERM process.

Physical risks are assessed as a function of the aggregate server deployment in a region, with respect to increasing risk of storms that have the potential to cause data center outages, or business continuity risks for our office operations. Climate change-related regulations are assessed for applicability and potential cost increases and reporting requirements.

Opportunities are generally related to network efficiency improvements and are assessed in terms of cost, resource requirements and time frame to achieve versus cost savings. Material opportunities are presented to business unit management for approval to obtain funding and resources.

CC2.1c

How do you prioritize the risks and opportunities identified?

Climate change-related risks are prioritized using a materiality assessment. Materiality of climate change-related risk is quantified through measurement and monitoring of our annual energy consumption and Scope 1, Scope 2 and Scope 3 GHG emissions associated with our operations including network, office, travel, and shipping. Risk items are assessed and prioritized on the bases of size and scope of impact; our ability to address; requirement by outside stakeholders to address; cost/benefit of addressing.

Physical risks such as business continuity of our network and office operations are prioritized on the bases of impact to the business such as impact to customers, lost revenue, damage to reputation, loss of competitive differentiation; time frame of potential impact versus cost and time frame to address risk.

Opportunities are prioritized on the bases of ROI from cost savings; revenue growth potential; alignment with core competencies and markets; resource requirements and time frame to develop (opportunity cost); and in alignment with our sustainability goals and targets.

CC2.1d

Please explain why you do not have a process in place for assessing and managing risks and opportunities from climate change, and whether you plan to introduce such a process in future

Main reason for not having a process	Do you plan to introduce a process?	Comment

CC2.2

Is climate change integrated into your business strategy?

Yes

CC2.2a

Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process

Akamai has assessed that the aspects of climate change exposure that influence our strategy are primarily from higher costs from regulation on carbon emissions and from physical damage to our infrastructure resulting from more frequent and intense storms and flooding. Climate change risks and opportunities are linked to Akamai's business strategy. In addition to the regulatory and physical climate related risks that influence our business strategy, we see opportunities to develop efficient and, potentially low-carbon, services that can help markets transform to a low-carbon economy.

In late 2008, with a goal of quantifying and mitigating our climate change exposure, Akamai began measuring and estimating our energy consumption and associated greenhouse gas emissions. We identified that more than 93% of our energy consumption and carbon emissions is attributable to our network operations. Akamai's Platform Management team saw this is an opportunity, in alignment with our business strategy to focus on energy efficiency of these operations that would lower operational costs and reduce climate change regulatory-related exposure, which integrates into our general business strategy that includes cost-of-revenue and risk reduction.

In 2010 Akamai set a target tied to its business strategy to reduce the network energy and carbon intensity relative to network traffic (Gbps) by 30% annually. To achieve these targets and reduce our climate change regulatory exposure that could result in significant cost increases influenced both our short and long term network deployment and operational strategies.

The Network team and Corporate Facilities collect energy usage data. The sustainability team manages the data in an energy and carbon management system, developing intensity metrics and trending and engages with these business units to integrate climate change strategy in alignment with business goals. Network intensity metrics are compared against annual reduction goals. The CEO and sustainability team also communicate this information across the company and externally along with sustainability goals and policy to influence our strategy.

Our short term strategy in response to climate change is focused on:
-       implementing energy efficient servers that includes using more efficient components, such as variable speed fans, more efficient power supplies, and removing components that are not used.
-       Purchasing servers that report real-time energy consumption and developing a mechanism to collect and analyze the data;
Our long term strategy in response to climate change will be implemented over the next 5 years and includes:
-       Implementing network software changes that enable server power frequency scaling;
-       Developing a server power consumption model so that we can better assess our data center power requirements before deployment and more accurately contract for/reserve only the required power;
-       Implementing network software changes that would enable servers to move into a low-power state, i.e., more than idling the CPU.
-       Developing a renewable energy strategy as a means to reduce the carbon intensity of our global network operations.

We believe that these initiatives have resulted in and will continue to result in tens of millions of dollars in cost savings that helped our competitive advantage by improving margins and providing for greater pricing flexibility.

The most substantial business decisions that have been made to address our climate change-related regulatory exposure include:
-       converting our collocation data center contracts from fixed-power to metered power that gives us a financial incentive to reduce our off-peak energy consumption;
-       incorporating industry-standard data center efficiency KPI, e.g., Power Usage Effectiveness, into our collocation data center contracts to incent our suppliers towards more efficient operations; and

- engaging with our collocation data center providers to encourage implementation of energy efficiency measures such as use of blanking panels and cooling air flow containment; higher cooling set point temperatures; outside air for cooling when appropriate.

CC2.2c

Does your company use an internal price on carbon?

No, and we currently don't anticipate doing so in the next 2 years

CC2.3

Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)

Direct engagement with policy makers
Trade associations
Other

CC2.3a

On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Energy efficiency	Support	Akamai is a member of the IT Industry Council that engages with policy makers regarding energy efficiency regulations and standards.	Standards for server and data center efficiency ratings under Energy Star.
Clean energy generation	Support with minor exceptions	Akamai was a signatory to a letter to President Obama, Senate and House leadership, as well as select state governors where Akamai has significant operations including Virginia, Illinois, Georgia, California and Texas.	The letter expressed our public support of the EPA's proposed Carbon Pollution Standards
Other:	Support with minor exceptions	Akamai was a signatory to the White House American Business Act on Climate Pledge.	The declaration express our public support for U.S. support for UN COP21 climate commitments.

CC2.3b

Are you on the Board of any trade associations or provide funding beyond membership?

Yes

CC2.3c

Please 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, or are you attempting to, influence the position?
Information Technology Industry Council	Consistent	The ITI Council promotes the advancement of intelligent efficiency solutions (e.g. smart buildings, smart transportation, smart manufacturing), through increased public/private partnership in ICT-enabled energy innovation. This includes emphasis on network and data center efficiency; and government leadership in the use of ICT-enabled efficiency	In 2014 Akamai joined the ITI Council's Digital Energy and Sustainability Solutions Campaign (DESSC). DESSC brings together information and communications technology companies and associations, non-governmental organizations, customers and other stakeholders who recognize the enabling role that technology plays in improving the environment,

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
		and sustainability solutions, to include data center innovation and cloud computing, enabling increased efficiency and effectiveness while reducing costs.	through mechanisms such as energy efficiency, and driving long-term economic growth. A DESSC initiative is a focus on former President Obama's smart energy and climate efforts, support for ICT-enabled solutions and innovation relevant to combating climate change and advancing smart energy leadership. Akamai supports initiatives promoting innovation around data center and IT efficiency with the goal of reducing carbon emissions.

CC2.3d

Do you publicly disclose a list of all the research organizations that you fund?

CC2.3e

Please provide details of the other engagement activities that you undertake

In 2015 Akamai became a member of Businesses for Social Responsibility (BSR) in order to join the BSR working group Future of Internet Power (FoIP). FoIP is a consortium of tech companies that leverage collocation (colo) data centers. the purpose of the group is to use its collective influence to engage with colo data center providers to increase the renewable energy mix of its electricity. The group is also developing GHG Protocol sector guidance for the collocation data center industry clarifying the allocation of electricity usage as Scope 2 and Scope 3 emissions, by colo vendor and client.

Akamai is also a member of Business Renewables Center (BRC) and Renewable Buyers Alliance which serve to accelerate the procurement of renewable energy by non-utility entities by developing and sharing best practices, expertise and other information.

Akamai recently became a signatory to the Corporate Renewable Energy Buyers" Principles which provide guidelines to utilities and colo's for providing renewable energy offerings to corporate buyers.

Akamai is an active corporate member of The Green Grid, a data center industry consortium focused, among other things, on improving the energy efficiency and greenhouse gas emissions of data center operations.

CC2.3f

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?

Akamai coordinates internally to ensure that all of our direct and indirect activities that influence policy are consistent with our overall climate change strategy. Akamai's Vice President of Public Policy reviews policy-related initiatives for such consistency in coordination with Akamai's Senior Director of Environmental Sustainability.

CC2.3g

Please explain why you do not engage with policy makers

Further Information

Page: CC3. Targets and Initiatives

CC3.1

Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?

Absolute target
Intensity target
Renewable energy consumption and/or production target

CC3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment
Abs1	Scope 1+2 (market-based)+3 (upstream)	76%	5%	2015	132500	2020	No, but we anticipate setting one in the next 2 years	This target covers Akamai's global network operations including GHG associated with our IT (Scope 2) and data center (Scope 3) infrastructure. Currently 100% of the data center operations are outsourced to third party colocation vendors. The goal will be achieved through a combination of improved energy efficiency and productivity measures, and the procurement of renewable energy to cover 50% of global operations. It is estimated that procurement of 50% renewable energy for our global IT and data center operations will result in a 5% absolute reduction in network GHG emissions (Scope 2 and Scope3).

CC3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment
Int1	Scope 2 (market-based)	93%	30%	Metric tonnes CO2e per unit of service	2015	0.36	2016	No, and we do not anticipate setting one in the next 2 years	Intensity reduction target is an annual reduction of 30%. This target applies specifically to Akamai's global network operations which encompass the Scope 2 emissions associated with the operations of our servers and other networking equipment over

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment
				provided					which Akamai has direct operational control. The intensity target is reduction relative to network traffic. Since it is an annual target the base year is the prior year (intensity metric at the end of December) and the target year is the reporting year (intensity metric at the end of December).

CC3.1c

Please also indicate what change in absolute emissions this intensity target reflects

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
Int1	Decrease	17	Decrease	17	Change in anticipated Scope 2 absolute emissions is specific to network IT operations. Akamai's intensity reduction target relates to Scope 2 only, associated with our network IT operations which represent 91% of our Total Scope 2 emissions. A 17% decrease in Scope 2 is expected relative to 2016 network Scope 2 emissions if Akamai achieves its 30% intensity reduction target after applying 2016 network traffic growth. Scope 3 in this case represents the emissions associated with our collocation data center operations (exclusive of network IT). A reduction in GHG intensity associated with our Network IT translates into a proportional and commensurate reduction in GHG intensity in our data centers.

CC3.1d

Please provide details of your renewable energy consumption and/or production target

ID	Energy types covered by target	Base year	Base year energy for energy type covered (MWh)	% renewable energy in base year	Target year	% renewable energy in target year	Comment
RE1	Electricity consumption	2016	220000	50%	2020	50%	Base year is not applicable. The 50% target is based on anticipated electricity usage in 2020. Renewable energy goal covers both Scope 2 and Scope 3 electricity consumption associated with Akamai's network operations: IT and data centers.

CC3.1e

For all of your targets, please provide details on the progress made in the reporting year

ID	% complete (time)	% complete (emissions or renewable energy)	Comment
RE1	20%	16%	Achievement of 50% renewable energy procurement includes a combination of virtual power purchase agreements for new renewable energy projects (with retirement of RECs), green power tariffs where available from local utilities, procurement by colocation data center vendors, and existing grid renewable energy.
Int1	100%	30%	Our reduction in our network GHG intensity in 2016 was 9%. Gains in network server efficiency and productivity were offset by deployment of servers in anticipation of a significant increase in customer traffic that did not materialize as planned in 2016. As a result, the network energy usage (numerator) increased while the network traffic (denominator) did not significantly resulting in a lower intensity reduction despite implementation of energy efficiency programs. It is

ID	% complete (time)	% complete (emissions or renewable energy)	Comment
			expected that network traffic will accelerate in 2016 in alignment with network IT deployment.

Please explain (i) why you do not have a target; and (ii) forecast how your emissions will change over the next five years

CC3.2

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?

No

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 you reporting low carbon product/s or 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	% R&D in low carbon product/s in the reporting year	Comment

CC3.3

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

Yes

CC3.3a

Please 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 tonnes CO2e (only for rows marked *)
Under investigation	6	
To be implemented*	3	77550
Implementation commenced*	5	4037
Implemented*	3	2620
Not to be implemented	2	

CC3.3b

For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Low carbon energy purchase	Akamai has set a target to procure renewable energy for 50% of its global network operations by 2020.	70000	Scope 2 (market-based)	Voluntary	0	0		16-20 years	It is not expected that this initiative will save Akamai money. There will be no upfront investment required, only monthly payments for renewable energy procured. Therefore, a payback period is not applicable. Renewable procurement contract terms will range from 12-20 years.
Energy efficiency: Processes	Network server virtualization	7400	Scope 2 (market-based)	Voluntary	7750000	2100000	<1 year	Ongoing	
Other	Rearchitecture of network servers for increased efficiency.	4000	Scope 2 (market-based)	Voluntary	2200000	400000	<1 year	Ongoing	Investment is in the form of labor costs only.
Energy efficiency: Building services	Office LED lighting retrofit	360	Scope 2 (market-based)	Voluntary	70000	145000	1-3 years	Ongoing	
Energy efficiency: Building services	Building HVAC variable fan drive retrofit	30	Scope 2 (market-based)	Voluntary	11700	3800	<1 year	Ongoing	Short payback period was aided by utility rebate. Without rebate payback period was 2 years.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Other	Use of more efficient network server components.	150	Scope 2 (market-based)	Voluntary					
Energy efficiency: Processes	Software-based changes that increase network server throughput and streamline component utilization.	570	Scope 2 (market-based)	Voluntary				Ongoing	Investment is primarily labor costs.
Other	Network server variable fans speed control to reduce fan speed as a function of server CPU temperature.	740	Scope 2 (market-based)	Voluntary				Ongoing	Previously the fan speed was hardcoded at full speed. Estimate 5 Watts savings per server. Investment is primarily labor costs.
Energy efficiency: Building services	Upgraded office photocopying equipment.	7	Scope 2 (market-based)	Voluntary				Ongoing	New photocopying equipment is much more energy efficient.
Energy efficiency: Processes	Put network servers into a lower power mode when not under full utilization.	950	Scope 2 (market-based)	Voluntary				Ongoing	Investment is primarily labor costs.

CC3.3c

What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Financial optimization calculations	

Further Information

Page: CC4. Communication

CC4.1

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	Page/Section reference	Attach the document	Comment
In voluntary communications	Complete	6, 8, 11	https://www.cdp.net/sites/2017/54/454/Climate Change 2017/Shared Documents/Attachments/CC4.1/environmental-sustainability-at-akamai-2016.pdf	https://www.akamai.com/us/en/about/corporate-responsibility/sustainability/programs/renewable-energy-program.jsp https://www.akamai.com/us/en/about/corporate-responsibility/sustainability/programs/network-efficiency/ https://www.akamai.com/us/en/about/corporate-

Publication	Status	Page/Section reference	Attach the document	Comment
				responsibility/sustainability/our-commitment/targets-progress.jsp

Further Information

Module: Risks and Opportunities

Page: CC5. Climate Change Risks

CC5.1

Have you identified any inherent climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Risks driven by changes in regulation
Risks driven by changes in physical climate parameters
Risks driven by changes in other climate-related developments

CC5.1a

Please describe your inherent risks that are driven by changes in regulation

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Carbon taxes	Our deployed network of more than 216,000 servers consumes significant energy resources, including those generated by the burning of fossil fuels. It is possible that future regulatory or legislative initiatives such as a carbon tax could affect the costs of operating our network of servers and our other operations. Such costs could make us less profitable in future periods.	Increased operational cost	3 to 6 years	Indirect (Supply chain)	Likely	Low	Akamai would likely not be directly impacted. Rather cost increases would be passed down through our supply chain, primarily our collocation data center providers. An analysis of our network-wide carbon emissions, including collocation data center operations, estimated the impact of a $20/ton carbon tax would amount to less than a 1% increase in our cost of revenue, or less than $5M in 2016. The latest auction clearing price for a GHG allowance on the CA cap & trade exchange was $12/mton.	A mitigating factor is that this cost will be experienced industry-wide by Akamai and our competitors and customers alike. Akamai has undertaken a number of initiatives to reduce exposure to these risks including: 1) network energy efficiency improvements, 2) network productivity improvements, and 3) a plan to procure renewable energy for data center operations. The global geographic distribution of Akamai's operations and diversification of its supply chain both of which are fundamental strategies to Akamai's operational model also significantly reduce exposure to this risk. Our geographic	R&D cost associated with these initiatives would be less than 2% of operating costs. Cost of geographic and supplier diversification is not additive because these operational strategies is inherent to achieving our performance guarantees and is built into core operations.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								distribution means that only a fraction of Akamai's infrastructure would be impacted by a regional carbon tax.	
Fuel/energy taxes and regulations	Similar to carbon taxes, it is possible that future regulatory or legislative initiatives such as a energy taxes could affect the costs of operating our network of servers and our other operations. Such costs could make us less profitable in future periods.	Increased operational cost	1 to 3 years	Indirect (Supply chain)	Very likely	Low	Akamai would likely not be directly impacted. Rather cost increases would be passed down through our supply chain, primarily our collocation data center providers. Energy costs are less than 5% of our overall operating expenses so a 10% percentage increase in energy costs would at most increase that share to 6%.	A mitigating factor is that this cost will be experienced industry-wide by Akamai and our competitors and customers alike. Akamai has undertaken a number of initiatives to reduce exposure to these risks including: 1) network energy efficiency improvements 2) network productivity improvements, and 3) a plan to procure renewable energy for data center operations. The global geographic distribution of Akamai's operations and diversification of its supply chain both of which are fundamental	R&D cost associated with these initiatives would be less than 2% of operating costs. Cost of geographic and supplier diversification is not additive because these operational strategies is inherent to achieving our performance guarantees and is built into core operations.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								strategies to Akamai's operational model also significantly reduce exposure to this risk. Our geographic distribution means that only a fraction of Akamai's infrastructure would be impacted by a regional energy or fuel tax.	

CC5.1b

Please describe your inherent risks that are driven by changes in physical climate parameters

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in precipitation extremes and droughts	Akamai believes that there is potential physical risk due to increased	Reduction/disruption in production capacity	>6 years	Direct	More likely than not	Low	Akamai's network infrastructure is not concentrated in any one city. Losses in any	Akamai has geographically distributed data center operations. These distributed operations are fundamental to	Cost of geographic and supplier diversification is not additive because these operational

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	flooding and extreme storms in areas where Akamai has physical infrastructure.						one region are limited, and would be, for the most part, less than $5 million, a few percent of annual network CAPEX. Akamai is self-insured against these losses because we believe the cost of replacing at risk equipment is small.	Akamai's service delivery model but also reduce our exposure to these physical risks. Data center operations are also distributed among a large number of data center providers further reducing business continuity risks. Another aspect of Akamai's operations is that the system is designed to be resilient at the server, rack, data center and regional level. That is, if there are outages at any of these levels traffic is diverted to operational parts of the network.	strategies are inherent to achieving our performance guarantees and are built into core operations.

CC5.1c

Please describe your inherent risks that are driven by changes in other climate-related developments

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Changing consumer behavior	Companies across Akamai's market space are increasingly seeking low-carbon and renewable electricity supplies for their facilities. In addition, some NGO advocacy groups are focusing attention on the quantities of electricity used by large Internet companies, and on the greenhouse gas emissions and other environmental concerns that result from those companies' electricity supplies. For example, Greenpeace's "Clicking Clean" campaign has been active since 2009 and features an annual report which scores internet / IT companies on aspects related to their climate actions and commitments and calls to task companies without	Reduced demand for goods/services	1 to 3 years	Direct	More likely than not	Low	Financial impact could vary widely depending on the prevalence and priority of climate-focused procurement policies in our market. Changes could have little to no effect; or, customers may shift some business to competitors, or customers may cancel our services. Akamai's differentiated services are highly valued (e.g., performance, security, scalability, cost-competitiveness, versatility) and it is unlikely that a lack of one attribute, such as clean-energy-powered operations, would result in a significant loss of business due to strict purchasing criteria. There's some evidence supporting this	Akamai is monitoring this trend among and having conversations with our key customers and prospects to assess the level of risk and potential impact. In 2016 we adopted renewable energy and greenhouse gas emissions targets to be met by 2020 that we believe will meet near term customer requirements. Our goal is to stay ahead of our customers' procurement requirements generally, and we believe our 2020 goals will effectively mitigate this financial risk over the next 1-3 years.	Current estimate of meeting our 2020 renewable energy goal is significantly less than a million dollars per year.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	such commitments. Separately, many companies with renewable energy strategies and accomplishments are receiving favorable press coverage for these actions while high-profile companies without clear strategies are described by the same press as laggards. This increase in public awareness of the connection between cloud computing, its electricity requirements, and climate change may hasten changes in procurement policies by the largest and most influential companies. Specifically, we believe large companies may adopt purchasing policies that favor suppliers with renewable energy strategies or goals,						assessment: Walmart has had rigorous supplier sustainability requirements for several years yet does not currently restrict purchases from suppliers that do not meet target thresholds. While we do expect to see some new procurement practices, we estimate their financial impact as low. A 1% reduction in revenue due to a shift in purchase preference, for example, is equivalent to $25M.		

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	and this change could negatively impact our revenues if we cannot sufficiently meet these new requirements.								

CC5.1d

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1e

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1f

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Renewable energy procurement goal: https://www.akamai.com/us/en/about/corporate-responsibility/sustainability/programs/renewable-energy-program.jsp

Page: CC6. Climate Change Opportunities

CC6.1

Have you identified any inherent climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Opportunities driven by changes in regulation
Opportunities driven by changes in physical climate parameters
Opportunities driven by changes in other climate-related developments

CC6.1a

Please describe your inherent opportunities that are driven by changes in regulation

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Carbon taxes	A carbon tax will incentivize our customers, due to increased energy costs, to maximize	Increased demand for existing products/services	3 to 6 years	Indirect (Supply chain)	More likely than not	Low	Akamai's combination of services, global scale and performance is highly	As part of our core strategy, Akamai has a program of continual improvement for our global	While there are R&D costs associated with these initiatives, the payback is 1-3 years with a

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	the energy efficiency of their website operations. Akamai's streamlined and shared, global Platform provides significantly more efficient operations than most of our customers can achieve. Using Akamai's services enables customers to reduce traffic load on their own less-efficient website infrastructure by shifting load to Akamai. As a result, customers can grow their infrastructure more slowly. Akamai can pass along our efficiency savings to our						differentiated. While we believe that our customers' ability to reduce their energy costs by using our services provides additional value-add and incentive to buy, it will likely result in less than a 1% increase in revenue, e.g., <$25 million.	Platform energy efficiency and productivity to manage cost of revenue. There are four categories that comprise these activities: more efficient server hardware design, code optimizations that result in increased server productivity, active power management of servers, and engagement with our data center operations suppliers to improve energy efficiency. These initiatives are part of hardware updates and software releases programs.	net savings. Costs associated with our shared Platform model are not additive because this operational strategy is inherent to our core operations.

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	customers, making use of our services more attractive than building out their own infrastructure. This could increase demand for our existing services. Akamai's ability to continually improve the energy and carbon intensity of our network operations could help to offset costs associated with the risk of carbon taxes.								

CC6.1b

Please describe your inherent opportunities that are driven by changes in physical climate parameters

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in precipitation extremes and droughts	Climate change-related physical risks that could impact our customers' website infrastructure is likely to increase the demand for business continuity solutions. Akamai offers services that provide business continuity related to website availability. These services include highly-redundant DNS and/or failover DNS; and the ability to detect when a customer's infrastructure is impaired and redirect either to the customer's backup infrastructure or to a more limited, but available,	Increased demand for existing products/services	3 to 6 years	Direct	More likely than not	Low	Today these offerings represent a small fraction of Akamai's total revenues. A relative increase in demand for these offerings might increase our overall revenue by less than 1%, e.g., $25 million. However, interest in our business continuity solutions might bring more awareness to our other offerings that could increase revenues overall by much more than a few percent.	Management of this opportunity includes marketing this solution to customers who require business continuity planning in the face of more frequent precipitation extremes. In the marketing of our business continuity solutions we also raise awareness of our other capabilities and services. We also manage the software development of our business continuity solutions as well as enhanced and value-added capabilities.	There are R&D costs associated with the development and management of these services which are less than 0.5% of cost of revenue, e.g., $12 million. However they are more than offset by revenue generation associated with these solutions.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	version of the customer's website. This could increase demand for our existing services.								

CC6.1c

Please describe your inherent opportunities that are driven by changes in other climate-related developments

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	Companies across Akamai's market space are increasingly seeking low-carbon and renewable energy based products and services from their suppliers. Akamai has made a commitment to and is executing a strategy to procure renewable energy for 50% of	Increased demand for existing products/services	1 to 3 years	Direct	More likely than not	Low	Favorable press and a differentiated service (e.g., clean-powered) could enhance market awareness of our company and services and create a preference for our services resulting in increased sales revenue.	In 2016, Akamai committed to powering 50% of its global network operations with renewable energy, and decreasing absolution GHG emissions below 2015 levels by 2020. We believe our procurement strategy which	Current estimate of meeting our 2020 renewable energy goal is significantly less than a million dollars per year.

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	its global operations by 2020. Akamai is a large company whose operations are geographically-distributed and whose electricity is supplied through landlord-type intermediaries, i.e., collocation data center providers. This arms-length relationship to our electricity supply makes meaningful electricity supply actions more complex. Our commitment and success in implementing a strategy within these constraints could earn Akamai outsized reputational advantages over our competitors, and bring us more awareness among our target market.						Financial impact could vary widely depending on market response, ranging from no change in sales to increased sales due to attraction of new customers. For example, a 1% increase in revenue due to a shift in such a purchase preference is equivalent to more than $25M.	involves executing virtual power purchase agreements with developers for new renewable energy projects in power markets where Akamai has significant network operations will exceed customer expectations. We believe that this rigorous method will result in strong and favorable press coverage and exposure for Akamai and differentiation of our services across markets and geographies.	

CC6.1d

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1e

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1f

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Renewable energy procurement goal: https://www.akamai.com/us/en/about/corporate-responsibility/sustainability/programs/renewable-energy-program.jsp

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading

Page: CC7. Emissions Methodology

CC7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 1	Thu 01 Jan 2009 - Thu 31 Dec 2009	101
Scope 2 (location-based)	Thu 01 Jan 2009 - Thu 31 Dec 2009	55182
Scope 2 (market-based)	Thu 01 Jan 2009 - Thu 31 Dec 2009	

CC7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

CC7.2a

If you have selected "Other" in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

CC7.3

Please give the source for the global warming potentials you have used

Gas	Reference
CO2	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	IPCC Fourth Assessment Report (AR4 - 100 year)

CC7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page

Fuel/Material/Energy	Emission Factor	Unit	Reference

Further Information

Emission factors spreadsheet is attached.

Attachments

https://www.cdp.net/sites/2017/54/454/Climate Change 2017/Shared Documents/Attachments/ClimateChange2017/CC7.EmissionsMethodology/Akamai 2016 Unique Emission Factors Final.xlsx

Page: CC8. Emissions Data - (1 Jan 2016 - 31 Dec 2016)

CC8.1

Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Operational control

CC8.2

Please provide your gross global Scope 1 emissions figures in metric tonnes CO2e

0

CC8.3

Please describe your 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	

CC8.3a

Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
108382	103593	

CC8.4

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

Yes

CC8.4a

Please provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure

Source	Relevance of Scope 1 emissions from this source	Relevance of location-based Scope 2 emissions from this source	Relevance of market-based Scope 2 emissions from this source (if applicable)	Explain why the source is excluded
Natural gas usage for heating in smaller Akamai offices.	No emissions excluded	Emissions are not evaluated	Emissions are not evaluated	Akamai does not have usage data for nor an accurate inventory of which small offices that use natural gas for heating. Based on the scale of known natural gas usage in our larger offices, we believe the missing usage to be small but not de minimus.

CC8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1	Less than or equal to 2%	No Sources of Uncertainty	Akamai's Scope 1 for 2016 was zero. In prior years natural gas usage for heating in our leased offices, and diesel usage for backup generators in select offices was incorrectly categorized as Scope 1.
Scope 2 (location-based)	More than 5% but less than or equal to 10%	Data Gaps Assumptions Metering/ Measurement Constraints	The main source of uncertainty in Akamai's Scope 2 emissions is our network infrastructure energy consumption. We estimate the energy consumption of our network IT in each data center using a proxy method. We assume that each server runs 24/7 at approximately 85% or 60% of measured peak power based depending on the equipment type. The percentages are based on sample field measurements and data center power audits. However, the actual power load can vary from a high of ~100% to a low of 30% of maximum. An analysis of metered powered measurements versus estimated for an Akamai-run facility that contains network IT equipment and for which Akamai receives a monthly utility invoice shows that the error between the total facility electricity usage and the estimated usage (IT equipment plus data center infrastructure estimate) is 0-11% with an average error of 2%. Another source of uncertainty is the lack of electricity usage data for Akamai's smaller and managed offices. Scope 2 estimates for these offices are made using average electricity consumption per employee per year calculated from known data and employee headcount for each smaller, non-reporting office. These offices represent 5% employee headcount.
Scope 2 (market-based)	More than 5% but less than or equal to 10%	Data Gaps Assumptions Metering/ Measurement Constraints	The same sources of uncertainty as the location-based Scope 2 with the inclusion of data gaps in market-based emission factors for mostly non-U.S. facilities.

CC8.6

Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

Third party verification or assurance process in place

CC8.6a

Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements

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 Scope 1 emissions verified (%)
Annual process	Underway but not complete for reporting year – previous statement of process attached	Limited assurance	https://www.cdp.net/sites/2017/54/454/Climate Change 2017/Shared Documents/Attachments/CC8.6a/Akamai 2016 CDP Verification Statement.pdf	page 1	ISO14064-3	100

CC8.6b

Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emission Monitoring Systems (CEMS)

Regulation	% of emissions covered by the system	Compliance period	Evidence of submission

CC8.7

Please indicate the verification/assurance status that applies to at least one of your reported Scope 2 emissions figures

Third party verification or assurance process in place

CC8.7a

Please provide further details of the verification/assurance undertaken for your location-based and/or market-based Scope 2 emissions, and attach the relevant statements

Location-based or market-based figure?	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 Scope 2 emissions verified (%)
Market-based	Annual process	Underway but not complete for reporting year – previous statement of process attached	Limited assurance	https://www.cdp.net/sites/2017/54/454/Climate Change 2017/Shared Documents/Attachments/CC8.7a/Akamai 2016 CDP Verification Statement.pdf	1	ISO14064-3	100
Location-based	Annual process	Underway but not complete for reporting year – previous statement of process attached	Limited assurance	https://www.cdp.net/sites/2017/54/454/Climate Change 2017/Shared Documents/Attachments/CC8.7a/Akamai 2016 CDP Verification Statement.pdf	1	ISO14064-3	100

CC8.8

Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Additional data points verified	Comment
Other: Scope 3 emissions	Scope 3 verification includes the ones quantified in CC14.2.

CC8.9

Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

CC8.9a

Please provide the emissions from biologically sequestered carbon relevant to your organization in metric tonnes CO2

Further Information

Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2016 - 31 Dec 2016)

CC9.1

Do you have Scope 1 emissions sources in more than one country?

No

Please break down your total gross global Scope 1 emissions by country/region

Country/Region	Scope 1 metric tonnes CO2e

CC9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By business division
By facility
By GHG type
By activity

CC9.2a

Please break down your total gross global Scope 1 emissions by business division

Business division	Scope 1 emissions (metric tonnes CO2e)
Office operations	0
Network operations	0

CC9.2b

Please break down your total gross global Scope 1 emissions by facility

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
150 Broadway Cambridge MA Office	0	42.3736	-71.1097
Ft. Lauderdale FL Office	0	26.1224	-80.1373

CC9.2c

Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)
CO2	0
CH4	0
N2O	0

CC9.2d

Please break down your total gross global Scope 1 emissions by activity

Activity	Scope 1 emissions (metric tonnes CO2e)
diesel	0

Further Information

Because Akamai's office and network operations are outsource (leased, colocation), our only Scope 1 emissions are from the operations of backup diesel generators in our Ft. Lauderdale FL and Cambridge MA offices. In 2016 no diesel fuel consumption was measured. Therefore, Scope 1 emissions in 2016 were zero.

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2016 - 31 Dec 2016)

CC10.1

Do you have Scope 2 emissions sources in more than one country?

Yes

CC10.1a

Please break down your total gross global Scope 2 emissions and energy consumption by country/region

Country/Region	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Africa and Middle East	2217.4	2217.4	3223.0	

Country/Region	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes 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, Australasia	23688	23688	36140	
Europe	23103	23083.4	67561.4	
Latin or South America (LSA)	864.3	864.3	5041.0	
North America	57624.8	53740.3	137878.0	

CC10.2

Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

By business division
By activity

CC10.2a

Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
Network Operations	100965	96741
Office Operations	7420.8	7740.8

CC10.2c

Please break down your total gross global Scope 2 emissions by activity

Activity	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
Electricity	107497	103593
Natural Gas	827	827
Coal	61	61

Further Information

Page: CC11. Energy

CC11.1

What percentage of your total operational spend in the reporting year was on energy?

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

CC11.2

Please state how much heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	MWh
Heat	4749
Steam	0
Cooling	0

CC11.3

Please state how much fuel in MWh your organization has consumed (for energy purposes) during the reporting year

4749

CC11.3a

Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Natural gas	4572
Bituminous coal	178

CC11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the market-based Scope 2 figure reported in CC8.3a

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Emissions factor (in units of metric tonnes CO2e per MWh)	Comment
No purchases or generation of low carbon electricity, heat, steam or cooling accounted with a low carbon emissions factor			

CC11.5

Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment
249831	249831	0	0	0	

Further Information

Page: CC12. Emissions Performance

CC12.1

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

Increased

CC12.1a

Please 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	Emissions value (percentage)	Direction of change	Please explain and include calculation
Emissions reduction activities	2.5	Increase	2016 emissions have not grown as high as would be expected due primarily to network reduction activities implemented during the year. Emissions growth was primarily due to a significant network infrastructure build-out to support expected traffic increases. In 2016, network efficiency gains were outstripped by an accelerated network infrastructure build-out. Emissions change was calculated as difference between Network Scope 2 with and without reduction activities holding network traffic (output) constant, and adding in non-network Scope 2, divided by 2015 Scope 1 and Scope 2.
Divestment			
Acquisitions			
Mergers			
Change in output	2.4	Increase	Increased customer demand leads to increased network infrastructure deployment to support traffic load. Network traffic (output) increased 20% from the beginning to the end of 2016. This emissions percentage increase was derived by calculating the difference between 2016 business-as-usual network Scope 2 with and without traffic increase (plus office Scope 1 and Scope 2) divided by 2015 Scope 1 & 2.
Change in methodology			
Change in boundary			
Change in physical operating conditions			
Unidentified			
Other			

CC12.1b

Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

CC12.2

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator: Unit total revenue	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.000045	metric tonnes CO2e	2320000000	Market-based	6	Increase	In 2016, the rate of revenue growth was lower relative to Scope 1 and Scope 2 emissions growth compared with 2015. In addition, the accelerated network buildout was most pronounced in Q1 and Q2, which caused energy consumption to outpace efficiency gains.

CC12.3

Please provide any additional intensity (normalized) 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 from previous year	Reason for change
0.33	metric tonnes CO2e	unit of service provided	25317	Market-based	9.3	Decrease	In 2016 Akamai implemented emission reduction activities such as network server hardware energy efficiency which impacts new installations; and server hardware and software productivity improvements which impact some or all of the installed base. Many of these improvements reduce the number of servers required to handle same amount of traffic. Taken in aggregate, these activities, in 2016, reduced the average network-wide server fleet energy per server by 3.4%. Unit of Service Provided (network traffic) increased by only 20%, compared to an average 54% for prior years. Furthermore, network server deployment was accelerated during 2016 due to an anticipated higher-than-normal network traffic increase that didn't materialized in the reporting year. As a result the denominator (network traffic) was lower than expected, but the numerator was larger because of the accelerated network build-out. As a result the build-out outpaced efficiency gains in 2016 and the intensity metric decreased only slightly at the end of the year.

Further Information

Page: CC13. Emissions Trading

CC13.1

Do you participate in any emissions trading schemes?

No, and we do not currently anticipate doing so in the next 2 years

Please complete the following table for each of the emission trading schemes in which you participate

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership

CC13.1b

What is your strategy for complying with the schemes in which you participate or anticipate participating?

CC13.2

Has your organization originated any project-based carbon credits or purchased any within the reporting period?

No

CC13.2a

Please provide details on 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 tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance

Further Information

Page: CC14. Scope 3 Emissions

CC14.1

Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services	Relevant, calculated	54211	Similar to our Scope 2 emissions, Akamai's network operations represent about half of our known Scope 3 GHG emissions. Akamai's servers are primarily hosted in third-party collocation data centers that provide support services including cooling, lighting, power conditioning and backup, and building operations. Akamai has no direct control over these operations. These support services are paid for indirectly as part of our hosting agreements. Akamai does not have direct contracts with utility providers. For this estimation, we rely on the estimated energy consumption of our server equipment in each data center and a Power Usage Effectiveness (PUE) metric for each data center to arrive at an estimated energy consumption for each data center. The PUE is the ratio of the total data center energy consumption and the IT equipment energy consumption. Where the collocation vendor has provided a PUE value a data center's monthly energy consumption is calculated directly: DC Energy= IT energy*(PUE-1). Where the PUE has not been provided by the collocation data center vendor it is estimated using an average of the provided PUE's, e.g., 1.6. Monthly estimated per data center energy data are uploaded to a third-party energy and environmental management system where it is	0.00%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			converted to GHG emissions.		
Capital goods	Relevant, calculated	10656	Akamai's network consists primarily of servers, more than 216,000 to date and growing. In addition to the Scope 2 and 3 emissions associated with the powering and cooling of these servers, there are Scope 3 emissions associated with the manufacture of these servers. The Scope 3 emissions for Akamai's capital goods are estimated for servers and associated networking equipment and appliances purchased in 2016 and their expected energy consumption over a 4-year life cycle. There is sparse data on server carbon life cycle. Akamai cited several sources that conclude the embedded carbon of a server is approximately equal to 15% of its use phase. These sources include: 1) A 2013 analysis conducted by Life Cycle Analytics, for Akamai, of a representative Akamai server found that the embedded carbon was 368 kg CO2e which was 10% of its use phase. 2) A December 2010 IBM-CMU study estimated that embedded carbon was approximately 6-7% 3) An analysis completed by the Swiss Technology and Society Lab (EMPA) using Akamai server configurations estimated that GHG emissions associated with the production phase were only 13-20% of the use phase. A purchased server's expected lifetime energy consumption is calculated as follows: - Maximum power draw of server under load (KWatts) x 60% x hours per year x 4 years expected life span - 60% of max is the assumed average server power draw based on field measurements. The estimated 4-year use phase electricity consumption of all servers and associated networking equipment and appliances purchased in 2016 is summed. The total electricity sum is converted to GHG using Akamai's weighted average network-wide electricity carbon emission factor (mtonnes CO2e/kWh) because the purchased servers are deployed around the world. This weighted average electricity CEF is calculated from Akamai's network's total Scope 2 GHG divided by the network's total electricity consumption associated with IT operations.	0.00%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	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	9470	This value represents the transmission and distribution losses associated with Akamai's global electricity usage including offices, network equipment and third-party data center operations. T&D percentage losses by state were calculated based on the September 2010 EIA U.S. State Electricity Profiles (Table 10 for each state). A T&D loss percentage of 7.7% was used for Great Britain based on a Wikipedia report: https://en.wikipedia.org/wiki/National_Grid_(Great_Britain)#Losses. Because of a lack of T&D loss data for all other countries a T&D loss percentage of 6% was used, the average of U.S. state and Great Britain T&D loss percentages. These percentages were applied respectively by state and country against Akamai's per state and country Scope 2 and Scope 3 emissions associated with Akamai's network and office operations.	0.00%	
Upstream transportation and distribution	Relevant, calculated	6089	More than 95% of Akamai's upstream transportation and distribution spend is related to network operations for the distribution of network equipment and parts. The remainder is mostly related to intra-company communications and equipment shipments. Scope 3 is estimated based on emissions data provided by one carrier (Carrier A) that represents 30% of Akamai's 2016 shipping spend. Documentation provided by this carrier states that the methodology used to calculate the carbon emissions information has been reviewed by independent, third-party experts who agree that the methodology is appropriate and credible. This carrier deems its methodology proprietary and confidential. Scope 3 emissions related to the remaining carriers are assumed to be proportional to Akamai's percentage spend with each carrier. For example, Carrier B emissions = Carrier A emissions/30% * Carrier B % spend.	30.00%	
Waste generated in operations	Not relevant, explanation provided			50.00%	Akamai's primary waste product is our decommissioned network and corporate electronic

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
					equipment. All decommissioned electronic equipment is sent to an asset management vendor that is required to have e-Stewards® certification. These vendors, in order of priority, resell, recycle, and recover components and materials with zero landfill. A 2011 analysis by the Swiss Technology and Society Lab (EMPA) of the embedded carbon footprint of sample Akamai network IT equipment concluded that due to the resale, recycling and recovery of Akamai's IT equipment the associated GHG emissions were slightly negative. In 2016, 97% of Akamai's decommissioned electronic waste was processed by e-Stewards-certified facilities (sold or recycled). Akamai also recycles its office

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
					renovation construction waste and furniture from office renovations following LEED certification standards, and implements waste-recycling programs in most offices. Data for processing of decommissioned electronic equipment is provided by Akamai's asset management vendors. This data covers ~100% of decommissioned electronic equipment. In 2016, no data was available quantifying Akamai's office waste and recycled material. Based on prior years' data it is estimated that decommissioned electronic equipment represents approximately 50% of Akamai's total waste stream (resale, recycle, landfill).

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Business travel	Relevant, calculated	7584	This emissions estimate includes flight business travel only and covers 90% of Akamai's employee population (U.S., Europe, India, Japan, Israel, Korea, Malaysia and Latin America). Akamai's travel agencies provide quarterly per employee flight data including origination and destination airport codes and cabin class for each flight segment. The methodology to convert flight data to CO2e is as follows: 1. The origination and destination airport codes entered are matched against the ICAO database and their latitude and longitudes identified. 2. These latitudes and longitudes are then plugged into an algorithm that calculates the great circle distance. This algorithm is based on the Haversine formula, which is commonly available and used to calculate flight distance between two points taking into account the spherical shape of the earth. As an example, look at http://www.movable-type.co.uk/scripts/latlong.html. 3. Circle distance-derived miles are multiplied by a 9% uplift factor per IPCC Aviation and the Global Atmosphere 8.2.2.3. http://www.ipcc.ch/ipccreports/sres/aviation/121.htm#8223 4. After flight segment mileage has been calculated, the system automatically assigns the flights as long, medium, or short haul based on the standard distance categorization of flights. 5. The system then looks at the seating type (economy, premium, business, etc.) and applies the emission factor(s) for that flight. If no seating is available, then a default EF is applied. 6. The calculations are done, and the global warming potentials are applied to obtain a CO2e result. Flight data supplied by travel agency vendors includes flights that were cancelled by employees and not flown.	100.00%	
Employee commuting	Relevant, calculated	6705	Employee commuting is estimated based on several primary and secondary data sources: 1) commuter service data for Akamai India employees; 2) 2016 employee commuting survey conducted for Akamai Bangalore employees; 3) Employee headcount per office; 4) 2014 Average U.S. fleet fuel efficiency; 5) U.S. DOT 2014 commuter survey; and 6) EPA		

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			Climate Leaders GHG Inventory Protocol (vehicle gasoline CEF). The U.S. DOT 2014 commuter survey, U.S. average fleet fuel efficiency, and employee office headcount data were used to estimate the gallons of gasoline consumed by U.S. employees. Akamai employee commute behavior, for example one-way commute miles and percentage driving solo versus carpooling, was assumed to follow that of the U.S. DOT 2014 commuter survey. The commuter taxi service data for Akamai India employees was used to estimate the gasoline and diesel consumed annually for 49% of Akamai India employees who participated in the service. That data included average distance one-way commute; fuel efficiency and fuel type of commuter service vehicle. The balance of employees were assumed to have the commuter behavior reflected in a 2012 survey. India employees represent 26% of Akamai's total employees. U.S. and India employees represent 76% of Akamai's total employees. The estimated India Scope 3 per employee associated with commuting was used to estimate the Scope 3 associated with commuting for the remaining non-U.S. and non-India employees (24%).		
Upstream leased assets	Not relevant, explanation provided				Akamai does not lease assets. In prior years Akamai mis-categorized its colocation data center service provider agreements as Upstream leased assets. Scope 3 from these activities have been reflected under Purchased Goods and Services.
Downstream	Not				Akamai does not sell a

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
transportation and distribution	relevant, explanation provided				material amount of products
Processing of sold products	Not relevant, explanation provided				Akamai does not process or sell products
Use of sold products	Not relevant, explanation provided				Akamai does not process or sell products
End of life treatment of sold products	Not relevant, explanation provided				Akamai does not process or sell products
Downstream leased assets	Not relevant, explanation provided				Akamai does not lease downstream assets.
Franchises	Not relevant, explanation provided				Akamai has no franchises
Investments	Not relevant, explanation provided				Scope 3 emissions related to Akamai's investments does not meet the material threshold.
Other					

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
(upstream)					
Other (downstream)					

CC14.2

Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

Third party verification or assurance process in place

CC14.2a

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

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 Scope 3 emissions verified (%)

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 Scope 3 emissions verified (%)
Annual process	Underway but not complete for reporting year – previous statement of process attached	Limited assurance	https://www.cdp.net/sites/2017/54/454/Climate Change 2017/Shared Documents/Attachments/CC14.2a/Akamai 2016 CDP Verification Statement.pdf	1	ISO14064-3	100

CC14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

CC14.3a

Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Purchased goods & services	Change in output	12.6	Increase	The increase was likely due to an increase in Akamai's server installed base of 9% and a 7% increase in the number of colocation data centers to

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
				accommodate a 20% increase in network traffic (output). Some of this expansion is into Asia, Africa and South America, regions with high than average electricity carbon emission factors.
Capital goods	Other: reduction in purchases	10	Decrease	The decrease was likely due to a 17% decrease in the number of servers and networking equipment purchased compared with 2015. This reduction was offset by a 2% increase in the weighted average of Watts per server, based on quantity purchased, which is used to estimate the embedded carbon (use phase).
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Change in output	3.9	Increase	the increase was likely due to a 15% increase in Akamai's total Scope 2 and Scope 3 electricity consumption due to an increase in network capacity and traffic since 2015.
Upstream transportation & distribution	Other: reduction in the number of network equipment purchase and distributed	26.5	Decrease	Shipping of network equipment for deployment dominates the upstream transportation and distribution Scope 3. The decrease was probably due to a 17% reduction in the number of servers purchased and distributed compared with 2015.
Business travel	Other: reduction in flight travel	12	Decrease	The decrease waas likely due to a 15% reduction in the number of air miles traveled by Akamai employees traveled than in 2015.
Employee commuting	Other: increase in number of employees	16	Increase	The increase is likely due to an increase in employee headcount of .57% since 2015.

CC14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, our suppliers
Yes, our customers

CC14.4a

Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

Akamai's network represents approximately 76% of Akamai's total Scope 1, Scope 2 and Scope 3 emissions. Akamai engages with our network data center suppliers through an annual survey and direct communications when warranted. Our surveys monitor progress on a number of sustainability KPI's including 1) data center efficiency in the form of data center Power Usage Effectiveness metric: PUE = Total DC power / IT equipment power (The Green Grid metric) 2) data center carbon efficiency in the form of data center Carbon Usage Effectiveness metric: CUE = Total DC GHG / IT equipment power (The Green Grid metric) 3) data center water efficiency in the form of data center Water Usage Effectiveness metric: WUE = Total DC water usage / IT equipment power (The Green Grid metric) 4) data center utilization 5) renewable energy implementation (on-site renewable, RECs, etc.) 6) Energy Star rating 7) participation in European Union Data Center Code of Conduct. We prioritize engagements with data center suppliers based on the aggregate server deployment represented by a supplier. Suppliers representing the top 75% of our total server deployment are surveyed. We measure our success based on the trending of collected facility sustainability survey metrics. A benchmark report is generated each year which we share with responding data center providers to show them how they compare against their peers.

Because of the size of the Scope 3 impact, all of Akamai's server vendors are surveyed on a bi-annual basis. Akamai also works very closely with our server vendors to develop custom-designed servers that maximize performance per watt, taking advantage of the latest efficiency and productivity improvements.

We measure success of our supply chain by assessing the improvements year over year. For example, for our data center providers we assess whether the average Power Usage Effectiveness metric across our providers is going down each year.

Akamai engages with customers that have a shared interest reducing greenhouse gas emissions. We educate these customers about Akamai's sustainability initiatives, best practices, and lessons learn. We can also provide interested customers with a Scope 3 emissions report that quantifies the Scope 3 emissions associated with their use of Akamai's services; and provide information that satisfies their supply chain sustainability requirements. We prioritize all customer engagement based on customer interest. Our measure of success is their continued business and being able to satisfy customer requirements around Scope 3 emissions reporting and supply chain sustainability requirements.

In 2015 Akamai joined Businesses for Social Responsibility's Future of Internet Power working group to influence collocation data center providers to procure renewable energy on behalf of their clients. We also joined Rocky Mountain Institute's Business Renewables Center to learn and share best practices about renewable energy procurement. Many of the members of both organizations include Akamai's customers and suppliers.

CC14.4b

To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

Type of engagement	Number of suppliers	% of total spend (direct and indirect)	Impact of engagement
Active engagement			Akamai considers the number of suppliers to be proprietary. Percentage represents all of Akamai's total supplier spend. If just network supplier spend is considered then percentage is

Type of engagement	Number of suppliers	% of total spend (direct and indirect)	Impact of engagement
		65%.	

Please explain why you do not engage with any elements of your value chain on GHG emissions and climate change strategies, and any plans you have to develop an engagement strategy in the future

Further Information

Module: Sign Off

Page: CC15. Sign Off

CC15.1

Please provide the following information for the person that has signed off (approved) your CDP climate change response

Name	Job title	Corresponding job category
Nicola Peill-Moelter	Senior Director Environmental Sustainability	Environment/Sustainability manager

Further Information

Module: ICT

Page: ICT1. Data center activities

ICT0.1a

Please identify whether "data centers" comprise a significant component of your business within your reporting boundary

Yes

ICT1.1

Please provide a description of the parts of your business that fall under "data centers"

Akamai Technologies' (Akamai) primary business is Internet content delivery services. Our services are delivered through our globally-distributed intelligent network platform. Akamai's proprietary software is hosted on server infrastructure which is hosted in third-party collocation data centers. Akamai's network operations consist of IT equipment (e.g., servers, switches, routers) and data center infrastructure. Akamai's IT equipment (e.g, servers, switches, routers) is 100% owned and operated by Akamai. However, this equipment is hosted in third-party colocation data centers that provide support services including cooling, lighting, power backup and conditioning, physical security and building operations. Akamai has no direct control over these third-party operations. These data center support services are paid for as part of Akamai's colocation service agreements. Akamai does not have direct contracts with utility providers.

The ICT Sector guidance for reporting in this section defines "data center" as including all buildings, facilities and rooms which contain enterprise servers, server communication equipment, cooling equipment, and provide some form of data service. Although Akamai's network operations activity as described above does not quite fit this category ("Data center services that you procure should not be included here.") we are including the Scope 1 and Scope 2 emissions associated with Akamai's network IT equipment, and data centers that are under Akamai's operational control. As there is no GHG reporting protocol for the colocation data center sector, Akamai cannot guarantee that our third-party data center providers are NOT reporting Scope 2 emissions associated with Akamai's network IT equipment (i.e., double counting). Akamai's colocation data center contracts are service provider contracts, not equipment or capital leases. Akamai does not have any authority to operate nor influence the purchase of the [non-IT] data center equipment.

ICT1.2

Please provide your absolute Scope 1 and 2 emissions and electricity consumption for the data centers component of your business

Business activity	Scope 1 emissions (metric tonnes CO2e)	Scope 2 emissions (metric tonnes CO2e)	Annual electricity consumption (MWh)	Electricity data collection method	Comment
Data centers	0	95431	233090	Other: https://www.akamai.com/us/en/about/corporate-responsibility/sustainability/programs/network-	As describe in ICT1.1, Scope 2 and MWh value excludes the electricity

Business activity	Scope 1 emissions (metric tonnes CO2e)	Scope 2 emissions (metric tonnes CO2e)	Annual electricity consumption (MWh)	Electricity data collection method	Comment
				efficiency/network-energy-ghg-methodology.jsp	(Scope 3) associated with co-location data center operations associated with Akamai's network operations.

ICT1.3

What percentage of your ICT population sits in data centers where Power Usage Effectiveness (PUE) is measured on a regular basis?

Percentage	Comment
66%	Akamai annually surveys its collocation data center facilities that represent at least 75% of Akamai network server deployment. The percentage represents the fraction of network servers that are hosted in data centers that regularly measure PUE. In this case, "regularly" means the reported PUE is based on a running average. The percentage is likely higher because smaller data centers that represent the bottom quartile of network server deployment are not surveyed.

ICT1.4

Please provide a Power Usage Effectiveness (PUE) value for your data center(s). You can provide this information as (a) an average, (b) a range or (c) by individual data center - please tick the data you wish to provide (tick all that apply)

Average

ICT1.4a

Please provide your average PUE across your data centers

Number of data centers	Average PUE	% change from previous year	Direction of change	Comment
2000	1.6	0	No change	Akamai does not report on specific number of data centers. It is significantly more than 2,000. We consider this information confidential and proprietary. Within the degree of accuracy of the average PUE measurement, no reduction was observed.

ICT1.4b

Please provide the range of PUE values across your data centers

Number of data centers	PUE Minimum Value	% change of PUE Minimum Value from previous year	PUE Maximum Value	% change of PUE Maximum Value from previous year	Direction of change	Comment

ICT1.4c

Please provide your PUE values of all your data centers

Data center reference	PUE value	% change from previous year	Direction of change	Comment

ICT1.5

Please provide details of how you have calculated your PUE value

Other: Details of PUE are not known. PUE is reported by collocation provider. PUE values are single measurement or running average.

ICT1.6

Do you use any alternative intensity metrics to assess the energy or emissions performance of your data center(s)?

Yes

ICT1.6a

Please provide details on the alternative intensity metrics you use to assess the energy or the emissions performance of your data center(s)

Electricity (kWh) per unit of network traffic (Gbps)
GHG (mton) per unit of network traffic (Gbps)

In this case the electricity and GHG is that of Akamai's IT equipment (exclusive of data center infrastructure). So it is a measure of our network IT efficiency over time relative to the network traffic that it supports.

ICT1.7

Please identify the measures you are planning or have undertaken in the reporting year to increase the energy efficiency of your data center(s)

Status in reporting year	Energy efficiency measure	Comment
Implemented	Power Management Efficiencies	Power manage the server CPU; put servers in a lower power mode when not being fully utilized.
Implemented	Other	Increased server productivity at the hardware and software layers for newly deployed servers. This decreases the number of servers required for a given traffic load. This is part of an ongoing server efficiency program.
Implemented	Cooling Efficiencies	Moderate fan speeds to match CPU temperature to reduce server fan power consumption.
Planned	Server Virtualization	Virtualize servers that provide network support services.

ICT1.8

Do you participate in any other data center efficiency schemes or have buildings that are sustainably certified or rated?

No

Please provide details on the data center efficiency schemes you participate in or the buildings that are sustainably certified or rated

Scheme name	Level/certification (or equivalent) achieved in the reporting year	Percentage of your overall facilities to which the scheme applies

ICT1.9

Do you measure the utilization rate of your data center(s)?

Yes

ICT1.9a

What methodology do you use to calculate the utilization rate of your data center(s)?

As described above, we survey our collocation data center providers for data center utilization. We define utilization as current measured IT load / design IT load.

ICT1.10

Do you provide carbon emissions data to your clients regarding the data center services they procure?

Yes

ICT1.10a

How do you provide carbon emissions data to your clients regarding the data center services they procure?

In this context, the data center services our customers procure is Akamai's content delivery network services that utilize data centers, as opposed to data center hosting or colocation services. The carbon emissions data we provide our customers is an annual Scope 3 report that provides the Scope 3 emissions associated with a customer's use of our services. See attached Akamai Services Scope 3 Methodology document for details.

ICT1.11

Please describe any efforts you have made to incorporate renewable energy into the electricity supply to your data center(s) or to re-use waste heat

In 2016, Akamai announced a renewable energy procurement goal, and GHG reduction commitment: By 2020 procurement of renewable energy to cover 50% of global network operations, including third-party colocation data centers, with a commensurate reduction of absolute GHG emissions below 2015 levels. See link for details.

Akamai is also a member of BSR's Future of Internet Power working group, a consortium of large corporate colocation data center clients, that are using its collective influence to encourage colocation vendors to procure renewable energy for their data center facilities.

Further Information

Network renewable energy target: https://www.akamai.com/us/en/about/corporate-responsibility/sustainability/programs/renewable-energy-program.jsp   BSR Future of Internet Power: https://www.bsr.org/en/collaboration/groups/future-of-internet-power

Attachments

https://www.cdp.net/sites/2017/54/454/Climate Change 2017/Shared Documents/Attachments/ClimateChange2017/ICT1.Datacenteractivities/Akamai Services Scope 3 Methodology.pdf

Page: ICT2. Provision of network/connectivity services

ICT0.1b

Please identify whether "provision of network/connectivity services" comprises a significant component of your business within your reporting boundary

No

ICT2.1

Please provide a description of the parts of your business that fall under "provision of network/connectivity services"

ICT2.2

Please provide your absolute Scope 1 and 2 emissions and electricity consumption for the provision of network/connectivity services component of your business

Business activity	Scope 1 emissions (metric tonnes CO2e)	Scope 2 emissions (metric tonnes CO2e)	Annual electricity consumption (MWh)	Electricity data collection method	Comment

ICT2.3

Please describe your gross combined Scope 1 and 2 emissions or electricity use for the provision of network/connectivity services component of your business as an intensity metric

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change	Comment

ICT2.4

Please explain how you calculated the intensity figures given in response to Question ICT2.3

ICT2.5

Do you provide carbon emissions data to your clients regarding the network/connectivity services they procure?

ICT2.5a

How do you provide carbon emissions data to your clients regarding the network/connectivity services they procure?

Further Information

Page: ICT3. Manufacture or assembly of hardware/components

ICT0.1c

Please identify whether "manufacture or assembly of hardware/components" comprises a significant part of your business within your reporting boundary

No

ICT3.1

Please provide a description of the parts of your business that fall under "manufacture or assembly of hardware/components"

ICT3.2

Please provide your absolute Scope 1 and 2 emissions and electricity consumption for the manufacture or assembly of hardware/components part of your business

Business activity	Scope 1 emissions (metric tonnes CO2e)	Scope 2 emissions (metric tonnes CO2e)	Annual electricity consumption (MWh)	Electricity data collection method	Comment

ICT3.3

Please identify the percentage of your products meeting recognized energy efficiency standards/specifications by sales weighted volume (full product range)

Product type	Standard (sleep mode)	Percentage of products meeting the standard by sales volume (sleep mode)	Standard (standby mode)	Percentage of products meeting the standard by sales volume (standby mode)	Standard (in use mode)	Percentage of products meeting the standard by sales volume (in use mode)	Comment

ICT3.4

Of the new products released in the reporting year, please identify the percentage (as a percentage of all new products in that product type category) that meet recognized energy efficiency standards/specifications

Product type	Standard (sleep mode)	Percentage of new products meeting the standard (sleep mode)	Standard (standby mode)	Percentage of new products meeting the standard (standby mode)	Standard (in use mode)	Percentage of new products meeting the standard (in use mode)	Comment

ICT3.5

Please describe the efforts your organization has made to improve the energy efficiency of your products

ICT3.6

Please describe the GHG emissions abatement measures you have employed specifically in your ICT manufacturing operations

ICT3.7

Do you provide carbon emissions data to your clients regarding the hardware/component products they procure?

How do you provide carbon emissions data to your clients regarding the hardware/component products they procure?

Further Information

Page: ICT4. Manufacture of software

ICT0.1d

Please identify whether "manufacture of software" comprises a significant component of your business within your reporting boundary

No

ICT4.1

Please provide a description of the parts of your business that fall under "manufacture of software"

ICT4.2

Please provide your absolute Scope 1 and 2 emissions and electricity consumption for the software manufacture component of your business

Business activity	Scope 1 emissions (metric tonnes CO2e)	Scope 2 emissions (metric tonnes CO2e)	Annual electricity consumption (MWh)	Electricity data collection method	Comment

ICT4.3

Please describe your gross combined Scope 1 and 2 emissions for the software manufacture component of your business in metric tonnes CO2e per unit of production

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change	Comment

ICT4.4

What percentage of your software sales (by volume) is in an electronic format?

ICT4.5

Do you provide carbon emissions data to your clients regarding the software products they procure?

ICT4.5a

How do you provide carbon emissions data to your clients regarding the software products they procure?

Further Information

Page: ICT5. Business services (office based activities)

ICT0.1e

Please identify whether "business services (office based activities)" comprise a significant component of your business within your reporting boundary

Yes

ICT5.1

Please provide a description of the parts of your business that fall under "business services (office based activities)"

Akamai's office-based activities occur primarily in leased corporate offices and managed. Akamai's major business services activities as they apply to our greenhouse gas (GHG) emissions as of December 2016, consist of:
*   6,100 employees/contractors
*   24 U.S. locations (22 leased; 2 managed)
*   80 international locations (24 leased; 56 managed):): Australia, Austria, Belgium, Brazil, Canada, China, Cost Rica, Czechoslovakia, France, Germany, Hong Kong, India, Italy, Israel, Japan, South Korea, Poland, Malaysia, The Netherlands, Singapore, Spain, Sweden, Switzerland, Taiwan, Turkey, UAE, UK
Primary office activities include:
1.   Operational support a. software development and engineering b. network operations, engineering, QA, management
2.   corporate facilities (offices space)
a.   enterprise information services
b.   Finance
c.   Legal
d.   HR
e.   Marketing
f.   Revenue generation
i.   sales
ii.   customer support and consulting services

Akamai's network operations are remotely managed from our corporate offices. Very little activity happens at the network data center locations. Therefore the accuracy of identifying Scope 1 and 2 emissions associated with Akamai's office based activities is very good.

ICT5.2

Please provide your absolute Scope 1 and 2 emissions and electricity consumption for the business services (office based activities) component of your business

Business activity	Scope 1 emissions (metric tonnes CO2e)	Scope 2 emissions (metric tonnes CO2e)	Annual electricity consumption (MWh)	Electricity data collection method	Comment
Business services (office based	0	7766	18812	Meter or submeter reading	For leased office locations where meter/sub-metered electricity data are not available, electricity usage is estimated based on building usage and a pro-rata share of building square footage. For managed offices where no square

Business activity	Scope 1 emissions (metric tonnes CO2e)	Scope 2 emissions (metric tonnes CO2e)	Annual electricity consumption (MWh)	Electricity data collection method	Comment
activities)					footage is available and for work-from-home employees, electricity use is based on head count and an average kWh per employee head count derived from metered data. These represent about 10% of Akamai's total office electricity usage.

ICT5.3

Please describe your gross combined Scope 1 and 2 emissions for the business services (office based activities) component of your business in metric tonnes per square meter

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change	Comment
0.054	metric tonnes CO2e	Square meter	4	Decrease	Unknown.	

ICT5.4

Please describe your electricity use for the provision of business services (office based activities) component of your business in MWh per square meter

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change	Comment
0.13	MWh	Square meter	1	Increase	Unknown.	

Further Information

Page: ICT6. Other activities

ICT0.1f

Please identify whether "other activities" comprise a significant component of your business within your reporting boundary

No

ICT6.1

Please provide a description of the parts of your business that fall under "other"

ICT6.2

Please provide your absolute Scope 1 and 2 emissions and electricity consumption for the identified other activity component of your business

Activity	Scope 1 emissions (metric tonnes CO2e)	Scope 2 emissions (metric tonnes CO2e)	Annual electricity consumption (MWh)	Electricity data collection method	Comment

ICT6.3

Please describe your gross combined Scope 1 and 2 emissions for your defined additional activity using an appropriate activity based intensity metric

Activity	Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change	Comment

ICT6.4

If appropriate, please describe your electricity use for your defined additional activity using an appropriate activity based intensity metric

Activity	Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change	Comment

Further Information

CDP 2017 Climate Change 2017 Information Request