

# Welcome to your CDP Climate Change Questionnaire 2021

## C0. Introduction

### C0.1

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

Lumen Technologies, Inc. (“Lumen” or “Company”) is an international facilities-based technology and communications (“ICT”) Company focused on providing our business and residential customers with a broad array of integrated services and solutions necessary to fully participate in our rapidly evolving digital world. We are guided by our belief that humanity is at its best when technology advances the way we live and work. With approximately 450,000 route fiber miles and serving customers in more than 60 countries, we deliver the fastest, most secure platform for applications and data to help businesses, government and communities deliver amazing experiences. Learn more about the Lumen network, edge cloud, security, communication and collaboration solutions and our purpose to further human progress through technology at [news.lumen.com/home](https://news.lumen.com/home), LinkedIn: /lumentechnologies, Twitter: @lumentechco, Facebook: /lumentechnologies, Instagram: @lumentechnologies and YouTube: /lumentechnologies. Lumen and Lumen Technologies are registered trademarks.

Environmental stewardship is inherent in our Lumen purpose. We actively review the impact of our operations and make choices to reduce our environmental footprint. We believe our commitment to environmental sustainability promotes the financial health of our business, the quality of service we provide and value creation for our employees, communities, customers and investors. Lumen’s products and services helps customers acquire, analyze, and act on data, including efforts to reduce their energy consumption with our products and services by enabling smart technologies, dematerialization, and virtualization. We believe understanding and being aligned with our customers’ climate change mitigation goals and communicating our efforts to support these goals creates a strategic advantage.

While Lumen has continued to build upon its sustainability efforts year over year by developing methods and policies to measure, understand, and improve our environmental impact on the communities in which we live and work, it is difficult to accurately quantify potential financial implications due to certain subjective aspects required for future event analysis. Importantly, topics discussed below that may have a "substantive" financial or strategic impact on our business for CDP purposes" are not necessarily "Financially Material" (defined below) to investors as defined by the U.S. Securities and Exchange Commission (“SEC”), but may have

the potential to further our strategic climate-related risk mitigation efforts across our global operations. This submission should not be considered comprehensive, as responses are drafted to meet the criteria and requirements specified CDP.

Information contained in this report should not be construed as a characterization regarding the materiality of financial impact for that information. For a discussion of information that is material to Lumen as defined and interpreted by the SEC (“Financially Material”) please see our Annual Report on Form 10-K (“10-K”) filed with the SEC on 25 February 2021. Given the inherent uncertainty in predicting and modelling future conditions, caution should be exercised when interpreting the information provided. In this report, we have made forward-looking statements. These forward-looking statements, and the assumptions upon which they are based are: (i) not guarantees of future results, (ii) inherently speculative and (iii) subject to a number of risks and uncertainties. Actual events and results may differ materially from those anticipated, estimated, projected or implied by us in those statements if one or more of these risks or uncertainties materialize, or if our underlying assumptions prove incorrect. All of our forward-looking statements are qualified in their entirety by reference to our discussion of factors that could cause our actual results to differ materially from those anticipated, estimated, projected or implied by us in those forward-looking statements. For a list of important factors that could affect future results and could cause those results to differ materially from those expressed in the forward-looking statements, please refer to Lumen's 10-K. Additionally, please note Lumen Technologies, Inc. was formerly known as “CenturyLink, Inc.” The Company announced the name change in September 2020.

## C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1, 2020	December 31, 2020	Yes	2 years

## C0.3

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

- Argentina
- Australia
- Austria
- Belgium
- Brazil
- Bulgaria
- Canada
- Chile
- China
- China, Hong Kong Special Administrative Region
- Colombia

Costa Rica  
Czechia  
Denmark  
Ecuador  
Estonia  
Finland  
France  
Germany  
Greece  
Hungary  
Iceland  
India  
Ireland  
Israel  
Italy  
Japan  
Kenya  
Luxembourg  
Malaysia  
Mexico  
Monaco  
Netherlands  
Norway  
Panama  
Peru  
Poland  
Portugal  
Republic of Korea  
Romania  
Russian Federation  
Serbia  
Singapore  
Slovakia  
Slovenia  
South Africa  
Spain  
Sweden  
Switzerland  
Taiwan, Greater China  
Thailand  
Turkey  
United Arab Emirates  
United Kingdom of Great Britain and Northern Ireland  
United States of America  
Venezuela (Bolivarian Republic of)

## C0.4

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

USD

## C0.5

**(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.**

Operational control

# C1. Governance

## C1.1

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

Yes

### C1.1a

**(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.**

Position of individual(s)	Please explain
Director on board	<p>As part of its risk and governance oversight responsibilities, Lumen’s Board of Directors (“Board”) monitors environmental management programs, including climate change related issues. The Board believes that environmental social and governance (“ESG”) and risk management expertise are among the essential skills necessary for effective oversight. In 2020, the Board included 3 members with ESG expertise and 4 members with risk management expertise. In 2020, the Board received periodic reports from management and the Board’s 4 standing committees to inform and support the Board with its various risk management, governance, and strategic responsibilities, which include our policies, planning, and compliance with ESG strategic objectives. Generally, for climate change related issues, the Board relies on the Risk and Security Committee (“RSC”) and the Nominating and Corporate Governance Committee (“NCGC”), in each of the two committees respective responsibilities, to monitor issues and report back to the full Board.</p> <p>The Board and the NCGC, in conjunction with designated management teams periodically evaluate our ESG program and seek to identify meaningful</p>

	opportunities to strengthen our program. In 2020 one of our ESG highlights was the decision to issue an inaugural series of sustainability-linked notes (Bonds) in alignment with our established science-based targets (“SBTs”) and becoming the second U.S. company to issue this type of instrument. The sale took place in January 2021.
Board-level committee	The NCGC which has primary responsibility for ESG oversight, is comprised entirely of independent directors and in 2020 had 5 members and met 5 times. Among other things, the NCGC oversees and recommends improvements to governance principles, policies, programs and practices, and advises upon and monitors ESG issues, including issues related to Lumen’s environmental management and climate change initiatives. The Board supports management’s efforts to identify meaningful product, consumer, financial and other factors to develop metrics material to the business, and communication plans regarding Lumen’s environmental programs and ESG strategy.
Board-level committee	The RSC has primary responsibility for risk oversight and assisting the full Board with identifying, monitoring and managing risks to the Company’s business, properties and employees. The RSC periodically reviews the major risk exposures in the following areas: (i) risks to the Company’s properties posed by casualty events (which may include property damage from flooding, hurricanes, wildfires, or other events related to or which may be exacerbated by climate change), terrorism, sabotage or theft, (ii) risks caused by potential or actual regulatory developments or the Company’s failure to comply with applicable U.S. federal and other ICT regulations, (iii) risks to the Company’s business operations caused by failure to comply with applicable regulations, contractual commitments, and environmental, safety, health or other similar laws, and (iv) risks to the Company’s business related to privacy and network management practices. In 2020 the RSC had 4 Board members – 3 independent directors and Lumen’s CEO, and held 4 meetings.

## C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	<ul style="list-style-type: none"> <li>Reviewing and guiding strategy</li> <li>Reviewing and guiding major plans of action</li> <li>Reviewing and guiding risk management policies</li> </ul>	As part of its risk and governance oversight responsibilities, the Board monitors Lumen’s environmental management programs, including climate change related issues. The Board believes that environmental and social governance (“ESG”) and risk management expertise are among the essential skills necessary for effective oversight. In 2020, the Board included 3 members with ESG expertise and 4 members with risk management expertise. Throughout 2020, the

		<p>Board received periodic reports from management and the Board’s 4 standing committees to inform and support the Board with its various risk management, governance, and strategic responsibilities, which include our policies, planning, and compliance with ESG strategic objectives. Generally, for climate change related issues, the Board relies on the Risk and Security Committee (“RSC”) and the Nominating and Corporate Governance Committee (“NCGC”), in each of the two committees respective responsibilities, to monitor issues and report back to the full Board.</p> <p>The Board and the NCGC, in conjunction with designated management teams periodically evaluate our ESG program and seek to identify meaningful opportunities to strengthen our program. In 2020 one of our ESG highlights was the decision to issue an inaugural series of sustainability-linked notes (Bonds) in alignment with our established SBTs and becoming the second U.S. company to issue this type of instrument. The sale took place in January 2021.</p>
<p>Scheduled – some meetings</p>	<p>Reviewing and guiding strategy Reviewing and guiding major plans of action</p>	<p>The NCGC has primary responsibility for ESG oversight, is comprised entirely of independent directors and in 2020 had 5 members and met 5 times. Among other things, the NCGC oversees and recommends improvements to governance principles, policies w, programs and practices, and advises upon and monitors ESG issues, including issues related to climate change. The Board supports management’s efforts to identify meaningful product, consumer, financial and other factors to develop metrics material to the business, and communication plans regarding Lumen’s environmental programs and ESG strategy.</p>
<p>Scheduled – some meetings</p>	<p>Reviewing and guiding strategy Reviewing and guiding risk management policies</p>	<p>The RSC is responsible for assisting the full Board with identifying, monitoring and managing risks to the Company’s business, properties and employees. The RSC periodically reviews the major risk exposures in the following areas: (i) risks to the Company’s properties posed by casualty events (which may include property damage from flooding, hurricanes, wildfires, or other events related to or which may be exacerbated by climate change), terrorism, sabotage or theft, (ii) risks caused by potential or actual regulatory developments or the Company’s failure to comply with applicable U.S.</p>

		federal and other communications regulations, (iii) risks to the Company's business operations caused by failure to comply with applicable regulations, contractual commitments, and environmental, safety, health or other similar laws, and (iv) risks to the Company's business related to privacy and network management practices. In 2020 the RSC had 4 Board members – 3 independent directors and Lumen's CEO, and held 4 meetings.
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## C1.2

**(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.**

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Financial Officer (CFO)	Both assessing and managing climate-related risks and opportunities	Annually
Other C-Suite Officer, please specify Treasurer and SVP	Both assessing and managing climate-related risks and opportunities	Annually
Sustainability committee	Both assessing and managing climate-related risks and opportunities	Quarterly

## C1.2a

**(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).**

Lumen's Sustainability Committee is known as Lumen's "ESG Committee", is an employee group comprising of environmental, social and governance (ESG) members, which manages ESG. The Environmental Sustainability Committee, a sub-committee of the ESG Committee, is a multi-disciplinary team comprised of employee directors and employee managers. Lumen believes that an employee committee of senior and seasoned members with subject matter expertise will have the best opportunity to make a meaningful impact on our environmental programs' efficacy and success. The Environmental Sustainability Committee is led by the 's Director, Global Environment Health & Safety (EH&S), who is responsible for leading Lumen's global EH&S function including establishing, monitoring and managing overall EH&S objectives, performance and regulatory compliance by coordinating with regional EH&S leaders in EMEA and LatAm to design and implement our global vision for environmental sustainability. The Director EH&S reports to an officer of the Company (Senior Vice President - Treasurer) who in turn is a direct report of the Chief Financial Officer (CFO). This structure

utilizes the organizational hierarchy and reporting channels to link top level oversight to those with high level responsibility for operations that influence our management of climate-change related issues. Environmental Sustainability Committee members are directly responsible for Company operations that contribute to our carbon emissions as well as other environmental issues such as regulatory compliance and waste management. The Environmental Sustainability Committee is responsible for: (i) identifying and assessing the impact of the Company’s operations on the environment and to develop and implement strategies to mitigate those impacts; (ii) establishing targets pursuant to our ISO 14001 certified Environmental Management System (where relevant) and partners with other stakeholders to meet environmental sustainability objectives that support Company objectives; and (iii) implementing processes, through the various individual member authorities, that drive continuous improvement in environmental performance including greenhouse gas emissions reductions.

The Environmental Sustainability Committee effectively monitors climate change issues through regular meetings internally as well as engagement with professional organizations and regulatory agencies, and through subscriptions to services that monitor energy and environmental related initiatives and rule-making that may impact our industry.

Lumen’s Senior Vice President and Treasurer leads the treasury, risk management, and EH&S functions. As regards climate change related issues, the Treasurer is responsible for approving certain environmental sustainability targets and objectives, including Lumen’s SBTs. He is also responsible for ensuring adequate processes and systems for evaluating and managing and monitoring regulatory and financial risks related to certain climate change related impacts on the Company’s operations and assets. The Treasurer reports to the CFO.

The CFO leads the Finance organization and is responsible for supporting Company-wide objectives from a finance perspective. The CFO is also the executive responsible for the overall performance of the finance function, which at Lumen includes the Treasury/EH&S/Risk Management team described above, where assessment and monitoring of climate related issues occurs. The CFO reports to the CEO.

## C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	See 1.3a below.

## C1.3a

**(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).**

Entitled to incentive	Type of incentive	Activity incentivized	Comment
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Energy manager	Monetary reward	Emissions reduction project	The Energy Manager's annual incentive bonus is partially based on achieving energy efficiency / consumption reduction objectives, which in turn reduces carbon intensity / emissions.
Environment/Sustainability manager	Monetary reward	Other (please specify) Overall management of environmental/sustainability program activities	The Environmental Sustainability Manager's annual incentive bonus is partially based on the continuous improvement of Lumen's environmental sustainability program which includes energy and emission reduction projects and the quality of climate change mitigation reporting/communications.
Other C-Suite Officer	Monetary reward	Emissions reduction target	The Treasurer has overall responsibility for achieving carbon emission reduction targets and for the successful performance of our property and business continuity insurance program, including achieving annual loss reduction/control and budgetary targets. The Treasurer's annual incentive bonus is partially based on achieving these targets.

## C2. Risks and opportunities

### C2.1

**(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?**

Yes

## C2.1a

### (C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	3	This range is considered appropriate to many transitional risks and opportunities, and some physical impacts.
Medium-term	4	14	This range is considered appropriate to many transitional risks and opportunities, and physical impacts.
Long-term	15	100	This range has been selected to cover many of the physical climate change risks and opportunities, as well as some transitional risks and opportunities.

## C2.1b

### (C2.1b) How does your organization define substantive financial or strategic impact on your business?

Lumen evaluates financial and strategic risks in both subjective and objective terms including assessing the value creation, vulnerability, and timing of any financial commitments; strategic decisions, and operational programs essential to short term success, medium range opportunity development, and long-term sustainability and value creation. As a U.S. publicly traded Company, we disclose in our quarterly and annual financial reports filed with the SEC, which provides financial details and related management discussion and analysis about Lumen's business, strategy, and risks. As part of our financial controls, enterprise risk management, and business continuity planning programs, Lumen is constantly assessing, defining, and addressing the substantive financial and strategic impacts the dynamic global economy, environment, and regulatory regimes may present. Balancing these factors, many of which are subjective and cannot be specifically quantified, the Company appropriately allocates resources to mitigate the risk of negative impacts in various ways including maintaining insurance coverage, operational excellence, supplier management, sustainability standards, ethics and compliance standards. While Lumen has continued to build upon its sustainability efforts year over year by developing methods and policies to measure, understand, and improve our environmental impact on the communities in which we live and work, it is difficult to accurately quantify potential financial implications due to certain subjective aspects required for future event analysis. As noted previously, topics discussed in this report may have a "substantive financial or strategic impact on our business" are not necessarily "material" to investors as defined by the SEC ("Financially Material"), but may have the potential to further our strategic climate-related risk mitigation efforts across our global operations. For CDP reporting purposes, we consider risk and opportunities with potential financial implications for our business of in excess of USD 5 million to be "substantive" due to the possibility of positively contribution to our climate-related risk mitigation efforts. Additionally, Lumen discloses in its annual report on form 10-K under "Item 1A, Risk Factors", and updates as necessary, those

risks, including those from extreme weather events, which the Company believes could have a Financially Material impact on its business and sustainability.

## C2.2

### **(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.**

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#### **Value chain stage(s) covered**

Direct operations  
Upstream  
Downstream

#### **Risk management process**

Integrated into multi-disciplinary company-wide risk management process

#### **Frequency of assessment**

More than once a year

#### **Time horizon(s) covered**

Short-term  
Medium-term  
Long-term

#### **Description of process**

Board's Risk and Security Committee

Lumen's Board of Director's ("Board") Risk and Security Committee ("RSC") has oversight responsibility of management's efforts for identifying, monitoring and managing major risks to the Company's business, properties and employees including Lumen's Enterprise Risk Management team ("ERM") and corporate Compliance. Additionally, the RSC works with ERM to regularly evaluate identified risks and potential impact to the Company's financials, including those related to climate change. The RSC meets at least quarterly and receives regular reports from management including ERM and Compliance. As with any risk or opportunity, Lumen evaluates the potential value creation, vulnerability, and timing of the risk or opportunity including reputational, financial, strategic, and operational concerns. Specifically, risks to property include, among others, those such as increased extreme weather events predicted by climate experts, including floods, and their increased frequency as acknowledged in the Company's Annual Report on form 10-K filed with the SEC on 25 February 2021, under Item 1A 'Risk Factors'.

During the ERM evaluation the topic of extreme weather conditions further enhanced the thought that extreme weather could impact our network reliability, business continuity and disaster preparedness. This lead also to assisting with the process of identifying the physical climate scenarios under the Taskforce for Climate-Related

#### Financial Disclosure (“TCFD”).

In 2020 one of our ESG highlights was the decision to sell an inaugural series of sustainability-linked notes (Bonds) in alignment with our established science-based targets (SBTs) and becoming the second domestic Company to issue this type of instrument. The sale took place in the first week of January 2021 and was signed-off by the Board. The decision is indicative of the acknowledgement of the need to demonstrate the high level of importance attached to greenhouse gas management within Lumen, and the reputational (i.e. transitional) risk in not doing so.

A further decision, taken in part due to reputational risk, is the decision to buy renewable-sourced electricity in EMEA, a decision signed-off by Lumen's European leadership team.

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#### **Value chain stage(s) covered**

Direct operations  
Upstream  
Downstream

#### **Risk management process**

Integrated into multi-disciplinary company-wide risk management process

#### **Frequency of assessment**

More than once a year

#### **Time horizon(s) covered**

Short-term  
Medium-term  
Long-term

#### **Description of process**

Business Continuity Planning Team

The Business Continuity Planning Team is responsible for developing, implementing, and maintaining the business continuity risk management framework, and in particular avoiding risks with downstream impacts. This is a continuous process and multi-disciplinary. Throughout the year functional groups within Lumen will evaluate the criticality of processes at location or asset level. Critical processes are subject to a Business Impact Analysis which includes criteria for materiality and priorities. Maximum allowable down times are identified which drive recovery time objectives for critical processes and systems. Business continuity plans are created and exercised by plan participants to ensure effective management of identified hazards/threats. The hazards/threats associated with climate change covered in this process are diverse and include those that could potentially impact our direct operations, suppliers, and customers. These include flooding from rising ocean levels or increased severe

weather, disruption to our supply chain, loss of people or facilities due to disruptive natural phenomena such as tornadoes, cyclones, tsunamis, hurricanes, drought, wildfires and other extreme weather events, as well as displacement of populations and civil unrest. The overall business continuity strategy, processes and results are communicated to the executive leadership team and made available to all employees.

Identified risks and opportunities are prioritized based upon the immediacy and potential severity of the disruption to the Company's operations. Risks related to impacts of global climate change for example are prioritized based upon disruption of network services that may occur due to physical damage to our network from flooding or severe weather events. Opportunities are generally prioritized based upon a return on investment formula which is informed by the current business environment and financial performance.

An example of a case study that demonstrates how our risk management process has been applied to a physical risk is hurricane preparedness. The Business Continuity Planning team provides the framework and readiness criteria for this process for potentially impacted divisions/locations in the event of a hurricane event. The focus of hurricane preparedness efforts is prevention and mitigation. Applicable divisions/teams/individuals are instructed and expected to review checklists and training documents, in addition to site-specific business continuity plans, and to ensure they are prepared at all times.

One such example of how physical risk prevention and mitigation was applied within this framework in relation to hurricanes is our response to a hurricane-associated flood event at one of our facilities in Corsicana, Texas. Despite being protected by a 10-foot high wall and sumps, the area flooded due to Hurricane Patricia being one of the most intense tropical cyclones on record worldwide. During such events, loss of service is avoided because our network is designed with redundancy, resiliency and route diversity, enabling alternative routes to be used, itself a preventative measure and also a feature that is also employed during routine maintenance. In terms of mitigation, the facility was relocated to another location of higher elevation and outside of the flood plain.

Lumen's hurricane preparedness efforts mitigate physical risks which may result from extreme weather and supports our ongoing efforts to improve our customer experience through dependable network/connectivity services during severe weather events.

In 2020 Lumen continued to utilize its disaster recovery plans and its Property Protection Audits to assess the risk for Lumen's reliability and continuity related to the potential of flooding, hurricanes, wind and fire risks, as exacerbated by climate change. In 2020 Lumen identified \$2.5million of claims many of which were associated with wildfires and flooding. This data was also later used to assess risks in our physical TCFD climate scenario analysis.

The Business Continuity Team is also evaluating how Lumen should respond to the

recommendations in Lumen's TCFD-aligned Scenario Analysis. This models physical hazards in both 2035 and 2060. This preliminary study uses the IPCC Business-as-Usual (RCP 8.5) scenario and focused on 7 critical assets (sites). The physical climate hazards considered comprised: increasing temperature, rising sea levels, and changes in precipitation, as well as inland flooding, coastal flooding, tropical cyclones, drought, wildfires and extreme temperatures. Recommendations have been made to both the Board and the Business Continuity Team, providing sufficient information for Lumen to review its risk management processes, identify opportunities and as necessary amend business strategy.

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**Value chain stage(s) covered**

Direct operations  
Upstream  
Downstream

**Risk management process**

Integrated into multi-disciplinary company-wide risk management process

**Frequency of assessment**

More than once a year

**Time horizon(s) covered**

Short-term  
Medium-term  
Long-term

**Description of process**

Risk Management Team

The specialist Enterprise Risk Management team ("ERM") identifies risks to operations and facilities, including those related to physical events associated with climate change, such as floods and hurricanes. ERM is continuously evaluating risks to operations, facilities, strategic opportunities, and financial concerns – the results of which contribute to the Company's Loss Prevention Program. This process identifies potential operational, financial or strategic risks which may have substantive impacts, establishes costs and presents a business case, which can be reported to the Board. ERM provides quarterly reports to the Board of Director's Risk & Security Committee.

Identified risks and opportunities are prioritized based upon the immediacy and potential severity of the disruption to the Company's operations. Risks related to impacts of global climate change for example are prioritized based upon disruption of network services that may occur due to physical damage to our network from flooding or severe weather events. Opportunities are generally prioritized based upon a return on investment formula which is informed by the current business environment and financial

performance.

An example of a case study that demonstrates how our risk management process has been applied to a physical risk is hurricane preparedness. The Business Continuity Planning team provides the framework and readiness criteria for this process for potentially impacted divisions/locations in the event of a hurricane event. The focus of hurricane preparedness efforts is prevention and mitigation. Applicable divisions/teams/individuals are instructed and expected to review checklists and training documents, in addition to site-specific business continuity plans, and to ensure they are prepared at all times.

One such example, in which ERM had input is roof inspections, repairs and replacements. On a nationwide basis in 2020, Lumen spent approximately \$19.7 million. These expenditures include the following:-

- Roof inspections by professional roofers at a cost of approximately \$1.3 million for 6,349 roofs
- Roof repairs at \$1.8 million involving 1,830 roofs.
- Additionally, Lumen spent \$16.6 million on 116 roof replacements.

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#### **Value chain stage(s) covered**

Direct operations  
Upstream  
Downstream

#### **Risk management process**

Integrated into multi-disciplinary company-wide risk management process

#### **Frequency of assessment**

More than once a year

#### **Time horizon(s) covered**

Short-term  
Medium-term  
Long-term

#### **Description of process**

Environmental Sustainability Committee

The Environmental Sustainability Committee is a multi-disciplinary team comprised of employee directors and employee managers. Lumen believes that an employee committee of senior and seasoned members with subject matter expertise will have the best opportunity to make a meaningful impact on our environmental programs' efficacy and success. This enables input from the leaders and subject matter experts who can most directly improve our environmental performance. Environmental Sustainability

Committee members are directly responsible for Company operations that contribute to our carbon emissions as well as other environmental issues such as regulatory compliance and waste management. The Environmental Sustainability Committee is responsible for identifying and assessing the impact of the Company’s operations on the environment and to develop and implement strategies to mitigate those impacts.

The Environmental Sustainability Committee has various roles relating to risk. It is responsible for monitoring regulatory changes, and therefore identifying transitional risks associated with climate change and carbon tax legislation in the short and medium timeframes. The Environmental Sustainability Committee also oversees data collection and reporting regarding greenhouse gas emissions and other environmental and sustainability indicators. In this way it assists Lumen in reporting to stakeholders, be they customers or investors, and thereby gain opportunities related to the communication of good performance. Lumen’s regional energy management teams lead an active program to improve efficiency, reduce energy consumption, and minimize carbon emissions in our facilities around the world. The Environmental Sustainability Committee works with such teams to monitor these initiatives and report on progress towards targets, such as SBTs.

An example of the Environmental Sustainability Committee’s input into identifying transitional risks related to climate change is the assessment of the strategic and transitional risks and long term value creation in the decision taken to shift (in European countries) to renewable energy use in anticipation of potential policy changes, reporting requirements such as the UK’s SECR Regulations, and in order to reduce the impact of carbon taxes. Examples of countries where renewable energy is procured include the UK, Germany, France, Italy, Netherlands and Spain. In addition, Critical Infrastructure teams respond to the identified risks associated with non-compliance with climate change legislation. Business cases are developed with the input of regional managers. After evaluation, these initiatives drive compliance strategies, enhancing power utilization efficiencies, and other energy efficiency projects such as at our 3 major UK sites. These developments are in turn utilized as opportunities to secure and enhance the organization’s reputation (and market share), by communicating our climate change management in publicly available reports such as the CDP questionnaire.

## C2.2a

**(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?**

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Current regulations are relevant and always included in the Company’s processes for identifying and assessing climate-related risks because (1) Information Communication Technology (ICT) is a highly regulated



		<p>industry and (2) our operational footprint includes many countries with different regulatory requirements, and the consequences for non-compliance could negatively impact our operations, financial performance, and reputation. See the Company’s Annual Report on form 10-K filed with the US Securities and Exchange Commission on 25 February 2021, under Item 1A ‘Risk Factors’. An example of a regulation related to climate change risk that the Company has identified, assessed, and is currently managing is the Renewable Energy Standard (RES) in Colorado US. This law/regulation requires investor-owned utilities to generate 30% of their electricity from renewable sources by 2020. This regulation and its revisions have the potential to increase energy costs for the Company’s operations in Colorado. Through careful monitoring of the state regulatory environment, we were able to identify the potential risks and opportunities from this regulation and take action to mitigate the risk. For example, facility energy efficiency projects (equipment optimization, upgrading building control systems, lighting replacement initiatives) were implemented to mitigate the risk of increased energy costs that may arise from this regulation.</p>
Emerging regulation	Relevant, always included	<p>Emerging regulations are relevant and always included in the Company’s processes for identifying and assessing climate-related risks due to the potentially significant impact on the Company’s ability to meet its objectives that may occur due to the cost of compliance with emerging regulations or the adverse consequences of non-compliance. As example of an emerging regulation related to climate change risk that the Company has identified, assessed, and is currently managing is the increasing use of carbon emissions cap and trade or carbon tax systems. These schemes currently impact a small percentage of our operational footprint but the impact may increase if these schemes expand into the ICT industry in the US and/or into other geographies with a higher percentage of the Company’s carbon emissions. The Company has responded to the potential for this emerging issue to impact our energy spend by implementing energy efficiency projects to reduce consumption and by expanding our procurement of energy from renewable sources.</p>
Technology	Relevant, always included	<p>Technology is relevant and always included in the Company’s processes for identifying and assessing climate related risks due to the potential negative impacts of not optimizing energy efficiency at facilities. An example of a technology risk related to climate change that the Company identified and assessed was the potential for increased capital costs as a result of insufficient payback from the installation of Alerton HVAC automation systems at several facilities. The Company evaluated the risk and determined that despite significant upfront costs, the investment would benefit the Company</p>

		financially on a long-term basis in addition to increasing energy efficiency and reducing carbon emissions.
Legal	Relevant, always included	Litigation and claims are relevant and always included in the Company's processes for identifying and assessing climate-related risks due to the potential negative impact to our financial objectives and reputation that may arise from such litigation and claims. An example of a legal/claims risk related to climate change that the Company has identified, assessed and is currently managing are general liability insurance claims in the US that may arise from severe weather dislodging or damaging our aerial communications plant in a manner that creates a potential hazard to the public, as well as the increasing risk of wildfires in the western US that may involve or be attributed to our outside plant equipment and utility poles that we own or have installed equipment.
Market	Relevant, always included	Shifts in supply and demand are relevant and always included in the Company's processes for identifying and assessing climate related risks due to the potential impact of decreased revenues that could arise from not capitalizing on new market opportunities. Lumen always considers ways to help customers reduce energy consumption with our products and services by enabling smart technologies, dematerialization, and virtualization. By being aligned with our customers' climate change mitigation goals and communicating our efforts we create strategic advantage. A failure to do so would expose us to risk.  One example is Lumen's continued participation in 2020 in the Voluntary Agreement for Ongoing Improvement to Energy Efficiency of Small Network Equipment agreed upon among providers of residential broadband internet service and manufacturers. This includes items such as modems and routers used by consumers, with the primary objective being to increase energy efficiency while promoting rapid innovation and timely introduction of new features. At least 90 percent of small equipment procured must meet the energy efficiency standards established by the agreement.
Reputation	Relevant, always included	Reputation is relevant and always included in Lumen's processes for identifying and assessing climate related risks due to the potential negative impact of lost revenue that may arise from customers dissatisfaction with Lumen's limited lack of participation in all of the myriad and various environmental disclosure platforms. Lumen discloses climate change and sustainability information to its employees, customers, and investors to protect and enhance our reputation as a good corporate citizen. For example, our response to the CDP climate change and supply chain and investor questionnaires, and Ecovadis, helps ensure transparency and communicate our

		performance and practices to customers, as does our annual ESG Report.
Acute physical	Relevant, always included	<p>Acute physical impacts of natural disasters and extreme weather are relevant and always included in Lumen's processes for identifying and assessing climate related risks due to the potential negative impact of service interruptions, lost revenue and increased expenses that could arise from damaged infrastructure. For example, a Lumen building located in York, UK was determined to be at high risk of flood damage. The building was vacated, and assets migrated to another location, in order to reduce flood risk and ensure operations could be more reliably maintained. Another example of risk identification and mitigation is the protection of a facility at Colorado Springs, Colorado. An adjacent creek was suffering severe erosion, which may have been further exacerbated by extreme rainfall events, and by partnering with U.S. federal agencies, funds were secured to eliminate the erosion and therefore risk to the facility.</p> <p>Lumen has used physical risk Scenario Analysis to model acute hazards arising from climate change in both 2035 and 2060, using the RCP 8.5 model. The acute impacts modelled comprised inland flooding, coastal flooding, tropical cyclones, drought, wildfires, and extreme temperatures.</p>
Chronic physical	Relevant, always included	<p>Chronic physical impacts of natural disasters and extreme weather are relevant and always included in Lumen's processes for identifying and assessing climate related risks because network outages due to extreme weather could result in lost revenue and increased expenses. An example of an identified chronic physical risk that could impact the Company is rising sea levels.</p> <p>Lumen has used physical risk Scenario Analysis to model acute hazards arising from climate change in both 2035 and 2060, using the RCP 8.5 model. The chronic impacts modelled comprised increasing temperature, rising sea levels, and changes in precipitation.</p>

## C2.3

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

Yes

## C2.3a

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

---

**Identifier**

Risk 1

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

Downstream

**Risk type & Primary climate-related risk driver**

Emerging regulation  
Carbon pricing mechanisms

**Primary potential financial impact**

Increased indirect (operating) costs

**Company-specific description**

Changes in regulation affecting fuels, such as carbon taxes, may increase our operating expenses. In the normal course of business, we purchase a variety of fuels resulting in Scope 1 emissions. Changes in regulations that affect fuel costs, specifically regulations related to control of greenhouse gas emissions or other climate change related matters (i.e. a carbon tax), would affect our operating expenses which may increase the costs of providing our services. This may affect business in the medium-term.

**Time horizon**

Short-term

**Likelihood**

About as likely as not

**Magnitude of impact**

Medium

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

Yes, a single figure estimate

**Potential financial impact figure (currency)**

9,635,223

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

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

**Explanation of financial impact figure**

While it is difficult to accurately quantify potential financial implications, and as applicable – costs of responding to the risk or realizing the opportunity, we estimate the potential future impact of this risk, to be more than our threshold for “substantive” for CDP reporting purposes. Estimates are based on several factors including:

professional judgement by our subject matter experts within the business, guidelines or requirements provided by governmental agencies, and non-profit publications. Carbon tax or cap and trade programs in the US do not currently apply to Lumen's operations. To illustrate the potential future financial implications of emerging regulations, and specifically carbon pricing mechanisms, we have calculated the impact as follows.

In 2020 Lumen emitted 212,416.74 tonnes CO<sub>2</sub>e as a result of fuel consumption in the USA. In 2020, Lumen would have been liable for a tax of approximately \$9,635,223 in the U.S. if a tax had been imposed on its fuels equal to the Environmental Defense Fund's estimated social cost of carbon of \$50/ton (or \$45.36/tonne).  $212,416.74 \text{ tonnes CO}_2\text{e} \times \$45.36/\text{tonne} = \$9,635,223$

### **Cost of response to risk**

26,894,000

### **Description of response and explanation of cost calculation**

Lumen monitors changes in regulation/policy and develop plans to manage the financial impact. The financial impact of new carbon taxes and levies would be minimized by the energy efficiency and carbon reduction projects that Lumen implements as a matter of course. For example, our response to Question 4.3a identifies the installation of building controls in US properties in 2020.

Regarding the cost of management, we have initiated and continue to expand already implement energy / carbon reduction initiatives which would contribute towards the management of this risks. However, we have calculated the cost of management based upon the identified cost of US carbon reduction initiatives in 2020 (which will generate significant cost savings for many years) being \$26,844,000 and an additional \$50,000 to cover additional tax planning and management.  $\$26,844,000 + \$50,000 = \$26,894,000$ . Note that we have focused on the US with respect to this risk because we are already subject to carbon taxes in EMEA and therefore have not factored this in as an additional (i.e. future potential) risk. Our exposure in LATAM and APAC is relatively limited given the far smaller consumption compared to the US.

### **Comment**

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#### **Identifier**

Risk 2

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

Direct operations

#### **Risk type & Primary climate-related risk driver**

Acute physical

Other, please specify

Increased severity of extreme weather events, such as hurricanes and floods, and increased frequency of wildfires

**Primary potential financial impact**

Increased capital expenditures

**Company-specific description**

Climate change brings increased risk of extreme weather events such as hurricanes, floods, and wildfires. Our operations depend on our ability to limit and mitigate interruptions or degradation in service for customers. Interruptions in service or performance problems, for whatever reason, could undermine confidence in our services and cause us to lose customers or make it more difficult to attract new ones.

**Time horizon**

Medium-term

**Likelihood**

More likely than not

**Magnitude of impact**

Medium

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

Yes, a single figure estimate

**Potential financial impact figure (currency)**

12,710,000

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

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

**Explanation of financial impact figure**

While it is difficult to accurately quantify potential financial implications, and as applicable – costs of responding to the risk or realizing the opportunity, we estimate the potential future impact of this risk to be more than our threshold for “substantive” for CDP reporting purposes. Estimates are based on several factors including: professional judgement by our subject matter experts within the business, guidelines or requirements provided by governmental agencies, and non-profit publications. To illustrate the potential future financial implications of an increased severity and frequency of extreme weather events, we have tracked hurricane, wildfire and flood associated losses, and the figure of \$12,710,000 is the average combined losses over the past 3 years. In 2018 Hurricanes Florence, Michael and Maria caused losses of \$32.4 million. In 2019 hurricanes Barry and Dorian resulted in losses of \$3.3 million. In 2020 losses arose from wildfires (\$1,050,000) and hurricanes Laura and Delta and other storms (\$1,380,000) totaling \$2.43 million.  $(\$32,400,000 + \$3,300,000 + \$2,430,000) / 3 = \$12,710,000$

### **Cost of response to risk**

19,700,000

### **Description of response and explanation of cost calculation**

Operational management strategy is to undertake a review of sites and establish which are at risk then commence a prioritization process in order to address those locations at high risk. Risk is then managed by investing in network and buildings to protect against flood and other extreme weather events. For example, one building in York (UK) was vacated and assets migrated to another location, in order to reduce exposure to flood risk. Other locations have been upgraded or redesigned to prevent flood damage. A further location at Colorado Springs was protected by working with Federal Agencies by securing funding to prevent the erosion of a creek that could have affected the facility if allowed to continue.

It is also important to note that route diversity is incorporated into the network, meaning the temporary closure of one site during routine maintenance or during an extreme event, does not lead to loss of service.

Regarding the cost of management: The figure provided in 'cost of response to risk' is the element of our Loss Prevention Program that addresses hurricane risk through the inspection of roofs and their enhancement to withstand extreme winds.

On a nationwide basis in 2020, Lumen spent approximately \$19.7 million on roof inspections, repairs, and replacements. These expenditures include the following:-

- Roof inspections by professional roofers at a cost of approximately \$1.3 million for 6,349 roofs
- Roof repairs at \$1.8 million involving 1,830 roofs.
- Additionally, Lumen spent \$16.6 million on 116 roof replacements.

### **Comment**

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#### **Identifier**

Risk 3

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

Upstream

#### **Risk type & Primary climate-related risk driver**

Reputation

Increased stakeholder concern or negative stakeholder feedback

#### **Primary potential financial impact**

Decreased revenues due to reduced demand for products and services

### **Company-specific description**

Lumen understands that part of its duty as a business partner and a 'good corporate citizen' is that of ensuring our customers can rely on the positive reputation of the Company. The risk of breaching such trust by adverse actions in respect of climate change protocols could result in reduced sales opportunities with existing or prospective customers. The relevance of such a risk is demonstrated by the high level of importance attached to the value attached to GHG emissions management by our customers, many of whom request our submission of the CDP's Supply Chain Questionnaire.

### **Time horizon**

Medium-term

### **Likelihood**

Very likely

### **Magnitude of impact**

Medium-low

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

Yes, a single figure estimate

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

5,631,862

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

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

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

While it is difficult to accurately quantify potential financial implications, and as applicable – costs of responding to the risk or realizing the opportunity, we estimate the potential future impact of this risk to be more than our threshold for "substantive" for CDP reporting purposes. Estimates are based on several factors including: professional judgement by our subject matter experts within the business, guidelines or requirements provided by governmental agencies, and non-profit publications.

If Lumen fails to meet the expectations of our customers and other stakeholders as it relates to climate change mitigation activities the potential exists for those customers to reduce their spend with Lumen in favour of our competitors who are more closely aligned with their environmental sustainability objectives. To illustrate the potential future financial implications of this risk, we have estimated the impact based on the loss of one customer, using the median annual revenue (2020) of those customers who request that Lumen participate in the CDP Supply Chain questionnaire.

Initially 31 customers requested our CDP disclosure. Those with revenue ranked in positions 15 and 16 in 2020 procured services worth \$5,601,376 and \$5,662,347, a total of \$11,263,724.  $\$11,263,724 / 2 = \$5,631,862$



### **Cost of response to risk**

200,000

### **Description of response and explanation of cost calculation**

Management of the issue is part of the business as usual processes; honesty and Integrity being unifying principles of the Company. No additional management cost is expected. As explained in Risk 1 above, Lumen routinely implements projects to enhance energy efficiency, and in Europe sources electricity from renewable sources. We have identified a variety of energy and carbon reduction initiatives that were active in 2020 in our answer to question 4.3b. For example, HVAC replacements at a London site are estimated to have saved 17,520 kWhs. Additional Further projects were under evaluation investigation in 2020 and are now being rolled out in all regions.

The cost of management is based upon the cost of reporting our response to climate change and sustainability, in part through the calculation of our carbon footprint and reporting to CDP, as well as other sustainability reports. This is based upon internal hours and the cost of external third-party support. Some associated costs in respect of Environmental and Energy Management Systems (ISO 14001, ISO 50001) are included, the majority however being considered Business as Usual. We have not included the cost of the energy efficiency initiatives as this is considered part of our business-as-usual cost. The cost comprises; \$50,000 internal hours CDP + \$150,000 consultancy hours CDP = \$200,000 total cost

### **Comment**

---

#### **Identifier**

Risk 4

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

Upstream

#### **Risk type & Primary climate-related risk driver**

Reputation

Increased stakeholder concern or negative stakeholder feedback

#### **Primary potential financial impact**

Decreased access to capital

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

If Lumen were not managing risks associated with climate change, nor communicating its performance in this respect, investors could choose not to contribute or reduce the amount they investment in the Company.

#### **Time horizon**

Medium-term

**Likelihood**

Likely

**Magnitude of impact**

Medium-high

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

Yes, a single figure estimate

**Potential financial impact figure (currency)**

42,938,084

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

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

**Explanation of financial impact figure**

While it is difficult to accurately quantify potential financial implications, and as applicable – costs of responding to the risk or realizing the opportunity, we estimate the potential future impact of this risk to be more than our threshold for “substantive” for CDP reporting purposes. Estimates are based on several factors including: professional judgement by our subject matter experts within the business, guidelines or requirements provided by governmental agencies, and non-profit publications.

To illustrate the potential future financial implications of increased stakeholder concern were Lumen's climate change management to be insufficient, we have estimated a loss in capital should one investor withdraw 5% of their investment. We have used the average stock holding of Lumen's top 5 investors, as shown on page 88 Lumen's combined Proxy Statement and annual report to shareholders filed with SEC on 7 April 2021. 2020 Annual Report and 2021 Proxy, and the stock price current on 31st December 2020.

Average number of stocks held of top 5 investors =88,078,120 stocks.  $88,078,120 \times \$9.75 = \$858,761,670$ .  $\$858,761,670 \times 0.05 = \$42,938,084$

**Cost of response to risk**

200,000

**Description of response and explanation of cost calculation**

Management of the issue is part of the business as usual processes; honesty and Integrity being unifying principles of the Company. As explained in Risk 1 above, Lumen routinely implements projects to enhance energy efficiency, and in Europe sources electricity from renewable sources. We have identified a variety of energy and carbon reduction initiatives that were active in 2020 in our answer to question 4.3b. For example, HVAC replacements and improvements at 24 US sites are estimated to have save 2,283,000 kWhs/year. Further projects were under investigation in 2020 and are now being rolled out.

The cost of management is based upon the cost of reporting our response to climate change and sustainability, in part through the calculation of our carbon footprint and reporting to CDP, as well as other sustainability reports. This is based upon internal hours and the cost of external third-party support. Some associated costs in respect of Environmental and Energy Management Systems (ISO 14001, ISO 50001) are included, the majority however being considered Business as Usual. We have not included the cost of the energy efficiency initiatives as this is considered part of our business-as-usual cost. The cost comprises; \$50,000 internal hours CDP + \$150,000 consultancy hours CDP = \$200,000 total cost

### Comment

## C2.4

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

Yes

## C2.4a

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

---

### Identifier

Opp1

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

Upstream

### Opportunity type

Products and services

### Primary climate-related opportunity driver

Shift in consumer preferences

### Primary potential financial impact

Increased revenues resulting from increased demand for products and services

### Company-specific description

Increased business – as customers wish to reduce costs, improve efficiency, and reduce the environmental impact of their operations their increased use of ICT products to enhance virtualization, and reduce travel and communications cost will be part of that strategy. Customers also increasingly wish to retain within their supply chain business partners with positive credentials in respect of climate-change. Lumen's challenge to meet the opportunity is to (i): ensure that we bring to market products which will enable

businesses to achieve the aforementioned objective and (ii): continue to mitigate our impacts on the environment including achieving carbon emissions reduction targets.

**Time horizon**

Short-term

**Likelihood**

Likely

**Magnitude of impact**

Medium

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

Yes, a single figure estimate

**Potential financial impact figure (currency)**

20,712,000

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

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

**Explanation of financial impact figure**

While it is difficult to accurately quantify potential financial implications, and as applicable – costs of responding to the risk or realizing the opportunity, we estimate the potential future impact of this opportunity to be more than our threshold for “substantive” for CDP reporting purposes. Estimates are based on several factors including: professional judgement by our subject matter experts within the business, guidelines or requirements provided by governmental agencies, and non-profit publications. To illustrate the potential future financial implications on our products and services as a result of a shift in consumer preferences, we have made the following evaluation.

In line with the description above, we consider that businesses are incentivized to adopt ICT as a substitute for travel and physical products, and networked services such as Cloud storage where these provide further efficiencies. In this respect we consider that our provision of these services, and our own adoption of low carbon energy sources, could generate additional revenue for the business.

According to the latest forecast from Gartner Inc. (April 21st, 2021) worldwide end-user spending on public cloud services is forecast to grow 23.1% in 2021 to total \$332.3 billion, up from \$270 billion in 2020.

The \$20,712,000 figure identified above is a conservative estimate, estimated purely for the purposes of this questionnaire, and being approximately 0.1% of our 2020 revenue (\$20,712,000,000), as being attributable wholly to improved reputation of utilizing lower emission products and services thereby affecting environmental climate change.  
 $\$20,712,000,000 \times 0.001\% = \$20,712,000$

### **Cost to realize opportunity**

30,000

### **Strategy to realize opportunity and explanation of cost calculation**

Lumen's core business is built around providing communications and networked solutions. We are therefore able to generate business advantage, whilst meeting customers' needs with sustainable solutions; communications and online solutions can reduce their footprint. An example is our services to our customer Info Mart Corporation, a Japan-based company principally involved in the business-to-business (BtoB) electronic commerce (e-commerce) business. Info Mart needed a secure reliable platform to make certain their 300,000 customers would have access to their business applications 24/7/365. A custom private cloud solution proved to be the answer to keep their buyer' and suppliers' connections uninterrupted. Cloud computing data centres require less infrastructure and space compared with on-site servers, because they can optimize servers based on storage requirements. The server utilization enhances energy efficiency directly, but also reduces the demand for energy for ancillary servers such as cooling, thereby reducing an organization's carbon footprint.

Regarding cost, the provision of communications solutions is our core service, therefore the additional cost is small and this represents the additional cost of quantifying the energy efficiency of our products and services. The cost of \$30,000 is that of joining with the Global enabling Sustainability Initiative (GeSI) an Information Communication Technology (ICT) consortium to quantify the environmental impact of ICT services.

### **Comment**

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#### **Identifier**

Opp2

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

Upstream

#### **Opportunity type**

Resilience

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

Other, please specify

Provision reliable communication during climate-related extreme events

#### **Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

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

Climate changes that increase severe weather events including changes in precipitation extremes and droughts will likely disrupt business travel, transportation of goods, and

the provision of services by businesses. As businesses seek to mitigate these impacts on their operations they will increasingly turn to ICT and virtual solutions to avoid the potential disruptive effect of climate change. As a provider of ICT services this change in physical climate parameters provides Lumen an opportunity through an increased demand for our network/connectivity services.

**Time horizon**

Medium-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium

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

Yes, a single figure estimate

**Potential financial impact figure (currency)**

21,712,000

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

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

**Explanation of financial impact figure**

While it is difficult to accurately quantify potential financial implications, and as applicable – costs of responding to the risk or realizing the opportunity, we estimate the potential future impact of this opportunity to be more than our threshold for “substantive” for CDP reporting purposes. Estimates are based on several factors including: professional judgement by our subject matter experts within the business, guidelines or requirements provided by governmental agencies, and non-profit publications. To illustrate the potential future financial implications of our ability to provide ‘resilience’ and the increased use of our ICT services, as a result of disruption of travel due to extreme climate change-induced weather events, we have used a 0.1% increase in revenue. The \$21,712,000 figure identified above is approximately 0.1% of the 2020 revenue of \$21,712,000,000.  
$$\$21,712,000,000 \times 0.001\% = \$21,712,000$$

**Cost to realize opportunity**

200,000

**Strategy to realize opportunity and explanation of cost calculation**

The provision of Lumen's core service itself can be viewed as the 'management method', since greater uptake of this service will occur during disruption of transportation or displacement of households due to physical change brought about by

climate change. For example, research indicates that use of social media spikes during natural disasters which could increase in frequency and severity due to climate change. For example, 75% of New Orleans residents responding to one survey visited online sites specific to their neighbourhoods after Hurricane Katrina. For the American public, mainstream media sites dominated, with 73% of online Hurricane Katrina news consumers turning to websites of major news organizations. One survey revealed that almost 50% of respondents communicated with those that they had not been in contact with for more than a year. The Internet was an important outlet for relief donations with 13 million Americans (9% of Internet users) going online to donate. (Source: Fraustino, Julia Daisy, Brooke Liu and Yan Jin. "Social Media Use during Disasters: A Review of the Knowledge Base and Gaps," Final Report to Human Factors/Behavioral Sciences Division, Science and Technology Directorate, US DHS. College Park, MD: START, 2012

Lumen's ability to provide a stable, resilient service during such events was demonstrated in 2020 during the Covid-19 pandemic. When faced with the challenges of the pandemic, Lumen was ready. Our Business Continuity Management programme had already identified the threat of a pandemic and is always planning and preparing for such events. Throughout the pandemic, Lumen provided a stable platform and supported our customers in transitioning and adapting to the new ways of living.

The cost of \$200,000 represents the cost of ensuring business continuity plans are updated and tested. \$100,000 to test plans + \$100,000 to update plans = \$200,000 total cost.

## Comment

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### Identifier

Opp3

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

Upstream

### Opportunity type

Products and services

### Primary climate-related opportunity driver

Shift in consumer preferences

### Primary potential financial impact

Increased revenues resulting from increased demand for products and services

### Company-specific description

It is believed that Lumen may benefit directly from changing customer preferences in response to the stance we are taking on climate-related issues. Many of our enterprise

customers have a high level of awareness and expectations, and request information on our management and reduction of carbon emissions. We engage in several voluntary and customer driven reporting initiatives, including CDP, many of which are publicly available, and serve to demonstrate our good corporate citizenship in this respect. Since performance regarding climate change mitigation is often requested in the procurement process and monitored by existing customers, we believe we could see revenue increase to some degree, as a result, both through the expansion of existing contracts and new business.

**Time horizon**

Medium-term

**Likelihood**

Likely

**Magnitude of impact**

Medium-low

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

Yes, a single figure estimate

**Potential financial impact figure (currency)**

5,631,862

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

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

**Explanation of financial impact figure**

While it is difficult to accurately quantify potential financial implications, and as applicable – costs of responding to the risk or realizing the opportunity, we estimate the potential future impact of this opportunity to be more than our threshold for “substantive” for CDP reporting purposes. Estimates are based on several factors including: professional judgement by our subject matter experts within the business, guidelines or requirements provided by governmental agencies, and non-profit publications. To illustrate the potential future financial implications attributable to a shift in consumer preferences, we have made the following evaluation.

The estimated increase of \$5,631,862 is the annual median revenue received from those customers who request our CDP disclosure, being a representative sample of those who attach a high degree of importance to our management of these issues. Initially 31 customers requested our CDP disclosure. Those with revenue ranked in positions 15 and 16 in 2020 procured services worth \$5,601,376 and \$5,662,347, a total of \$11,263,724.  $\$11,263,724 / 2 = \$5,631,862$

**Cost to realize opportunity**



200,000

### **Strategy to realize opportunity and explanation of cost calculation**

Management of the issue is part of the business as usual processes; honesty and Integrity being part of the unifying principles of the Company. No additional management cost for energy efficiency is expected. As explained in Risk 1 above, Lumen routinely implements projects to enhance energy efficiency, and in Europe sources electricity from renewable sources. We have identified a variety of energy and carbon reduction initiatives that were active in 2020 in our answer to question 4.3b. For example, HVAC replacements at a London site are estimated to have saved 17,520 kWhs. Further projects were under investigation in 2020 and are now being rolled out.

The cost of management is based upon the cost of reporting our response to climate change, in part through the calculation of our carbon footprint and reporting to CDP, as well as other reports. This is based upon internal hours and the cost of external third-party support. We have not included the cost of the energy efficiency as this is considered part of our business-as-usual cost. However, we have included the cost of some of our energy efficiency and carbon reduction projects in our answer to question 4.3b. Included also are elements relating to the cost of our energy management system registration (ISO50001). The cost comprises; \$50,000 internal hours CDP + \$150,000 consultancy hours CDP = \$200,000 total cost.

### **Comment**

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#### **Identifier**

Opp4

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

Upstream

#### **Opportunity type**

Markets

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

Access to new markets

#### **Primary potential financial impact**

Increased access to capital

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

By being a sustainable business and addressing climate change, and communicating its performance in this respect, Lumen could attract investment from companies that favour such performance. This could extend to both those that positively select on sustainability criteria, as well as avoiding potential deselection from funds that filter out unsustainable businesses.

**Time horizon**

Medium-term

**Likelihood**

Likely

**Magnitude of impact**

Medium-high

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

Yes, a single figure estimate

**Potential financial impact figure (currency)**

42,938,084

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

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

**Explanation of financial impact figure**

While it is difficult to accurately quantify potential financial implications, and as applicable – costs of responding to the risk or realizing the opportunity, we estimate the potential future impact of this opportunity to be more than our threshold for “substantive” for CDP reporting purposes. Estimates are based on several factors including: professional judgement by our subject matter experts within the business, guidelines or requirements provided by governmental agencies, and non-profit publications. To illustrate the potential future financial implications arising from accessing increased capital, due to being a sustainable business and addressing climate change, we have made the following evaluation.

The financial impact is based upon the estimated additional capital should one of our top 5 investors increase their investment by 5%. We have used the average stock holding of Lumen's top 5 investors, and the stock price current on 31st December 2020.

Average number of stocks held of top 5 investors = 88,078,120 stocks.  $88,078,120 \times \$9.75 = \$858,761,670$ .  $\$858,761,670 \times 0.05 = \$42,938,084$

**Cost to realize opportunity**

200,000

**Strategy to realize opportunity and explanation of cost calculation**

Lumen recognizes the importance of responsible and progressive sustainability programs and of the particular need to extend this to environmental issues such as climate change. Lumen has set emissions reduction targets approved by the Science-Based Targets Initiative (SBTI) and has implemented a number of measures toward achieving these. We support the implementation of energy management systems certified to ISO 50001, have programs of energy efficiency improvements across our

portfolio, and but renewable energy in several of the regions in which we operate.

The cost of management is based upon the cost of reporting our response to climate change and sustainability, in part through the calculation of our carbon footprint and reporting to CDP, as well as other sustainability reports. This is based upon internal hours and the cost of external third-party support. Some associated costs in respect of Environmental and Energy Management Systems (ISO 14001, ISO 50001) are included, the majority however being considered Business as Usual. We have not included the cost of the energy efficiency initiatives as this is considered part of our business-as-usual cost. However, we have included the cost of some of our energy efficiency and carbon reduction projects in our answer to question 4.3b. The cost comprises; \$50,000 internal hours CDP + \$150,000 consultancy hours CDP = \$200,000 total cost.

**Comment**

## C3. Business Strategy

### C3.1

**(C3.1) Have climate-related risks and opportunities influenced your organization’s strategy and/or financial planning?**

Yes

### C3.1b

**(C3.1b) Does your organization intend to publish a low-carbon transition plan in the next two years?**

	Intention to publish a low-carbon transition plan	Intention to include the transition plan as a scheduled resolution item at Annual General Meetings (AGMs)	Comment
Row 1	Yes, in the next two years	No, we do not intend to include it as a scheduled AGM resolution item	Lumen is in the process of completing a TCFD transitional climate scenario which will assist in identifying its plan to transition to a low carbon economy. Management will evaluate opportunities once the transitional scenario analysis is completed and will present findings to the Board.

## C3.2

### (C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative, but we plan to add quantitative in the next two years

## C3.2a

### (C3.2a) Provide details of your organization’s use of climate-related scenario analysis.

Climate-related scenarios and models applied	Details
RCP 8.5	<p>Lumen has conducted a physical scenario analysis using the the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathway 8.5 (RCP 8.5) scenario. Of the RCP scenarios, RCP 8.5 has greatest physical impacts and represents a business-as-usual pathway. Use of RCP 8.5 ensures that the analysis conservatively estimates the upper end of the range of potential climate change impacts. This preliminary analysis focused on 7 critical assets (sites). Future analyses will be expanded to include a broader assessment of Lumen’s assets. The physical scenario analysis evaluated exposure of the 7 critical sites to climate hazards during the present day and two future time-horizons (2035 and 2060). The 2035 and 2060 time horizons reflect Lumen's medium and long-term climate change planning horizons. Of the 7 sites, 6 are in the USA, covering several geographic regions with exposure to a range of climate hazards. The 7th site is located in Panama.</p> <p>Inputs to the analysis included present-day and future climate data and site-specific inputs including: site use, location, water consumption data, insurance loss reports, business interruption and total insured values, and a Business Continuity Planning Program Report. Present-day climate data was accessed from the US Environmental Protection Agency's Climate Resilience Evaluation and Awareness Tool (CREAT), the Fourth (2018) National Climate Assessment, FEMA Flood Hazard Mapping, the US Forest Service Wildfire Hazard Mapping, NOAA/National Hurricane Center/National Weather Service Storm Surge Hazard Maps and the National Integrated Drought Information System (NIDIS).</p> <p>Inputs into the Future Climate Projections included, but were not limited to, downscaled climate model projections for the IPCC’s Representative Concentration Pathway (RCP) 8.5 or “Business as Usual” scenario, EPA’s CREAT future projections, global climate model projections from the World Bank Climate Change Knowledge Portal, the Fourth (2018) US National Climate Assessment – Regional Chapters, NOAA sea level rise projections and inundation mapping, and local hazard mitigation and climate planning documents.</p> <p>The physical climate hazards considered were categorized as chronic or acute.</p>

	<p>Chronic hazards comprised: changes in temperature and precipitation patterns and rising sea levels. Acute hazards comprised: inland flooding, coastal flooding, tropical cyclones, drought, wildfires and extreme temperatures. Each of the 7 critical sites was assessed against each chronic and acute hazard for the present-day and each future time horizon. Impacts to each site from each hazard were then ranked according to likelihood and magnitude of impact. The most common and substantial risks across all sites were increasing average temperatures, extreme temperatures, drought and flooding.</p> <p>By 2035, increasing and extreme temperatures and rising humidity are likely to increase cooling costs, frequency of power interruptions, and exposure of employees and infrastructure to heat stress. For US sites, which are located in urban areas, wildfire impacts are likely to be indirect and to include degraded air quality and power interruptions. The projected increases in intensity of extreme precipitation events may increase inland flooding risk for some US sites. One site is exposed to increases in flooding and tropical cyclone hazards.</p> <p>By 2060, increasing and extreme temperatures and drought are the most common risks, but may be mitigated by use of energy- and water-efficient cooling technologies and backup power systems to reduce the impacts of heat wave impacts on the electrical grid. One site may be exposed to direct wildfire impacts.</p> <p>Recommendations have been made to the Board and the Business Continuity Team, providing sufficient information for Lumen to review its risk management processes, identify opportunities and as necessary amend business strategy.</p>
--	--

### C3.3

**(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.**

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Lumen's purpose to "further human progress through technology" drives our strategy of operational excellence is focused on customers as well as investors and employees. Our customer focused objectives can only be fully realized if we provide resilient, reliable service. Climate change risk has influenced our customer service provision at various levels, and in the short term. For example, our Business Continuity Planning Team recognize the risk of service interruption from extreme weather events associated with

		<p>climate change, and the Enterprise Risk Management team (“ERM”) reports this and similar risk management issues to the Board of Director’s Risk and Security Committee in ERM’s quarterly briefings. As a result there is a high level recognition of the need to protect our locations from events such as river floods, and heightened erosion due to extreme rainfall, as in the example of the re-location of the York office, and protection of the Colorado Springs, Colorado office, as provided in our answer to 2.2a.</p> <p>Through our Business Continuity Planning function, Lumen is one of the four core members of the Communication Sector Coordinating Council partnering with the Department of Homeland Security National Coordinating Center (NCC).</p> <p>As described in our answer to question 3.2a above, Lumen conducted a physical scenario analysis using the IPCC Business-as-Usual (RCP 8.5) scenario. This study evaluated the acute and chronic physical climate impacts at 7 critical assets in the USA and Panama in both the medium term (2035) and long term (2060). Recommendations were made to both the Board and the Business Continuity Planning Team and included leveraging the climate scenario analysis to determine the resilience of the business strategy.</p>
<p>Supply chain and/or value chain</p>	<p>Yes</p>	<p>Lumen monitors risks associated with its supply chain including those arising from climate change. In response to an increase in U.K. carbon taxes and legislative initiatives, Lumen adopted a strategy in EMEA whereby we have switched our procurement of electricity to renewable-sourced supplies in countries with significant presence. This is a short-term strategy change in the sense that it is operational, but procurement is also planned on an ongoing basis.</p> <p>In other markets we have anticipated the potential introduction of carbon taxes and legislation. For example, we have anticipated a potential increase in energy costs in Colorado due to the forthcoming Renewable Energy Standard (RES) requiring utilities to generate 30% of their electricity from renewable sources. Our strategic response has been to authorize programs supporting energy efficiency improvements across much of our property portfolio, thus reducing our consumption with immediate effect, in response to this short-term transitional risk.</p> <p>Our sustainability initiatives are strengthened by our partnerships with other organizations. For example, Lumen</p>

		joined the Global Enabling Sustainability Initiative (GeSI) in 2020 and began to use their resources and best practices to further our sustainability programmes. GeSI is a leading source of impartial information, resources and best practices for achieving social and environmental sustainability through digital resources.
Investment in R&D	Yes	<p>Climate related risks and opportunities have prompted a strategic approach to our investment in R&amp;D. By the nature of the business/industry, Lumen is continually investing to optimize our products and services. By boosting efficiency of our products and services and decreasing energy consumption, Lumen can become more resilient to climate change, and enhance its reputation for good corporate governance.</p> <p>One short term example is Lumen's strategic participation in 2020 in the Voluntary Agreement for Ongoing Improvement to Energy Efficiency of Small Network Equipment. This includes items such as modems and routers used by consumers, with the primary objective being to increase energy efficiency while promoting rapid innovation and timely introduction of new features. At least 90 percent of small equipment procured must meet the energy efficiency standards established by the agreement.</p>
Operations	Yes	A major short and medium-term response to climate-related risks and opportunities has been a senior management decision to support a wide range of energy efficiency and emissions reduction programmes that alleviate the transitional risks associated with carbon taxes and regulations, reduce our impact, and also realize the opportunities associated with a senior management level of performance as expected by our customers. Examples include our adoption of a global science-based target (SBT) to reduce emissions, certification to the ISO 50001 Energy Management Systems standard at some facilities, and procurement of renewables in EMEA, investment in solar panel projects in Brazil, and in the USA and EMEA significant investment in energy efficiency in buildings and processes.

### C3.4

**(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.**

	Financial planning elements that have been influenced	Description of influence
Row 1	Direct costs	<p>Lumen recognizes that in the short and medium term the business may be faced by additional costs associated with the introduction of new carbon taxes, in particular within the USA. As explained above, part of our response is to enhance the energy efficiency of our processes and buildings to minimize exposure to such taxes should they be introduced, with project lifetimes spanning the short, medium and (early) long term time horizons. The business has therefore pursued a strategy of authorizing major improvement programs aimed at energy and emissions reduction. For example, \$26,884,000 was invested at US facilities in 2020.</p> <p>A decision was taken to pursue utility rebates and incentives for our utility cost reduction and energy efficiency programs. In 2020, we received approximately \$1.6M in utility rebates and incentives including for switch rooms and decommissioning, mechanical system upgrades, replacement of motors and fans, installation of building control systems, and lighting retrofits. The largest incentive was for \$491,578 at a New York facility.</p> <p>As explained in Risk examples 3 and 4 above, under 2.3a, another incentive for investing in energy efficiency projects, is that Lumen recognizes that reducing its impact associated with climate change may be viewed favorably by customers and investors, and therefore increase revenue and investment.</p> <p>As described in our answer to question 3.2a above, Lumen has conducted a physical scenario analysis using the Intergovernmental Panel on Climate Change Business-as-Usual (RCP 8.5) scenario. This study evaluated the acute and chronic physical climate impacts at 7 critical assets in the USA and Panama in both the medium term (2035) and long term (2060). Recommendations were made to both the Board and the Business Continuity Planning Team and included leveraging the climate scenario analysis to determine the resilience of the financial planning process.</p>

### C3.4a

**(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).**



## C4. Targets and performance

### C4.1

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

Absolute target

#### C4.1a

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

---

**Target reference number**

Abs 1

**Year target was set**

2019

**Target coverage**

Company-wide

**Scope(s) (or Scope 3 category)**

Scope 1+2 (market-based)

**Base year**

2018

**Covered emissions in base year (metric tons CO<sub>2</sub>e)**

2,360,223.29

**Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)**

100

**Target year**

2025

**Targeted reduction from base year (%)**

18

**Covered emissions in target year (metric tons CO<sub>2</sub>e) [auto-calculated]**

1,935,383.0978

**Covered emissions in reporting year (metric tons CO<sub>2</sub>e)**

2,003,873.66

**% of target achieved [auto-calculated]**

83.8785116245

**Target status in reporting year**

Underway

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

Yes, and this target has been approved by the Science-Based Targets initiative

**Target ambition**

Well-below 2°C aligned

**Please explain (including target coverage)**

This is a Company-wide science-based target (SBT) and covers all Scope 1 & Scope 2 (market-based) emissions. We have re-baselined the 2018 data, as we have reclassified some categories. For example, we are now classifying emissions related to equipment at third-party co-location facilities as Scope 2 whereas in 2018 these had been classed as Scope 3 and were therefore excluded from the base year data at this time.

---

**Target reference number**

Abs 2

**Year target was set**

2019

**Target coverage**

Company-wide

**Scope(s) (or Scope 3 category)**

Scope 3 (upstream)

**Base year**

2018

**Covered emissions in base year (metric tons CO<sub>2</sub>e)**

2,498,404.12

**Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)**

100

**Target year**

2025

**Targeted reduction from base year (%)**

10

**Covered emissions in target year (metric tons CO<sub>2</sub>e) [auto-calculated]**

2,248,563.708

**Covered emissions in reporting year (metric tons CO2e)**

2,456,221.04

**% of target achieved [auto-calculated]**

16.8840099415

**Target status in reporting year**

Underway

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

Yes, and this target has been approved by the Science-Based Targets initiative

**Target ambition**

2°C aligned

**Please explain (including target coverage)**

This target covers all upstream Scope 3 categories. The base year emissions have undergone re-baselining and therefore differ from those submitted in our 2019 CDP disclosure.

## C4.2

**(C4.2) Did you have any other climate-related targets that were active in the reporting year?**

No other climate-related targets

## C4.3

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

Yes

### C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	55	0
To be implemented*	20	0
Implementation commenced*	13	637.47
Implemented*	398	35,920.45
Not to be implemented	25	0

## C4.3b

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

---

**Initiative category & Initiative type**

Energy efficiency in buildings  
Building Energy Management Systems (BEMS)

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

7,557.09

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

2,450,000

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

2,050,000

**Payback period**

<1 year

**Estimated lifetime of the initiative**

11-15 years

**Comment**

45 projects, USA: This comprises building control system installation, upgrades, commissioning, and monitoring.

---

**Initiative category & Initiative type**

Energy efficiency in buildings  
Heating, Ventilation and Air Conditioning (HVAC)

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

881.77

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

275,000

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

952,000

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

16-20 years

**Comment**

USA. These 28 projects comprise HVAC mechanical system upgrades and equipment replacement.

---

**Initiative category & Initiative type**

Energy efficiency in buildings

Other, please specify

Airflow Management

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

648.31

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

201,000

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

500,000

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

3-5 years

**Comment**

USA: These 7 projects comprise improvement of airflow in technical equipment spaces, to improve the efficiency of cooling.

**Initiative category & Initiative type**

Energy efficiency in buildings  
Lighting

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

1,004.96

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

310,000

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

1,240,000

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

11-15 years

**Comment**

USA: These 25 projects comprise LED retrofits and lighting controls.

---

**Initiative category & Initiative type**

Energy efficiency in production processes  
Process optimization

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

3,081.11

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

950,000

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

1,425,000

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

3-5 years

**Comment**

USA: This comprises 87 switch room and decommissioning projects.

---

**Initiative category & Initiative type**

Company policy or behavioral change

Other, please specify

Site consolidation / closure (administrative buildings)

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

11,172.87

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

3,446,000

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

15,427,000

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

>30 years

**Comment**

USA: This comprises 83 projects relating to non-technical / administrative site downsizes or closures.

---

**Initiative category & Initiative type**

Company policy or behavioral change

Other, please specify

Site consolidation / closure (technical buildings)

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

11,346.88

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

3,500,000

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

5,250,000

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

>30 years

**Comment**

USA: This comprises 107 projects related to technical site downsizes or closures.

---

**Initiative category & Initiative type**

Energy efficiency in buildings

Lighting

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

5.65

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

2,516

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

8,481

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

11-15 years

**Comment**

Ecuador: This comprises the installation of LED lamps at 2 sites.

---

**Initiative category & Initiative type**



Energy efficiency in buildings  
Lighting

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

2.17

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

1,060

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

2,700

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

16-20 years

**Comment**

Ecuador: This comprises 2 projects for the installation of motion-sensors for lighting.

---

**Initiative category & Initiative type**

Energy efficiency in buildings  
Heating, Ventilation and Air Conditioning (HVAC)

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

219.64

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

72,608

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

216,112

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

16-20 years

**Comment**

Colombia, Brazil, Argentina: This comprises 7 projects replacing air conditioning equipment with more efficient models.

---

**Initiative category & Initiative type**

Energy efficiency in production processes  
Process optimization

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

0

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

9,204

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

114,000

**Payback period**

11-15 years

**Estimated lifetime of the initiative**

16-20 years

**Comment**

UK: 2 projects involving the replacement of rectifiers. Note: 0 CO2e savings are shown because we are using a Scope 2 market-basis in this answer and the energy used at these sites are already fully covered by renewable energy REGOs and therefore already reported as zero carbon. If calculated under the location-basis, these projects resulted in annualized avoidance of 8.17 t CO2e.

---

**Initiative category & Initiative type**

Energy efficiency in buildings  
Heating, Ventilation and Air Conditioning (HVAC)

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

0

**Scope(s)**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

43,352

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

287,300

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

16-20 years

**Comment**

UK & Germany: These 3 projects comprise HVAC and chiller replacements. Note: 0 CO2e savings are shown because we are using a Scope 2 market-basis in this answer and the energy used at these sites are already fully covered by renewable energy REGOs and therefore already reported as zero carbon. If calculated under the location-basis, these projects resulted in annualized avoidance of 26.55 t CO2e.

**C4.3c**

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

Method	Comment
Dedicated budget for energy efficiency	Reduction of energy usage is a top priority to meet budget goals. Potential improvements are assessed by our regional energy management teams who develop a cost benefit analysis for approval.
Dedicated budget for other emissions reduction activities	The procurement of zero carbon renewable-sourced electricity is used to reduce emissions of CO2e throughout locations in Europe. We procure renewable electricity for most of our consumption in the following countries: - UK, France, Germany, Spain, Italy, The Netherlands, Belgium and Sweden.
Employee engagement	Through our Corporate Social Responsibility program we seek to engage our employees in a variety of "Cause" areas including environmental sustainability. Employees are encouraged and provided with resources through a variety of communication platforms to enact numerous small-scale actions to promote energy efficiency, cost savings and carbon reduction. One example, in the USA is the provision of free-to-operate charging stations for electric and plug-in hybrid vehicles used by employees. In the UK, there is an incentive for car sharing and cycle-to-work schemes.

## C4.5

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

Yes

## C4.5a

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

---

### Level of aggregation

Company-wide

### Description of product/Group of products

Our business-to-business Information Communication Technology (ICT) services enable businesses of all kinds to replace business travel with the use of ICT, thus reducing emissions of CO<sub>2</sub>e. We have provided an example in the 'Comments' box below.

FTSE Russell launched the first global model of companies whose goods, products and services are driving the industrial transition to a Green Economy. This model provides the data for index families such as FTSE Green Revenues. The FTSE Green Revenues has classified Lumen's products / services related to its Cloud Hosting services and Video Conferencing services to meet their criteria to drive the transition to a Green Economy. FTSE Russell has quantified Lumen's Green Revenue Factor as 41.18% of revenue.

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

Avoided emissions

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

Evaluating the carbon-reducing impacts of ICT

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

41.18

### Comment

An example of how we have evaluated the carbon reduction impacts of using ICT is provided below.

For example, (using 2012 DEFRA emission factors) a hypothetical company with 20 office workers and 20 maintenance engineers (primary drivers), may have vehicle (car and van) emissions of 145 tonnes CO<sub>2</sub>e/pa in 2012. (2800 litres of gasoline at 2012

DEFRA emission factor of 2.2423 kg CO<sub>2</sub>e/litre AND 53500 litres diesel at 2.584 kg CO<sub>2</sub>e/litre). By reducing mileage and fuel use by 10% through increased use of ICT, emissions would be reduced by 14.5 tonnes pa. Such an example is transferable to other companies but would vary according to the nature of their business. Lumen is not planning to originate any credits for this.

FTSE Russell launched the first global model of companies whose goods, products and services are driving the industrial transition to a Green Economy. This model provides the data for index families such as FTSE Green Revenues. The FTSE Green Revenues has classified Lumen's products / services related to its Cloud Hosting services and Video Conferencing services to meet their criteria to drive the transition to a Green Economy.

## C5. Emissions methodology

### C5.1

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

#### Scope 1

---

**Base year start**

January 1, 2018

**Base year end**

December 31, 2018

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

277,725.23

**Comment**

#### Scope 2 (location-based)

---

**Base year start**

January 1, 2018

**Base year end**

December 31, 2018

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

2,141,282.01

**Comment**

These are our re-baselined emissions and correspond to those re-stated in question 6.3

## Scope 2 (market-based)

---

**Base year start**

January 1, 2018

**Base year end**

December 31, 2018

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

2,082,498.06

**Comment**

These are our re-baselined emissions and correspond to those re-stated in question 6.3

## C5.2

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

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

## C6. Emissions data

### C6.1

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

**Reporting year**

---

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

224,165.82

**Start date**

January 1, 2020

**End date**

December 31, 2020

**Comment**

**Past year 1**

---

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

263,918.29

**Start date**

January 1, 2019

**End date**

December 31, 2019

**Comment**

This figure has been re-baselined.

**Past year 2**

---

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

277,725.23

**Start date**

January 1, 2018

**End date**

December 31, 2018

**Comment**

This figure has been re-baselined.

## C6.2

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

**Row 1**

---

**Scope 2, location-based**

We are reporting a Scope 2, location-based figure

**Scope 2, market-based**

We are reporting a Scope 2, market-based figure

**Comment**

## C6.3

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

**Reporting year**

---

**Scope 2, location-based**

1,860,120.55

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

1,779,707.85

**Start date**

January 1, 2020

**End date**

December 31, 2020

**Comment**

Please note we have classified our data centres at third-party co-locations (TPCs) emissions as Scope 2. As support for this classification, our co-location supplier lessor (“Supplier”) certified to us that a total of 104,304 MWhs of renewable energy were purchased on Lumen’s behalf and are covered by renewable attributes such as RECs and REGOs (“Attributes”). Specifically, the Supplier certified the Attributes were procured and retired by Supplier to balance 100% of leesee’s (Lumen’s) energy load. Based on this certification we applied zero carbon emissions to this electricity under the market basis. Please note, because these TPCs would be considered a zero emission factor, we have utilized a zero carbon factor for this Supplier. This practice is noted in our IMP.

We realize that the data centre industry guidance is being developed and Lumen is working with industry organizations, such as GeSI, to define whether a co-located leesee should classify their emissions under Scope 2 or Scope 3. Additionally, we are engaging Supplier to clarify a consistent approach going forward, which may allocate to Supplier title to these Attributes.

**Past year 1**

---

**Scope 2, location-based**

1,969,369.8

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

1,898,089.62

**Start date**

January 1, 2019

**End date**

December 31, 2019

**Comment**

The 2019 figure has been re-baselined.

**Past year 2**

---

**Scope 2, location-based**

2,141,282.01

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



2,082,498.06

**Start date**

January 1, 2018

**End date**

December 31, 2018

**Comment**

This is our target baseline year. This figure has been re-baselined.

## C6.4

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

No

## C6.5

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

### Purchased goods and services

---

**Evaluation status**

Relevant, calculated

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

1,549,526.88

**Emissions calculation methodology**

Company spend on purchased goods and services is aggregated by functional category and then multiplied by sectoral cradle to gate emission factors provided by UK DEFRA. This category comprises purchased Information Communication Technology (ICT) services, legal services, advertising services, printing / publishing services, other administrative, office and business support services, and other services. Global warming potentials (GWP) are from the IPCC Second Assessment, 100 year average.

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

0

**Please explain**

### Capital goods

---

**Evaluation status**

Relevant, calculated

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

503,716.92

**Emissions calculation methodology**

Company spend on purchased capital goods is aggregated by functional category and then multiplied by sectoral cradle to gate emission factors provided by UK DEFRA. This category comprises purchased construction related capital goods, and office machinery / computer related capital goods. Global warming potentials (GWP) are from the IPCC Second Assessment, 100 year average.

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

0

**Please explain**

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

---

**Evaluation status**

Relevant, calculated

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

357,539.39

**Emissions calculation methodology**

These comprise electricity transmission and distribution losses, electricity well-to-tank emissions from generation, electricity well-to-tank emissions from transmission & distribution, natural gas well-to-tank emissions, heat & steam WTT losses, distribution losses & WTT distribution losses, chilled water WTT and T&D, emergency generators & other minor uses of fuels WTT, air travel in company jet WTT, and road fuels WTT including in company cars, employee cars & commuting, and WTT of commuting and commercial flights.

Electricity, gas and heat/steam kWhs are obtained from invoices. Air travel is obtained from purchasing records and distance calculated from software, road vehicle fuel consumption is calculated from purchasing invoices or expenses claims, and emergency generator and other fuel use is from invoices.

Activity data is then multiplied by the relevant upstream emission factors for the activities included in this category. Emission factors for upstream emissions of purchased fuels are based on life-cycle analysis software. Emission factors for upstream emissions of purchased electricity are based on life-cycle analysis software for the U.S., and on U.K. Defra Guidelines for other countries. Emission factors for transmission and distribution losses are location-based and taken from EPA's eGRID database for the U.S., and on U.K. Defra Guidelines for other countries. GWPs are IPCC Fourth

Assessment Report (AR4 - 100 year).

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

100

**Please explain**

**Upstream transportation and distribution**

---

**Evaluation status**

Relevant, calculated

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

6,170.93

**Emissions calculation methodology**

Company spend on purchased upstream transportation services is obtained for our partnership in the US EPA SmartWay program. Spend data is aggregated by functional category and then multiplied by sectoral cradle to gate emission factors provided by UK DEFRA. Global warming potentials (GWP) are from the IPCC Second Assessment, 100-year average.

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

100

**Please explain**

**Waste generated in operations**

---

**Evaluation status**

Relevant, calculated

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

23,670.7

**Emissions calculation methodology**

The waste figure represents emissions from waste disposed via landfilling and recycling. Data on waste quantity, composition, and disposal method are obtained from our facilities management operations. Emissions from waste are calculated using methodologies and emission factors from the EPA's Office of Resource Conservation and Recovery. Emissions calculations are based on a lifecycle analysis, including emissions from the long-term decomposition of waste in a landfill or from upstream sources/sinks. Global warming potentials (GWP) are from the IPCC Fourth Assessment Report, 100-year average.

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

100

**Please explain**

**Business travel**

---

**Evaluation status**

Relevant, calculated

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

6,197.09

**Emissions calculation methodology**

This comprises travel in employee owned vehicles and short-term rental cars (1,317.21 tonnes CO<sub>2</sub>e) and air travel in commercial aircraft (4,879.88 t CO<sub>2</sub>e). Car travel is calculated from expenses claims or other internal records which show either distance travelled or fuel consumption. Air travel is calculated using the booking agents' data including distances or calculating these using software. The distance is then multiplied by the appropriate emissions factor to quantify emissions. Emissions were calculated using emission factors and methodologies from the Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting and EPA Emission Factors for Greenhouse Gas Inventories. GWPs are IPCC Fourth Assessment Report (AR4 - 100 year).

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

100

**Please explain**

**Employee commuting**

---

**Evaluation status**

Relevant, calculated

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

9,399.13

**Emissions calculation methodology**

Fuel consumption, commuting distances and modes of travel were based on survey results from our employee operations in Latin America. Total emissions by fuel type and mode of transportation were calculated using emission factors and methodologies from the US EPA Emission Factors for Greenhouse Gas Inventories. Total emissions from employee commuting were extrapolated to Lumen employees to determine the comprehensive global total of 9,399.13 t CO<sub>2</sub>e. Global Warming Potentials (GWP) are from the IPCC Fourth Assessment Report (AR4 – 100 year).

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

5

**Please explain**

**Upstream leased assets**

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

Lumen follows the Operational Control approach and because it has control of its leased buildings and equipment at 3rd party co-location facilities these emissions are included in the Scope 1 and Scope 2 totals.

**Downstream transportation and distribution**

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

All transportation and distribution is paid for by Lumen and captured in the scope 3 upstream transportation and distribution category above.

**Processing of sold products**

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

At present Lumen does not sell any intermediate products for processing by downstream companies. Therefore, this category represents 0 tonnes CO<sub>2</sub>e of the Scope 3 total.

**Use of sold products**

---

**Evaluation status**

Relevant, calculated

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

284,539.74

**Emissions calculation methodology**

This category includes emissions wholly associated with customer use of modems (284,539.74 tCO<sub>2</sub>e) sold by Lumen in the reporting year. Activity data are based on nameplate equipment power ratings and units sold by equipment type. Total annual electricity consumption is quantified using estimated customer use time and equipment

utilization. US average eGRID location-based emissions factors were used to calculate the emissions total. GWPs are IPCC Fourth Assessment Report, 100-year average.

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

100

**Please explain**

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**End of life treatment of sold products**

**Evaluation status**

Relevant, calculated

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

935.37

**Emissions calculation methodology**

This category wholly comprises emissions associated with customer disposal of modems 935.37 tCO<sub>2</sub>e sold by Lumen in the reporting year. Activity data are based on the total mass and composition of product units sold. Emissions from waste disposed by landfilling were calculated using emission factors from the EPA's Office of Resource Conservation and Recovery. GWPs are IPCC Fourth Assessment Report, 100-year average.

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

100

**Please explain**

---

**Downstream leased assets**

**Evaluation status**

Relevant, calculated

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

223.64

**Emissions calculation methodology**

This category is largely not applicable however there is an exception in the UK where Lumen leases equipment and space to a customer. 959,262.46 kWhs of electricity is attributed to the customer which, at a DEFRA electricity emission factor of 0.23314 kg CO<sub>2</sub>e/kWh gives 223.64 tonnes CO<sub>2</sub>e, comprising all Scope 3 emissions in this category. GWPs are IPCC Second Assessment Report (SAR, 100 year average).

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

100

### **Please explain**

#### **Franchises**

---

##### **Evaluation status**

Not relevant, explanation provided

##### **Please explain**

At present Lumen does not have franchise operations. Therefore, this category represents 0 tonnes CO<sub>2</sub>e of the Scope 3 total.

#### **Investments**

---

##### **Evaluation status**

Not relevant, explanation provided

##### **Please explain**

Lumen's balance sheet value of investments is low compared to its total market capitalization. This category will become relevant if Lumen owns stock or other ownership in a company exceeding a reasonable significant threshold. Therefore, at present this category is not relevant and does not contribute towards the Scope 3 total.

#### **Other (upstream)**

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##### **Evaluation status**

Not relevant, explanation provided

##### **Please explain**

There are no other relevant upstream scope 3 emissions. Therefore, this category does not contribute to the calculated Scope 3 carbon footprint.

#### **Other (downstream)**

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##### **Evaluation status**

Not relevant, explanation provided

##### **Please explain**

There are no other relevant downstream scope 3 emissions. Therefore, this category does not contribute to the calculated Scope 3 carbon footprint.

## **C6.7**

**(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?**

Yes

## C6.7a

**(C6.7a) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO<sub>2</sub>.**

	CO <sub>2</sub> emissions from biogenic carbon (metric tons CO <sub>2</sub> )	Comment
Row 1	5,665.73	This figure comprises direct emissions from sources that the company controls, and not indirect emissions associated with biogenic renewable-sourced electricity. The 5665.73 tonnes CO <sub>2</sub> e comprises 5583.49 tCO <sub>2</sub> e from the biogenic fraction of vehicle forecourt fuels and vehicle biofuels, and 82.24 t CO <sub>2</sub> e from biofuel-powered generators used in Peru. Note that this figure relates to the direct biogenic emissions from the organization (i.e. Scope 1).

## C6.10

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

### Intensity figure

0.0000967494

### Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO<sub>2</sub>e)

2,003,873.66

### Metric denominator

unit total revenue

### Metric denominator: Unit total

20,712,000,000

### Scope 2 figure used

Market-based

### % change from previous year

3.98

### Direction of change

Decreased

### Reason for change



The 3.98% decrease in tonnes CO<sub>2</sub>e per unit revenue in 2020 compared to 2019 is due to a decline in absolute emissions but limited to an extent by a decline in revenue during the same period.

In the period, Scope 1 & 2 emissions (market-based) emissions declined by 158,134.25 tonnes CO<sub>2</sub>e. In the same period revenue fell by \$746,000,000, nevertheless the decline in absolute emissions was sufficient to reduce the emissions intensity.

The reduction in emissions is due in part to both Lumen's emissions reduction projects as described in our answer to question 4.3b, and also an increase in the facilities using REGO-backed renewable electricity. The energy efficiency projects accounted for a reduction of 35,920.45 t CO<sub>2</sub>e, being 22.72% of the overall absolute decline in GHG emissions. A net increase in kWhs that covered by REGO-backed renewable electricity accounted for a 10,513.93 t CO<sub>2</sub>e reduction, or 6.65% of the total reduction. This leaves 70.64% of the absolute reduction attributable to other factors. Although this cannot be quantified, much of this can be attributed to changes caused by the Covid-19 pandemic.

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**Intensity figure**

51.25

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO<sub>2</sub>e)**

2,003,873.66

**Metric denominator**

full time equivalent (FTE) employee

**Metric denominator: Unit total**

39,103

**Scope 2 figure used**

Market-based

**% change from previous year**

0.74

**Direction of change**

Increased

**Reason for change**

The 0.74% increase in tonnes CO<sub>2</sub>e per FTE in 2020 compared to 2019 is due to a significant decline in FTEs. Although Lumen achieved a significant reduction absolute Scope 1 & 2 market-based emissions of 158,134.25 tonnes CO<sub>2</sub>e (a -7.31% reduction), a simultaneous fall in FTEs (of -7.99%) was sufficient to cause an increase in tonnes CO<sub>2</sub>e per FTE.

In the period, Scope 1 & 2 market-based emissions declined by 158,134.25 tonnes CO2e. In the same period FTE numbers reduced from 42,500 to 39,103. The reduction in emissions is due in part to Lumen’s emissions reduction projects as described in our answer to question 4.3b and also an increase in the facilities using REGO-backed renewable electricity. The energy efficiency projects accounted for a reduction of 35,920.45 t CO2e, being 22.72% of the overall absolute decline in GHG emissions. The net growth in kWhs covered by REGO-backed renewable electricity accounted for a 10,513.93 t CO2e reduction, or 6.65% of the total reduction.

This leaves 70.64% of the absolute reduction attributable to other factors. Although this cannot be quantified, much of this can be attributed to changes caused by the Covid-19 pandemic.

Regarding the decline in employee numbers as affecting this result, everything, including the way we live and work, has changed lately. Our business has changed as well. Where we once rolled trucks and deployed technicians for installs and repairs, technology now helps us serve our customers better using remote tools, advanced data analytics and even AI – all with the goal of improving the customer experience.

As the services our customers order have changed, we must also change. This means we must constantly update and improve the way we interact with our customers and focus on the services they want and need most. That focus has changed the number of people required to serve our customers in certain areas.

## C7. Emissions breakdowns

### C7.1

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

No

### C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
United States of America	218,303.3
Canada	236.04
United Kingdom of Great Britain and Northern Ireland	658.4
France	486.66
Germany	272.41
Spain	22.29

Italy	143.87
Netherlands	129.12
Belgium	27.89
Sweden	20.66
Argentina	107.17
Brazil	2,540.18
Colombia	555.1
Chile	45.3
Costa Rica	0
Ecuador	83.46
Mexico	20.14
Panama	44.61
Peru	136.13
Venezuela (Bolivarian Republic of)	296.54
Singapore	0
China, Hong Kong Special Administrative Region	0
Japan	0
Ireland	2.28
United Arab Emirates	0
Austria	0
Poland	10.49
Bulgaria	0
Greece	0
Switzerland	11.01
Luxembourg	0
Norway	0
Denmark	12.78
Russian Federation	0
Turkey	0
Czechia	0
Estonia	0
Finland	0
Hungary	0
Israel	0
Iceland	0

Monaco	0
Portugal	0
Romania	0
Serbia	0
Slovenia	0
South Africa	0
Slovakia	0
India	0
Australia	0
China	0
Republic of Korea	0
Taiwan, Greater China	0
Thailand	0
Malaysia	0
Kenya	0

### C7.3

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

- By business division
- By facility
- By activity

### C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
North American Business division	218,539.33
Global Accounts Management (EMEA, LATAM, APAC)	5,626.48

### C7.3b

**(C7.3b) Break down your total gross global Scope 1 emissions by business facility.**

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
As many of our technical locations form part of the critical national infrastructure, due to security considerations we are	52.3	51.4373	-0.88468

unable to disclose locations (including grid references) or therefore report on associated emissions. An example is provided of a facility in Wokingham UK, which comprises emissions from natural gas consumption.			
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### C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Heating of administrative and technical buildings (natural gas combustion for space heating).	30,423.33
Travel, comprising use of company cars ( tCO2e) and company jets ( tCO2e)	117,178.84
Maintenance of technical buildings - testing of back-up generators	66,853.02
Other fuel consumption used in maintenance of network, including use of portable generators and forklift trucks.	188.39
Cooling of technical and administrative buildings (fugitive refrigerant emissions)	9,522.23
Self-generated solar electricity	0

### C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
United States of America	1,711,331.86	1,690,193.74	4,072,187.6	68,732
Canada	2,469.89	2,226.58	25,625.42	1,872
United Kingdom of Great Britain and Northern Ireland	32,902.64	19,706.93	141,131.74	84,414.37
France	1,251.61	680.61	21,343.93	592.85
Germany	31,365.96	5,066.11	66,478.65	58,164.96
Spain	1,732.25	1,316.29	5,992.27	2,151.22
Italy	1,160.32	522.18	2,908.16	1,787.34

Netherlands	14,285.06	1,825.32	35,806.65	32,519.02
Belgium	1,599.28	273.32	8,443.48	6,987.1
Sweden	94.46	103.72	4,546.17	2,784.45
Argentina	6,715.88	6,715.88	36,455.77	0
Brazil	5,528.23	5,510.86	79,783.95	250.71
Colombia	5,177.08	5,177.08	28,102.69	0
Chile	4,035.16	4,035.16	21,904	0
Costa Rica	37.71	37.71	204.71	0
Ecuador	1,352.96	1,352.96	7,344.28	0
Mexico	3,003.26	3,003.26	6,698.31	0
Panama	576.92	576.92	3,131.66	0
Peru	3,017.14	3,017.14	16,377.9	0
Venezuela (Bolivarian Republic of)	1,580.58	1,580.58	8,579.85	0
Singapore	5,018.04	3,425.46	9,934.74	3,153
China, Hong Kong Special Administrative Region	5,213.13	4,454.99	6,773.03	985
Japan	4,041.35	628.78	7,633.69	6,446
Ireland	651.48	769.43	1,553.92	0
United Arab Emirates	202.56	202.56	302.57	0
Austria	444.31	444.31	2,043.54	0
Poland	2,213.43	2,295.84	2,859.98	29
Bulgaria	959.67	666.1	1,571.01	48.03
Greece	3.41	2.74	4.75	0
Switzerland	95.45	473.5	3,029.13	473.83
Luxembourg	350.81	403.26	897.47	0
Norway	37.06	1,070.36	2,701.08	0
Denmark	723.98	1,149.33	2,470.57	0
Russian Federation	41.97	41.97	93.31	0
Turkey	57.07	57.07	120.52	0
Czechia	814.92	819.29	1,376.71	0
Estonia	221.25	154	203.24	0

Finland	187.81	211.35	981.49	300
Hungary	85.4	76.67	268.32	0
Israel	52.53	52.53	71.15	0
Iceland	0.02	38.34	97.39	0
Monaco	6.51	4.79	110.98	0
Portugal	15.32	6.45	54.2	29
Romania	370.69	226.51	729.07	0
Serbia	184.82	184.82	391.78	0
Slovenia	262.32	276.93	760.56	0
South Africa	515.83	515.83	601.71	0
Slovakia	119.71	120.82	608.39	0
India	5,545.72	5,545.72	6,688.93	0
Australia	1,824.05	1,824.05	2,241.95	0
China	15.27	15.27	20.3	0
Republic of Korea	311.6	311.6	564.67	0
Taiwan, Greater China	282.81	282.81	479.14	0
Thailand	2	2	3.81	0
Malaysia	19.39	19.39	26.86	0
Kenya	10.63	10.63	18.26	0

## C7.6

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

By business division

By facility

By activity

## C7.6a

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

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
North American Business division	1,713,801.75	1,692,420.31
Global Accounts Management (EMEA, LATAM, APAC)	146,318.8	87,287.53

## C7.6b

**(C7.6b) Break down your total gross global Scope 2 emissions by business facility.**

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
As many of our technical locations form part of the critical national infrastructure, due to security considerations we are unable to disclose locations (including grid references) or therefore report on associated emissions. An example is provided of a facility in Islington UK, which comprises emissions from electricity consumption.	8,966.83	0

## C7.6c

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

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Power provision to Information Communication Technology, IT, heating & cooling	1,841,833.47	1,761,420.76
Imported heat & steam used for heating	4,066.22	4,066.22
Chilled Water	14,220.87	14,220.87

## C7.9

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

Decreased

## C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable	10,513.93	Decreased	0.49	An increase in the proportion of energy that is renewable accounted for a



energy consumption				reduction of -10,513.93 tCO <sub>2</sub> e (market basis). This category accounts for a -0.49 % reduction compared to (re-baselined) 2019 emissions of 2,162,007.91 t CO <sub>2</sub> e, as follows: - $(-10,513.93 / 2,162,007.91) \times 100 = -0.49\%$
Other emissions reduction activities	35,920.45	Decreased	1.66	Emissions reduction projects accounted for a reduction of -35,920.45 tCO <sub>2</sub> e (market basis), as described more fully in our answer to question 4.3a. This category accounts for a -1.66% reduction compared to (re-baselined) 2019 emissions of 2,162,007.91 t CO <sub>2</sub> e, as follows: - $(-35,920.45 / 2,162,007.91) \times 100 = -1.66\%$
Divestment	0	No change	0	
Acquisitions	0	No change	0	
Mergers	0	No change	0	
Change in output	0	No change	0	
Change in methodology	0	No change	0	
Change in boundary	0	No change	0	
Change in physical operating conditions	0	No change	0	
Unidentified	111,699.87	Decreased	5.17	Having accounted for emissions reductions attributable to a 'change in renewable energy consumption' and 'other emissions reduction projects', there remains a -111,699.87 t CO <sub>2</sub> e reduction compared to the re-baselined 2019 emissions of 2,162,007.91 t CO <sub>2</sub> e. Although significant changes were brought about by the Covid-19 pandemic, we are not attributing these to 'changes in production' as many

				<p>relate to modified operating practices, such as reduced travel and increased home working. Whilst we cannot accurately quantify the reduction in emissions due to the pandemic, it is likely to have had a significant impact and account for a substantial proportion of 'unidentified' emissions we are reporting here.</p> <p><math>(-111,699.87 / 2,162,007.91) \times 100 = -5.17\%</math></p>
Other	0	No change	0	

### C7.9b

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

Market-based

## C8. Energy

### C8.1

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

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

### C8.2

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

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	Yes

Consumption of purchased or acquired cooling	Yes
Generation of electricity, heat, steam, or cooling	Yes

## C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	633.45	919,245.46	919,878.91
Consumption of purchased or acquired electricity		283,151.88	4,322,261.27	4,605,413.15
Consumption of purchased or acquired heat		0	8,990.42	8,990.42
Consumption of purchased or acquired steam		0	8,990.42	8,990.42
Consumption of purchased or acquired cooling		0	27,941.4	27,941.4
Consumption of self-generated non-fuel renewable energy		19.12		19.12
Total energy consumption		283,804.45	5,287,428.96	5,571,233.41

## C8.2b

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

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	Yes

Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

## C8.2c

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

---

### Fuels (excluding feedstocks)

Natural Gas

### Heating value

HHV (higher heating value)

### Total fuel MWh consumed by the organization

167,979.88

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

149.92

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

167,829.96

### Emission factor

53.06

### Unit

kg CO2 per million Btu

### Emissions factor source

Source: EPA Emission Factors for Greenhouse Gas Inventories, April 2021

### Comment

NOTE: we are also calculating the CH4 and N2O emissions, using separate emission factors, and therefore report upon CO2e

---

### Fuels (excluding feedstocks)

Motor Gasoline

### Heating value

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

474,713.67

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

0

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

0

**Emission factor**

8.78

**Unit**

kg CO2 per gallon

**Emissions factor source**

Source: EPA Emission Factors for Greenhouse Gas Inventories, April 2021

**Comment**

NOTE: we are also calculating the CH4 and N2O emissions, using separate emission factors, and therefore report upon CO2e

---

**Fuels (excluding feedstocks)**

Diesel

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

7,804.19

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

0

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

0

**Emission factor**

10.21

**Unit**

kg CO2 per gallon

**Emissions factor source**

Source: EPA Emission Factors for Greenhouse Gas Inventories, April 2021

**Comment**

NOTE: we are also calculating the CH<sub>4</sub> and N<sub>2</sub>O emissions, using separate emission factors, and therefore report upon CO<sub>2</sub>e

---

**Fuels (excluding feedstocks)**

Jet Kerosene

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

4,404.66

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

0

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

0

**Emission factor**

9.75

**Unit**

kg CO<sub>2</sub> per gallon

**Emissions factor source**

Source: EPA Emission Factors for Greenhouse Gas Inventories, April 2021

**Comment**

NOTE: we are also calculating the CH<sub>4</sub> and N<sub>2</sub>O emissions, using separate emission factors, and therefore report upon CO<sub>2</sub>e

---

**Fuels (excluding feedstocks)**

Fuel Oil Number 2

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

263,097.37

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

263,097.37

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

0

**Emission factor**

73.96

**Unit**

kg CO2 per million Btu

**Emissions factor source**

Source: EPA Emission Factors for Greenhouse Gas Inventories, April 2021

**Comment**

NOTE: we are also calculating the CH4 and N2O emissions, using separate emission factors, and therefore report upon CO2e

The electricity generated when testing generators and is fed to a load bank rather than being consumed, and is therefore not reported in our consumption figures in our answer to question 8.2d or elsewhere.

---

**Fuels (excluding feedstocks)**

Other, please specify

Ethanol 85

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

276.49

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

0

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

0

**Emission factor**

1.32

**Unit**

kg CO2 per gallon

**Emissions factor source**

Source: EPA Emission Factors for Greenhouse Gas Inventories, April 2021

**Comment**

---

**Fuels (excluding feedstocks)**

Biodiesel

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

356.96

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

356.96

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

0

**Emission factor**

0.1658

**Unit**

kg CO2e per liter

**Emissions factor source**

UK Government GHG Conversion Factors for Company Reporting 2020

**Comment**

We are separately reporting the portion that is outside-of-scopes.

The electricity generated when testing generators and is fed to a load bank rather than being consumed, and is therefore not reported in our consumption figures in our answer to question 8.2d or elsewhere.

---

**Fuels (excluding feedstocks)**

Compressed Natural Gas (CNG)

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

582.43

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

0

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

0

**Emission factor**

0.18387

**Unit**

kg CO2e per KWh



**Emissions factor source**

UK Government GHG Conversion Factors for Company Reporting 2020

**Comment**

**Fuels (excluding feedstocks)**

Propane Gas

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

663.25

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

141.06

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

0

**Emission factor**

5.72

**Unit**

lb CO2 per gallon

**Emissions factor source**

Source: EPA Emission Factors for Greenhouse Gas Inventories, April 2021

**Comment**

**C8.2d**

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	1,031.04	19.12	1,031.04	19.12
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

## C8.2e

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

---

### **Sourcing method**

Unbundled energy attribute certificates, Renewable Energy Certificates (RECs)

### **Low-carbon technology type**

Wind

### **Country/area of consumption of low-carbon electricity, heat, steam or cooling**

United States of America

### **MWh consumed accounted for at a zero emission factor**

68,732

### **Comment**

This comprises electricity consumption by Lumen equipment located at 3rd party co-location facilities.

---

### **Sourcing method**

Unbundled energy attribute certificates, Renewable Energy Certificates (RECs)

### **Low-carbon technology type**

Wind

### **Country/area of consumption of low-carbon electricity, heat, steam or cooling**

Canada

### **MWh consumed accounted for at a zero emission factor**

1,872

### **Comment**

This comprises electricity consumption by Lumen equipment located at 3rd party co-location facilities.

---

### **Sourcing method**

Unbundled energy attribute certificates, Guarantees of Origin

### **Low-carbon technology type**

Other, please specify  
solar and onshore wind

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

United Kingdom of Great Britain and Northern Ireland

**MWh consumed accounted for at a zero emission factor**

84,414.37

**Comment**

This consumption comprises electricity use at many of our major facilities and some 3rd party co-location facilities.

---

**Sourcing method**

Other, please specify  
Bundled GOs

**Low-carbon technology type**

Low-carbon energy mix

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

France

**MWh consumed accounted for at a zero emission factor**

12,024.85

**Comment**

This consumption comprises electricity use at many of our major facilities and some 3rd party co-location facilities.

---

**Sourcing method**

Unbundled energy attribute certificates, Guarantees of Origin

**Low-carbon technology type**

Low-carbon energy mix

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

Germany

**MWh consumed accounted for at a zero emission factor**

58,164.96

**Comment**

This consumption comprises electricity use at many of our major facilities and some 3rd party co-location facilities.

---

**Sourcing method**

Unbundled energy attribute certificates, Guarantees of Origin

**Low-carbon technology type**

Wind

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

Poland

**MWh consumed accounted for at a zero emission factor**

29

**Comment**

This consumption comprises electricity at some of our 3rd party co-location facilities.

---

**Sourcing method**

Unbundled energy attribute certificates, Guarantees of Origin

**Low-carbon technology type**

Low-carbon energy mix

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

Bulgaria

**MWh consumed accounted for at a zero emission factor**

48

**Comment**

This consumption comprises electricity at some of our 3rd party co-location facilities.

---

**Sourcing method**

Unbundled energy attribute certificates, Guarantees of Origin

**Low-carbon technology type**

Low-carbon energy mix

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

Spain

**MWh consumed accounted for at a zero emission factor**

2,151.22

**Comment**

This consumption comprises electricity use at many of our major facilities and some 3rd party co-location facilities.

---

**Sourcing method**

Unbundled energy attribute certificates, Guarantees of Origin

**Low-carbon technology type**

Other, please specify

Predominantly marine, and other zero carbon energy mix

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

Italy

**MWh consumed accounted for at a zero emission factor**

1,787.34

**Comment**

This consumption comprises electricity use at many of our major facilities and some 3rd party co-location facilities.

---

**Sourcing method**

Unbundled energy attribute certificates, Guarantees of Origin

**Low-carbon technology type**

Hydropower

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

Switzerland

**MWh consumed accounted for at a zero emission factor**

473.83

**Comment**

This consumption comprises electricity use at many of our major facilities and some 3rd party co-location facilities.

---

**Sourcing method**

Other, please specify

Bundled GOs

**Low-carbon technology type**

Low-carbon energy mix

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

Netherlands

**MWh consumed accounted for at a zero emission factor**

32,519.02

**Comment**

This consumption comprises electricity use at many of our major facilities and some 3rd party co-location facilities.

---

**Sourcing method**

Unbundled energy attribute certificates, Guarantees of Origin

**Low-carbon technology type**

Low-carbon energy mix

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

Belgium

**MWh consumed accounted for at a zero emission factor**

6,987.1

**Comment**

This consumption comprises electricity use at many of our major facilities and some 3rd party co-location facilities.

---

**Sourcing method**

Unbundled energy attribute certificates, Guarantees of Origin

**Low-carbon technology type**

Hydropower

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

Sweden

**MWh consumed accounted for at a zero emission factor**

2,784.45

**Comment**

This consumption comprises electricity use at many of our major facilities and some 3rd party co-location facilities.

---

**Sourcing method**

Unbundled energy attribute certificates, Guarantees of Origin

**Low-carbon technology type**

Hydropower

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

Finland

**MWh consumed accounted for at a zero emission factor**

300

**Comment**

This consumption comprises electricity use at many of our major facilities and some 3rd party co-location facilities.

---

**Sourcing method**

Unbundled energy attribute certificates, Guarantees of Origin

**Low-carbon technology type**

Low-carbon energy mix

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

Portugal

**MWh consumed accounted for at a zero emission factor**

29

**Comment**

This consumption comprises electricity use at some 3rd party co-location facilities.

---

**Sourcing method**

Unbundled energy attribute certificates, other - please specify  
incentivized in-country green-power

**Low-carbon technology type**

Low-carbon energy mix

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

Brazil

**MWh consumed accounted for at a zero emission factor**

250.71

**Comment**

This consumption comprises electricity use at some 3rd party co-location facilities.

---

**Sourcing method**

Unbundled energy attribute certificates, International REC Standard (I-RECs)

**Low-carbon technology type**

Low-carbon energy mix

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

Singapore

**MWh consumed accounted for at a zero emission factor**

3,153

**Comment**

This consumption comprises electricity use at some 3rd party co-location facilities.

---

**Sourcing method**

Unbundled energy attribute certificates, International REC Standard (I-RECs)

**Low-carbon technology type**

Low-carbon energy mix

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

China, Hong Kong Special Administrative Region

**MWh consumed accounted for at a zero emission factor**

985

**Comment**

This consumption comprises electricity use at some 3rd party co-location facilities.

---

**Sourcing method**

Unbundled energy attribute certificates, International REC Standard (I-RECs)

**Low-carbon technology type**

Low-carbon energy mix

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

Japan

**MWh consumed accounted for at a zero emission factor**

6,446

**Comment**

This consumption comprises electricity use at some 3rd party co-location facilities.

## C9. Additional metrics

### C9.1

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

---

**Description**

**Metric value**



**Metric numerator**

**Metric denominator (intensity metric only)**

**% change from previous year**

**Direction of change**

**Please explain**

## C10. Verification

### C10.1

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

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

### C10.1a

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

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

 Appendix C - Lumen Technologies Inc - 2020 CDP - Reporter Inventory Location Based Calculation Summary.pdf

 Lumen Technologies Inc - 2020 CDP Verification Report Final - issued 20210728.pdf

**Page/ section reference**

Pages 1-13, in particular, Summary Conclusion (p4), Figures in Table A (p11), Summary of Final Verified Emissions (p12) and Conclusions (p12).

See also Appendix C for Full Inventory - Location Based Calculation Summary.

**Relevant standard**

ISO14064-3

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

100

## C10.1b

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

---

**Scope 2 approach**

Scope 2 location-based

**Verification or assurance cycle in place**

Annual process


**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

 Appendix C - Lumen Technologies Inc - 2020 CDP - Reporter Inventory Location Based Calculation Summary.pdf

 Lumen Technologies Inc - 2020 CDP Verification Report Final - issued 20210728.pdf

**Page/ section reference**

Pages 1-13, in particular, Summary Conclusion (p4), Figures in Table A (p11), Summary of Final Verified Emissions (p12) and Conclusions (p12).

See also Appendix C for Full Inventory - Location Based Calculation Summary.

**Relevant standard**

ISO14064-3

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

100

---

**Scope 2 approach**

Scope 2 market-based

**Verification or assurance cycle in place**

Annual process


**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

 Appendix C - Lumen Technologies Inc - 2020 CDP - Reporter Inventory Market Based Calculation Summary.pdf

 Lumen Technologies Inc - 2020 CDP Verification Report Final - issued 20210728.pdf

**Page/ section reference**

Pages 1-13, in particular, Summary Conclusion (p4), Figures in Table A (p11), Summary of Final Verified Emissions (p12) and Conclusions (p12).

See also Appendix C for Full Inventory - Market Based Calculation Summary.

**Relevant standard**

ISO14064-3

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

100

## C10.1c

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

---

**Scope 3 category**

Scope 3: Downstream leased assets

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

 Lumen Technologies Inc - 2020 CDP Verification Report Final - issued 20210728.pdf

**Page/section reference**

Pages 1-13, in particular, Summary Conclusion (p4), Figures in Table A (p11), Summary of Final Verified Emissions (p12) and Conclusions (p12).

**Relevant standard**

ISO14064-3

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

100

---

**Scope 3 category**

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

 Lumen Technologies Inc - 2020 CDP Verification Report Final - issued 20210728.pdf

**Page/section reference**

Pages 1-13, in particular, Summary Conclusion (p4), Figures in Table A (p11), Summary of Final Verified Emissions (p12) and Conclusions (p12).

**Relevant standard**

ISO14064-3

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

100

---

**Scope 3 category**

Scope 3: Business travel

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

 Lumen Technologies Inc - 2020 CDP Verification Report Final - issued 20210728.pdf

**Page/section reference**

Pages 1-13, in particular, Summary Conclusion (p4), Figures in Table A (p11), Summary of Final Verified Emissions (p12) and Conclusions (p12).

**Relevant standard**

ISO14064-3

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

100


**C10.2**


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

Yes


**C10.2a**


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

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C8. Energy	Energy consumption	ISO14064-3	Energy generation by on-site renewables is verified on a limited assurance basis and figures are shown on pages 11 and 12 of the verifier's report.  1
C7. Emissions breakdown	Other, please specify Scope 1 & 2 emissions by country	ISO14064-3	The allocation of emissions by country has also been verified, and the figures in the Verification Report's Appendix C corresponding to those declared in questions 7.2 and 7.5 of the CDP questionnaire. These emissions are verified on a company-wide basis annually. We calculate and disclose

			<p>these as this is integral to the carbon footprint calculation process and adds value and transparency.</p> <p> 1, 2, 3</p>
--	--	--	--

 <sup>1</sup>Lumen Technologies Inc - 2020 CDP Verification Report Final - issued 20210728.pdf

 <sup>2</sup>Appendix C - Lumen Technologies Inc - 2020 CDP - Reporter Inventory Market Based Calculation Summary.pdf

 <sup>3</sup>Appendix C - Lumen Technologies Inc - 2020 CDP - Reporter Inventory Location Based Calculation Summary.pdf

## C11. Carbon pricing

### C11.1

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

Yes

#### C11.1a

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

EU ETS

Other carbon tax, please specify

UK Climate Change Levy

Other ETS, please specify

UK Climate Change Agreements

#### C11.1b

**(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.**

##### EU ETS

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

0.01

**% of Scope 2 emissions covered by the ETS**

0

**Period start date**

January 1, 2020

**Period end date**

December 31, 2020

**Allowances allocated**

0

**Allowances purchased**

18

**Verified Scope 1 emissions in metric tons CO2e**

18.41

**Verified Scope 2 emissions in metric tons CO2e**

0

**Details of ownership**

Facilities we own and operate

**Comment**

The Islington site in the UK is the only site covered by the EU ETS. Only Scope 1 emissions are relevant to this site under EU ETS. The verifier's report identifies 18.41 tonnes CO2e (Scope 1) emitted in 2020, arising from natural gas combustion (1.33 t CO2e) and diesel oil combustion in generators (17.08 t CO2e). Total global Scope 1 emissions are 224,165.82 tonnes CO2e, therefore those covered by the EU ETS are 0.008% of the total (reported above to nearest decimal place).

Scope 2 emissions are not covered by the scheme and therefore not verified, so we have entered '0' in this field above.

**Other ETS, please specify**

---

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

0.04

**% of Scope 2 emissions covered by the ETS**

0.77

**Period start date**

January 1, 2019

**Period end date**

December 31, 2020

**Allowances allocated**

2,800

**Allowances purchased**

2,800

**Verified Scope 1 emissions in metric tons CO2e**

0

**Verified Scope 2 emissions in metric tons CO2e**

0

### Details of ownership

Other, please specify

2 owned, 1 leased

### Comment

We have Climate Change Agreements (CCAs) at 3 major sites in London.

The targets at these sites take the form of Power Utilization Efficiencies (PUEs) and therefore kWhs are reported and verified rather than emissions of CO<sub>2</sub>e. We have therefore entered zeros in the 'verified emissions' fields above. The target period for the CCAs is 01/01/2019 to 31/12/2020. 2020 is a reporting year.

A Target Period Performance PUE of 1,560.265 was set, whereas this was missed with a PUE of 1,631.443 being achieved. This required the purchase of allowances equivalent to 2800 tonnes CO<sub>2</sub>e.

The Scope 2 emissions percentage reported above was calculated on a location basis., and based on the 2020 calendar year.

## C11.1c

(C11.1c) Complete the following table for each of the tax systems you are regulated by.

### Other carbon tax, please specify

---

#### Period start date

January 1, 2020

#### Period end date

December 31, 2020

#### % of total Scope 1 emissions covered by tax

0.04

#### Total cost of tax paid

2,322.57

### Comment

The Climate Change Levy is applied to electricity, natural gas and LPG. Here we report on the cost associated with natural gas consumption and do not include the cost associated with electricity, to maintain consistency with other parts of the answer. Please note that the cost shown here is an estimate based on the kWh consumption (as used elsewhere in this disclosure) and the £/kWh rates in 2020. Consumption at some sites, where data is not available, is based on estimation techniques, therefore this figure should be viewed as indicative and not the actual tax paid.



## C11.1d

### **(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?**

Presently emissions trading systems do not affect our facilities in the USA. If future regulations are enacted and require that Lumen develop a program in the United States, Lumen will develop a procedure to assess applicability and a process to ensure compliance.

Such systems do affect a few of our facilities in the UK, as identified above. Our strategy for complying with both the EU ETS and our Climate Change Agreements is to continually enhance the energy efficiency (including the power utilization efficiency) of our major sites to meet the targets. If targets are not met, then we purchase allowances to ensure compliance. The 3 Company sites covered by Climate Change Agreements (CCA) consume approximately 43% of UK electricity consumption. All three have back-up power sources which are reportable but are not significant sources of CO<sub>2</sub>e. These sites are monitored using a portal that allows remote viewing of current and all historic kWhs and CO<sub>2</sub>e. The sites are half hourly metered and can be monitored at the same frequency. This allows analysis of trends and provides the opportunity to identify any unusual consumption. Lumen has EU Code of Conduct Participant Status and is certified to the international standard in Energy Management Systems ISO50001. Lumen uses power smoothing devices (power factor correction) and implements a variety of projects to enhance Power Utilization Efficiencies, covering lighting and cooling systems. For example, in recent years the Islington facility has had chiller fan upgrades, UPS replacements, LED lighting upgrades and the installation of ultrasonic humidification. Energy efficiency is also delivered through selecting equipment based on its lifetime power consumption, switch-offs and consolidation projects to avoid excessive demand. The impact of energy reduction initiatives is shown in monthly Utility Reports, whereas the predicted savings from infrastructure related projects (e.g. power provision etc) are illustrated.

Regarding sites affected only by the Climate Change Levy, these too undergo improvements for energy efficiency, with further examples shown in our response to question 4.3b.

## C11.2

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

No

## C11.3

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

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

## C12. Engagement

### C12.1

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

Yes, our suppliers

Yes, our customers

Yes, other partners in the value chain

### C12.1a

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

---

##### Type of engagement

Information collection (understanding supplier behavior)

##### Details of engagement

Collect climate change and carbon information at least annually from suppliers

##### % of suppliers by number

0.08

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

##### % of supplier-related Scope 3 emissions as reported in C6.5

5.37

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

Our rationale is to better understand our electricity suppliers' generation portfolio and goals in limiting and/or reducing greenhouse gas emissions. This allows Lumen to better evaluate our own opportunities for switching to renewable/green tariffs. We decided to approach our power suppliers because of the considerable impact this could have upon our emissions of CO<sub>2</sub>e; note that although this accounts for 5.37% of supplier-related Scope 3 emissions, it also represents engagement with companies that supply power that accounts for 45.51 % of our global Scope 2 (location-based) emissions

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

The impact of engagement has been to improve our own understanding of opportunities for potentially switching to renewable/ green tariffs. Measures of success include being able to quantify reductions in our Scope 2 electricity (market-based) emissions of CO<sub>2</sub>e that would arrive with such a switch, and being able to present this as part of a business case.

### Comment

We have engaged with 30 electricity suppliers representing an estimated 50% of our US supply. US Scope 3 electricity emissions (T&D, WTT gen and WTT t&d) are 262,711,98 tonnes CO<sub>2</sub>e, of which 50% is 131,355.99 tonnes CO<sub>2</sub>e. The engagement therefore represents 5.37 % of our Scope 3 supplier-related emissions of 2,445,559.70 tonnes CO<sub>2</sub>e (i.e. Purchased Goods & Services, Capital Goods, Fuel & Energy related activities, Upstream Transportation, Waste generated in Operations, and Business Travel commercial flights). Please note however, that these suppliers also supply power responsible for Scope 2 emissions of 846,534.30 tonnes CO<sub>2</sub>e (i.e. 50% of USA Scope 2 electricity, location-based). This is equivalent to 45.51% of our total global Scope 2 (location-based) emissions.

## C12.1b

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

---

### Type of engagement

Education/information sharing

### Details of engagement

Share information about your products and relevant certification schemes (i.e. Energy STAR)

### % of customers by number

100

### % of customer - related Scope 3 emissions as reported in C6.5

99.59

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

In 2020, Lumen joined providers of residential broadband internet service and manufacturers of small network equipment in continuing our work to improve the efficiency of our networks. This was in support of the Voluntary Agreement for Ongoing Improvement to the Energy Efficiency of Small Network Equipment. This equipment includes items such as modems and routers used by consumers to access services. The primary objective of the agreement is to increase the energy efficiency of small network equipment while promoting rapid innovation and timely introduction of new features. At least 90 percent of small network equipment procured must meet the energy efficiency standards established by the agreement. The 2020 report issued by independent auditor D+R International showed that nearly 100 percent of new modems, routers and other internet equipment purchased and sold in 2020 for U.S. consumer broadband use met the energy efficiency standards. Additionally, Lumen customers can access energy efficiency/usage details for their modems via a hyperlink in Lumen's ESG

Report 2020.

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

The 2020 report issued by independent auditor D+R International showed that nearly 100 percent of new modems, routers and other internet equipment purchased and sold in 2020 for U.S. consumer broadband use met the energy efficiency standards. D+R International's 2019 report stated that "the average idle mode energy usage of SNE relative to average broadband speed has decreased by 66% since the agreement was ratified in 2015." We believe that through our work with these customers this reduction in energy consumption is applicable to modems supplied by Lumen. The impact of engagement is that we have engaged with 100% of our consumer customers, and the measure of success is that the energy consumption of their devices is believed to have reduced by 66%, as explained above.

## **C12.1d**

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

Lumen has also established an engagement strategy with our employees who are also partners in the value chain. The EHS team provides periodic updates (written correspondence) to employees on climate change mitigation and other environmental sustainability performance measures and accomplishments. Our employees can engage in a variety of environmental initiatives through opportunities offered by the Lumen Employee Resource Groups (ERGs). Employees can submit suggestions for environmentally sustainable practices via the "Going Green" mailbox; suggestions are then evaluated by the EHS Team to determine feasible ways to implement them. Employees can learn about sustainability tips and ideas via The Green Tip Board, an internal forum that showcases both individual and organizational "green" practices that can help make a positive impact. Another example of engaging our employees is encouraging them to drive their electric vehicles (EVs) to the Broomfield office, where four dual-port charging stations can accommodate up to eight EVs at once. Through year-end 2020, the Broomfield stations have delivered a combined total of 13,547 charging sessions, avoiding over 58 metric tons of GHG emissions. Lumen also seeks to collaborate with employees through offers on commuter transport. We support schemes in Seattle, Portland, Phoenix and Denver. For example, we work with the Denver Regional Transport District to offer commuting employees discounted monthly travel.

Lumen actively engages with investors by participating in various ESG questionnaires in order to communicate our Company's efforts and initiatives pertaining to material ESG topics. Additionally, we maintain an Investor Relations webpage, where we provide current/relevant information and resources on ESG initiatives and more. <https://ir.lumen.com/esg/default.aspx>

A further way that Lumen helps customers reduce their energy consumption with our products and services is by enabling smart technologies, dematerialization, and virtualization. We believe being aligned with our customers' climate change mitigation goals and communicating

our efforts to support these goals creates a strategic advantage. Examples of how Lumen can assist our customers in reducing their impact include: connector of IoT (Internet of Things) solutions, VOIP (voice over internet protocol) and Zoom, etc. Lumen is also actively involved in responding to customer ESG questionnaires to provide information on ESG topics.

## C12.3

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

- Direct engagement with policy makers
- Trade associations
- Other

### C12.3a

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Adaptation or resilience	Neutral	Lumen in January of 2021 joined the Global Enabling Sustainability Initiative (GeSI) and as part of that organization has been working with other ICT companies to review potential legislative bills. In particular, Lumen is on the climate change committee which has been reviewing North American legislation related to climate change.	In particular Lumen is monitoring the proposed US Bill, the Green Communications Act to Promote Network Resiliency and Energy Efficiency in Communications Networks.

### C12.3b

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

- Yes

### C12.3c

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

**Trade association**

The Telecommunications Industry Association (TIA) Corporate Sustainability Working Group (CSWG)

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

Consistent

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

The TIA CSWG is working on ways the Information Communication Technology (ICT) industry can identify and integrate energy-efficient technologies and equipment into the supply chain. The group prioritizes sustainability and corporate social responsibility and focuses on engaging best practices in benchmarking Company and supply chain performance.

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

As a member and contributor to the TIA CSWG Lumen works alongside other industry leaders to support the team's goals and objectives

## C12.3e

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

Through Lumen's non-profit foundation and its employee volunteering we provide funding and service to non-profit organizations that support the protection of human health and the environment including those that advocate for climate change mitigation with policy makers.

## C12.3f

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

Involvement in organizations such as trade associations is assessed prior to active participation and is relevant across the organization in all countries. Lumen's Public Policy Group is also engaged if changes or new initiatives may have an impact on regulatory or public policy for the Company.

A further means of ensuring actions that can influence policies remain consistent with our climate change strategy is achieved through the Environmental Sustainability Committee. This Team includes the functional groups across the organization that would be involved directly or indirectly in influencing public policy related to climate change. Consistency is achieved, in part, through consultation with our Chief Compliance Officer and General Counsel (as needed). In general, public policy activities are geared towards increasing and expanding the adoption of broadband internet which can significantly reduce the carbon footprint of our customers and their business partners.

## C12.4

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

**Publication**

In mainstream reports

**Status**

Complete

**Attach the document**

 LUMN\_Annual Report for fiscal year 2020\_10-K\_25Feb2021.pdf

**Page/Section reference**

p4-6 - Forward Looking Statements. Risks.

p21-32 - Item 1(A) Risk Factors. Including risks from extreme weather (p24) and environmental, social and governance (ESG)-related transitional risks (p32)

**Content elements**

Risks & opportunities

**Comment**

The Annual Report for fiscal year 2020 filed on Form 10-k is attached.

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**Publication**

In voluntary sustainability report

**Status**

Complete

**Attach the document**

 LUMN\_ESG Report for 2020\_published April 2021.pdf

**Page/Section reference**

p18 - Sustainability Vision and EHS Framework - energy efficient global communications network, reducing energy consumption & emissions, climate preparedness

p19-20 - Energy & Emissions - reduce carbon footprint, implementing energy efficiency and GHG reduction initiatives, SBTs, sustainability linked notes, ISO50001 energy management systems, fleet initiatives, renewable energy

p25 - Climate preparedness

p39 - Environmental Targets & Metrics

p40 - SASB Index

p42 - TCFD

**Content elements**

Governance  
Strategy  
Risks & opportunities  
Emissions figures  
Emission targets  
Other metrics

**Comment**

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**Publication**

In other regulatory filings

**Status**

Complete

**Attach the document**

 LUMN\_Proxy Statement\_Def14A\_filed\_7Apr2021.pdf

**Page/Section reference**

p21 - Board commitment to ESG Reporting  
p21 - Science-based targets for emissions reductions, sustainability-linked note (Bond), reducing carbon emissions and intensity, purchasing renewable energy, investing in energy efficiency and new technologies,.  
Maintaining and expanding the number of locations with third-party certified Energy Management Systems  
p15 - Board-level Nominating & Corporate Governance Committee responsibility for overseeing development and implementation of ESG strategies.

**Content elements**

Governance  
Strategy  
Emission targets

**Comment**

The Proxy Statement - 14A filing. This is the Proxy Statement that covers the 2020 CDP reporting year activities.



## C15. Signoff

### C-FI

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

When uploading our six (6) attachments which has indicated "expiration error, expiration period ended". Please let us know if you don't see these 6 attachments, we would be happy to provide.

### C15.1

**(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

	Job title	Corresponding job category
Row 1	Environmental Sustainability Manager	Environment/Sustainability manager

## SC. Supply chain module

### SC0.0

**(SC0.0) If you would like to do so, please provide a separate introduction to this module.**

Lumen highly values its customers and looks for ways to partner with its customers to have a greater impact on how our services can reduce climate change and environmental impact.

### SC0.1

**(SC0.1) What is your company's annual revenue for the stated reporting period?**

	Annual Revenue
Row 1	20,712,000,000

### SC0.2

**(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?**

Yes

### SC0.2a

**(SC0.2a) Please use the table below to share your ISIN.**

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1	US	5502411037

## SC1.1

**(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.**

### Requesting member

AT&T Inc.

### Scope of emissions

Scope 1

### Allocation level

Company wide

### Allocation level detail

### Emissions in metric tonnes of CO<sub>2</sub>e

9,009.56

### Uncertainty (±%)

2

### Major sources of emissions

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

### Verified

No

### Allocation method

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

AT&T Inc.

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

71,529.15

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified.

However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Verizon Communications Inc.

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

7,797.9

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Microsoft Corporation

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

1,448.53

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The

limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

BT Group

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

619.34

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the

organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Wells Fargo & Company

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

605.8

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**



Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Bank of America

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

602.44

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified.

However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Vodafone Group

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

299.13

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Walmart, Inc.

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

247.76

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Telefónica

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

232.18

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited

instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Deutsche Telekom AG

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

169.14

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are

gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Nordstrom, Inc.

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

142.81

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

AstraZeneca

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

135.94

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified.



However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Accenture

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

115.15

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Visa

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

108.96

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

The Allstate Corporation

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

61.28

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited

instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Caesars Entertainment

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

60.62

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are

gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

LinkedIn Corp.

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

58.04

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Arm Ltd.

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

44.03

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified.

However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Mastercard Incorporated

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

42.9

**Uncertainty (±%)**

2

**Major sources of emissions**



Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

PayPal Holdings Inc

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

40.43

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Banco Santander Brasil

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

36.58

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited

instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Caixa Econômica Federal

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

33.27

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are

gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Deloitte Touche Tohmatsu Limited

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

24.28

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

U.S. General Services Administration - OMB ICR #3090-0319

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

23.92

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified.

However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

VMware, Inc

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

18.24

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Citrix Systems

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**



**Emissions in metric tonnes of CO<sub>2</sub>e**

15.4

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

MetLife, Inc.

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

14.85

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited

instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Banco do Brasil S/A

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

8.18

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are

gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Moody's Corporation

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

6.21

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

---

**Requesting member**

Stanley Black & Decker, Inc.

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

5.29

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified.

However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Cellnex Telecom SA

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

1.15

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Prudential Financial, Inc.

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

17.99

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Amdocs Ltd

**Scope of emissions**



Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

2.16

**Uncertainty (±%)**

2

**Major sources of emissions**

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited

instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

World Bank Group

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

0

**Uncertainty (±%)**

2

**Major sources of emissions**

No revenue was recorded against the World Bank Group in 2020, therefore no emissions are allocated. We have however chosen to provide additional information in our answer that may be of use.

Scope 1 emissions are generated from fuel combustion in company cars (51.78%), natural gas combustion in buildings (13.57%), refrigerant losses from buildings (3.15%) and refrigerant losses from cars (1.10%), fuel combustion in company jet aircraft (0.49%) and the combustion of fuel for other uses, predominantly in emergency generators (29.91%).

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

An operational control boundary was selected according to the Greenhouse Gas Protocol methodology. Therefore, all fuel combustion and refrigerant loss under the

organization's direct control are included in Scope 1. Fuel consumption was predominantly taken from invoices and is therefore accurate for natural gas combustion in buildings and for road vehicles. We have also used this approach for fuel combustion in back-up generators and other uses. Data on refrigerant losses from buildings are gathered from maintenance records, with guidance given to engineers to ensure accurate reporting. Losses from company cars are estimated based upon the capacity of the cooling/air conditioning system and loss rates consistent with EPA guidance. The limitations associated with these techniques have been quantified as a percentage uncertainty, being approximately 2%. This uncertainty allows for some inaccuracy in calculating refrigerant losses. It also includes uncertainty associated with calculating emissions based on fuel consumption records, and the need for extrapolation in limited instances, and a recognition that some fuel may remain not combusted in the reporting period.

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**Requesting member**

Verizon Communications Inc.

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

61,909.48

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Microsoft Corporation

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

11,500.23

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques

are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

---

**Requesting member**

BT Group

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

4,917.06

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was

used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

---

**Requesting member**

Wells Fargo & Company

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

4,809.62

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for

0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

### **Verified**

No

### **Allocation method**

Allocation based on the market value of products purchased

### **Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**



Bank of America

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

4,782.94

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other

techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Vodafone Group

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

2,374.87

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

### **Allocation method**

Allocation based on the market value of products purchased

### **Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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### **Requesting member**

Walmart, Inc.

### **Scope of emissions**

Scope 2

### **Allocation level**

Company wide

### **Allocation level detail**

### **Emissions in metric tonnes of CO<sub>2</sub>e**

1,967

### **Uncertainty (±%)**

2

### **Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

### **Verified**

No

### **Allocation method**

Allocation based on the market value of products purchased

### **Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the

power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Telefónica

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

1,843.33

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and

leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Deutsche Telekom AG

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

1,342.81

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use

of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

### **Verified**

No

### **Allocation method**

Allocation based on the market value of products purchased

### **Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

**Requesting member**

Nordstrom, Inc.

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

1,133.81

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.



For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

AstraZeneca

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

1,079.26

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Accenture

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

914.23

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our

electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Visa

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

865.06

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

The Allstate Corporation

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

486.55

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Caesars Entertainment

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

481.31

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar

year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

LinkedIn Corp.

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

460.79

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.



**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Arm Ltd.

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

## Allocation level detail

### Emissions in metric tonnes of CO<sub>2</sub>e

349.54

### Uncertainty (±%)

2

### Major sources of emissions

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

### Verified

No

### Allocation method

Allocation based on the market value of products purchased

### Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Mastercard Incorporated

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

340.6

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

PayPal Holdings Inc

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

320.97

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Banco Santander Brasil

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

290.4

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar

year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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### **Requesting member**

Caixa Econômica Federal

### **Scope of emissions**

Scope 2

### **Allocation level**

Company wide

### **Allocation level detail**

### **Emissions in metric tonnes of CO<sub>2</sub>e**

264.12

### **Uncertainty (±%)**

2

### **Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Deloitte Touche Tohmatsu Limited

**Scope of emissions**

Scope 2

**Allocation level**

Company wide



## Allocation level detail

### Emissions in metric tonnes of CO<sub>2</sub>e

192.79

### Uncertainty (±%)

2

### Major sources of emissions

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

### Verified

No

### Allocation method

Allocation based on the market value of products purchased

### Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

U.S. General Services Administration - OMB ICR #3090-0319

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

189.9

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

VMware, Inc

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

144.85

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Citrix Systems

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

122.23

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar

year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

MetLife, Inc.

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

117.92

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Banco do Brasil S/A

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

## Allocation level detail

### Emissions in metric tonnes of CO<sub>2</sub>e

64.95

### Uncertainty (±%)

2

### Major sources of emissions

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

### Verified

No

### Allocation method

Allocation based on the market value of products purchased

### Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.



Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Moody's Corporation

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

49.33

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Stanley Black & Decker, Inc.

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

42.03

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Cellnex Telecom SA

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

9.13

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar

year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Prudential Financial, Inc.

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

142.86

**Uncertainty (±%)**

2

**Major sources of emissions**

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

Amdocs Ltd

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

## Allocation level detail

### Emissions in metric tonnes of CO<sub>2</sub>e

17.16

### Uncertainty (±%)

2

### Major sources of emissions

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

### Verified

No

### Allocation method

Allocation based on the market value of products purchased

### Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

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**Requesting member**

World Bank Group

**Scope of emissions**

Scope 2

**Allocation level**

Company wide

**Allocation level detail**

**Emissions in metric tonnes of CO<sub>2</sub>e**

0

**Uncertainty (±%)**

2

**Major sources of emissions**

No revenue was recorded against the World Bank Group in 2020, therefore no emissions are allocated. We have however chosen to provide additional information in our answer that may be of use.

The CO<sub>2</sub>e figures reported in this answer are generated using a market-based approach. Electricity consumption accounts for 98.97% of the reported CO<sub>2</sub>e, the use of supplied heat & steam accounts for 0.23%, whereas chilled water accounts for 0.80%. The majority of the electricity is consumed by our ICT network equipment, and a small proportion by other building and staff IT-related uses.

Our Scope 1 and 2 emissions, and some categories of Scope 3, have been verified. However, our technique for allocating emissions to requesting customers has not been verified.

**Verified**

No

**Allocation method**

Allocation based on the market value of products purchased



**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

We have classified as scope 2 electricity consumption in all equipment and buildings over which we have operational control. This includes consumption at owned and leased locations, as well as at third-party co-locations. A market-based approach was used for the allocation in this question. Electricity accounts for vast majority (98.97%) of our Scope 2 (market-based) emissions.

Of this the majority of electricity (77.90%) is directly metered and consumption is recorded in our energy management systems and accountancy management systems, facilitating the interpretation of consumption and, if required, normalization to calendar year i.e. annualization.

For unmetered sites, representing 15.73% of electricity emissions, we use other techniques to estimate kWh consumption. Most of these sites have their electricity consumption (and therefore emissions) calculated based on their floor area and a kWh/m<sup>2</sup> metric. The kWh/m<sup>2</sup> metric is dependent upon the site's function, and is generated by a knowledge of our sites including kWh/unit area design specifications for technical sites. A smaller proportion of sites have electricity consumption calculations based on electricity expenditure or the average consumption for the type of site.

Electricity consumption at third-party co-location sites accounts for 6.37% of our electricity-related Scope 2 emissions and is calculated based on knowledge of the power consumption of the equipment and estimated hours of use. These techniques are identified in a procedure, ensuring their consistent application. We therefore consider the overall uncertainty associated with Scope 2 (market-based) emissions to be approximately 2%. This covers the uncertainties associated with annualization and the calculations for sites without recorded consumption, including estimates associated with equipment at third-party co-locations.

## SC1.2

**(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).**

We have allocated emissions based on each requesting customer's share of revenue. The revenue used corresponds to the Total Operating Revenue declared on page B-5 of Lumen's Annual Financial Report, as appended to our answer to question 12.4.

## SC1.3

**(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?**

Allocation challenges

Please explain what would help you overcome these challenges

Customer base is too large and diverse to accurately track emissions to the customer level	Because Lumen is a service provider and customers may utilize their own equipment etc. an exact number based on the numerous products used to provide services would be difficult. We have allocated emissions based on revenue for those customers that have requested.
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## SC1.4

**(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?**

Yes

### SC1.4a

**(SC1.4a) Describe how you plan to develop your capabilities.**

We currently complete customer questionnaires related to Lumen's GHG emissions and sustainability initiatives. If requested customers can obtain their allocated emissions.

## SC2.1

**(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.**

## SC2.2

**(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?**

Yes

### SC2.2a

**(SC2.2a) Specify the requesting member(s) that have driven organizational-level emissions reduction initiatives, and provide information on the initiatives.**

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**Requesting member**

**Initiative ID**

**Group type of project**

**Type of project**

**Description of the reduction initiative**

Lumen undertakes a wide range of emissions reduction and energy efficiency initiatives, as described elsewhere in this CDP response. Part of the incentive for this is the high level of interest shown by all of our requesting customers and investors with regard to the Carbon Disclosure Project.

**Emissions reduction for the reporting year in metric tons of CO2e**

**Did you identify this opportunity as part of the CDP supply chain Action Exchange?**

**Would you be happy for CDP supply chain members to highlight this work in their external communication?**

**SC4.1**

**(SC4.1) Are you providing product level data for your organization’s goods or services?**

No, I am not providing data

**Submit your response**

**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

	<b>I am submitting to</b>	<b>Public or Non-Public Submission</b>	<b>Are you ready to submit the additional Supply Chain questions?</b>
I am submitting my response	Investors Customers	Public	Yes, I will submit the Supply Chain questions now

**Please confirm below**

I have read and accept the applicable Terms