Welcome to your CDP Climate Change Questionnaire 2022

C0. Introduction

(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 500,000 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, 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 help 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 by 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 24 February 2022. 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.**

<table>
<thead>
<tr>
<th>Reporting year</th>
<th>Start date</th>
<th>End date</th>
<th>Indicate if you are providing emissions data for past reporting years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>January 1, 2021</td>
<td>December 31, 2021</td>
<td>No</td>
</tr>
</tbody>
</table>

**C0.3**

**(C0.3) Select the countries/areas in which you operate.**

- Argentina
- Australia
- Austria
- Belgium
- Bermuda
- Brazil
- British Virgin Islands
- Bulgaria
- Canada
- Cayman Islands
- Chile
- China
Colombia
Costa Rica
Croatia
Czechia
Denmark
Ecuador
Estonia
Finland
France
Germany
Greece
Hungary
Iceland
India
Ireland
Israel
Italy
Japan
Kenya
Luxembourg
Malaysia
Mauritius
Mexico
Monaco
Netherlands
New Zealand
Norway
Panama
Peru
Philippines
Poland
Portugal
Republic of Korea
Romania
Russian Federation
Serbia
Singapore
Slovakia
Slovenia
South Africa
Spain
Sweden
Switzerland
Taiwan, China
Thailand
Turkey
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

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

<table>
<thead>
<tr>
<th>Indicate whether you are able to provide a unique identifier for your organization</th>
<th>Provide your unique identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, an ISIN code</td>
<td>US5502411037</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Position of individual(s)</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director on board</td>
<td>As part of its risk and governance oversight responsibilities, Lumen’s Board of Directors (“Board”) monitors environmental management programs, including</td>
</tr>
</tbody>
</table>
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 2021, the Board included 3 members with
ESG expertise and 5 members with risk management expertise. In 2021, 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") to monitor issues and
report back to the full Board.

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 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
| entirety of independent directors and in 2021 had 4 members and met 4 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 2021 the RSC had 5 Board members and held 4 meetings. |

C1.1b

(C1.1b) Provide further details on the board’s oversight of climate-related issues.
<table>
<thead>
<tr>
<th>Frequency with which climate-related issues are a scheduled agenda item</th>
<th>Governance mechanisms into which climate-related issues are integrated</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduled – some meetings</td>
<td>Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies</td>
<td>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 2021, the Board included 3 members with ESG expertise and 5 members with risk management expertise. Throughout 2021, 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”) to monitor issues and report back to the full Board. 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.</td>
</tr>
</tbody>
</table>

| Scheduled – some meetings | Reviewing and guiding strategy Reviewing and guiding major plans of action | The NCGC has primary responsibility for ESG oversight, is comprised entirely of independent directors and in 2021 had 4 members and met 4 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.

<table>
<thead>
<tr>
<th>Scheduled – some meetings</th>
<th>Reviewing and guiding strategy</th>
<th>Reviewing and guiding risk management policies</th>
</tr>
</thead>
</table>

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. 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 2021 the RSC had 4 Board members, and held 4 meetings.

**C1.1d**

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

<table>
<thead>
<tr>
<th>Board member(s) have competence on climate-related issues</th>
<th>Criteria used to assess competence of board member(s) on climate-related issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Lumen’s Nominating and Corporate Governance Committee conducts an annual skills evaluation of the Board. ESG is a skill listed in the Board skills matrix of the proxy. Board members noted within the matrix as possessing ESG skill have competence on climate-related issues.</td>
</tr>
</tbody>
</table>

**C1.2**

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

<table>
<thead>
<tr>
<th>Name of the position(s) and/or committee(s)</th>
<th>Responsibility</th>
<th>Frequency of reporting to the board on climate-related issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position</td>
<td>Responsibilities</td>
<td>Frequency</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Chief Financial Officer (CFO)</td>
<td>Both assessing and managing climate-related risks and opportunities</td>
<td>Annually</td>
</tr>
<tr>
<td>Other C-Suite Officer, please specify</td>
<td>Both assessing and managing climate-related risks and opportunities</td>
<td>Annually</td>
</tr>
<tr>
<td>Senior Vice President-Treasurer</td>
<td>Both assessing and managing climate-related risks and opportunities</td>
<td></td>
</tr>
<tr>
<td>Sustainability committee</td>
<td>Both assessing and managing climate-related risks and opportunities</td>
<td>Quarterly</td>
</tr>
</tbody>
</table>

**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 has an ESG Committee, known as the Sustainability Committee. The Sustainability Committee designs and oversees Lumen’s overall sustainability program, which includes the monitoring of climate-related issues, and is responsible for driving the sustainability agenda with the Board and senior leadership. The Sustainability Committee is organized into three primary pillars covering Environmental, Social, and Governance topics and is comprised of individuals from across the business including corporate communications, customer experience, data security and privacy, diversity, inclusion and belonging, environment health and safety, government relations, human resources, internal audit, investor relations, legal, and sourcing/procurement, amongst others. 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 sustainability programs’ efficacy and success.

The Senior Vice President-Treasurer is the executive sponsor of the Sustainability Committee’s Environmental pillar and reports directly to 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. 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 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 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 -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. As aforementioned, the Senior Vice President - Treasurer also serves as an executive sponsor of the Sustainability Committee and 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?

<table>
<thead>
<tr>
<th>Provide incentives for the management of climate-related issues</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row 1 Yes</td>
<td>See 1.3a below.</td>
</tr>
</tbody>
</table>

**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).

<table>
<thead>
<tr>
<th>Entitled to incentive</th>
<th>Type of incentive</th>
<th>Activity incentivized</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy manager</td>
<td>Monetary reward</td>
<td>Emissions reduction project</td>
<td>The Energy Manager’s annual incentive bonus is partially based on achieving energy efficiency / consumption reduction objectives, which in turn reduces carbon intensity / emissions.</td>
</tr>
<tr>
<td>Environment/Sustainability manager</td>
<td>Monetary reward</td>
<td>Other (please specify) Overall management of environmental/sustainability program activities</td>
<td>The Environmental Sustainability Manager’s annual incentive bonus is</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Other C-Suite Officer</th>
<th>Monetary reward</th>
<th>Emissions reduction target</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>The Treasurer has overall responsibility for achieving carbon emission reduction targets and for the successful performance of our property loss prevention program which includes in part mitigating physical risks associated with global climate change such as rising sea levels, increases in severe weather events, and more frequent wildfires. The Treasurer’s annual incentive bonus is partially based on achieving these objectives/targets.</td>
</tr>
</tbody>
</table>

**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?

<table>
<thead>
<tr>
<th></th>
<th>From (years)</th>
<th>To (years)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term</td>
<td>0</td>
<td>4</td>
<td>This range is considered appropriate to many transitional risks and opportunities, and some physical impacts.</td>
</tr>
</tbody>
</table>
### 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 operational excellence, various risk transfer strategies, 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 understand, measure, 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 more than USD 5 million to be "substantive" due to the possibility of positively contributing 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 associated with climate change including natural disasters and 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.
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 24 February 2022, under Item 1A 'Risk Factors'.

During the ERM evaluation the topic of natural disasters and extreme weather conditions further highlighted the impact these climate change related phenomena could have on our network reliability, business continuity and disaster preparedness. This evaluation, in part, lead Lumen to perform a physical risk scenario analysis aligned with recommendations of the Taskforce for Climate-Related Financial Disclosure ("TCFD").

In 2021 one of our ESG highlights was the decision to sell an inaugural series of sustainability-linked notes (Bonds) aligned with our science-based targets (SBTs). Lumen was the second domestic Company to issue this type of instrument. The sale was approved by our Board of Directors and took place during the first week of January 2021. 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.

Lumen has also responded to opportunities (differentiating ourselves from competitors) and risk (reputational) by pursuing sourcing of renewably-sourced electricity in EMEA. This strategy was approved by Lumen’s EMEA leadership team.

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 sea 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 locations in the event of a hurricane event. The focus of hurricane preparedness efforts is prevention and mitigation. Applicable work groups review checklists and training documents, in addition to site-specific business continuity plans, 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, one of the most intense tropical cyclones on record worldwide. In terms of mitigation, the facility was relocated to another location of higher elevation and outside of the flood plain. We are also installing flood mitigation in Philadelphia, and area impacted by Hurricane Ida in 2021.

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 employed during routine maintenance.

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 2021 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. For example, in 2021 Lumen identified $7.9 million of claims many of which were associated with Hurricane Ida. This data was used to assess risks in our physical risk scenario analysis.

The Business Continuity Team is also evaluating how Lumen should respond to the recommendations in our physical risk scenario analysis. This analysis 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 are: increasing temperature, rising sea levels, and changes in precipitation, as well as inland flooding, coastal flooding, tropical cyclones, drought, wildfires and extreme temperatures.
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 locations in the event of a hurricane event. The focus of hurricane preparedness efforts is prevention and mitigation. Applicable work groups review checklists and training documents, in addition to site-specific business continuity plans, 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 2021, Lumen spent approximately $9,831,000 on roof inspections, repairs, and replacements. These expenditures include the following:-

- Roof inspections by professional roofers at a cost of approximately $980,000 for 4,300 roofs
- Roof repairs at $351,000 million involving 1,700 roofs.
- Additionally, Lumen spent $8.5 million on 53 roof replacements.

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

Sustainability Committee

The 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. 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 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 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 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 Sustainability Committee works with such teams to monitor these initiatives and report on progress towards targets, such as SBTs.

An example of the 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 at our 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?

<table>
<thead>
<tr>
<th>Relevance &amp; inclusion</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current regulation</td>
<td>Relevant, always included</td>
</tr>
<tr>
<td></td>
<td>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 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 24 February 2022, 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...</td>
</tr>
</tbody>
</table>
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. A further example, for the UK,

<p>| Emerging regulation | Relevant, always included | 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. |
| Technology | Relevant, always included | 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 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. |</p>
<table>
<thead>
<tr>
<th>Market</th>
<th>Relevant, always included</th>
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<tbody>
<tr>
<td></td>
<td>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 2021 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.</td>
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<table>
<thead>
<tr>
<th>Reputation</th>
<th>Relevant, always included</th>
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<tbody>
<tr>
<td></td>
<td>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 level of participation in 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.</td>
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<table>
<thead>
<tr>
<th>Acute physical</th>
<th>Relevant, always included</th>
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<tbody>
<tr>
<td></td>
<td>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. Other examples of risk identification and mitigation include the protection of facilities at Colorado Springs, Colorado, and in Philadelphia. 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.</td>
</tr>
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</table>
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.

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. Lumen has used physical risk Scenario Analysis to model chronic 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.

<table>
<thead>
<tr>
<th>C2.3</th>
<th>Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>C2.3a</th>
<th>Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Identifier</th>
<th>Risk 1</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Where in the value chain does the risk driver occur?</th>
<th>Downstream</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Risk type &amp; Primary climate-related risk driver</th>
<th>Emerging regulation</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Carbon pricing mechanisms</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary potential financial impact</th>
<th>Increased indirect (operating) costs</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Company-specific description</th>
<th>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</th>
</tr>
</thead>
</table>
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)**
9,003,436.38

**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 2021 Lumen emitted 198,488.46 tonnes CO2e as a result of fuel consumption in the USA. In 2021, Lumen would have been liable for a tax of approximately $9,003,436 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). 198,488.46 tonnes CO2e x $45.36/tonne = $9,003,436.38

**Cost of response to risk**
23,550,000

**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 2021.

Regarding the cost of management, we have initiated and continue to expand already implemented 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 2021 (which will generate significant cost savings for many years) being $23,550,000 and an additional $50,000 to cover additional tax planning and management. $23,500,000 + $50,000 = $23,550,000. 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.

<table>
<thead>
<tr>
<th>Identifier</th>
<th>Risk 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where in the value chain does the risk driver occur?</td>
<td>Direct operations</td>
</tr>
<tr>
<td>Risk type &amp; Primary climate-related risk driver</td>
<td>Acute physical</td>
</tr>
<tr>
<td></td>
<td>Other, please specify</td>
</tr>
<tr>
<td></td>
<td>Increased severity of extreme weather events, such as hurricanes and floods, and increased frequency of wildfires</td>
</tr>
<tr>
<td>Primary potential financial impact</td>
<td>Increased capital expenditures</td>
</tr>
<tr>
<td>Company-specific description</td>
<td>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.</td>
</tr>
<tr>
<td>Time horizon</td>
<td>Medium-term</td>
</tr>
<tr>
<td>Likelihood</td>
<td>More likely than not</td>
</tr>
</tbody>
</table>
**Magnitude of impact**
Medium

**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate

**Potential financial impact figure (currency)**
4,543,333

**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 $4,543,333 is the average combined losses over the past 3 years. 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. In 2021 Hurricane Ida resulted in losses of $7.9 million. ($3,300,000 + $2,430,000 + $7,900,000)/3 = $4,543,333.

**Cost of response to risk**
9,831,000

**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 2021, Lumen spent approximately $9,831,000 on roof inspections, repairs, and replacements. These expenditures include the following:
- Roof inspections by professional roofers at a cost of approximately $980,000 for 4,300 roofs
- Roof repairs at $351,000 million involving 1,700 roofs.
- Additionally, Lumen spent $8.5 million on 53 roof replacements.

Comment

---

**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)
4,732,788

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 (2021) of those customers who request that Lumen participate in the CDP Supply Chain questionnaire.

Initially 42 customers requested our CDP disclosure. Those with revenue ranked in positions 21 and 22 in 2021 procured services worth $4,972,416 and $4,493,159, a total of $9,465,575. $9,465,575/ 2 = $4,732,788

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 2021 in our answer to question 4.3b. For example, switch groom and decommissioning projects in the USA are estimated to have saved 11,426 kWhs.

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)
51,273,731

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 92 of Lumen’s combined Proxy Statement and Annual Report to shareholders filed with SEC on 8 April 2022, and the stock price current on 31st December 2021.

Average number of stocks held of top 5 investors = 81,711,125 stocks. $81,711,125 \times \$12.55 = \$1,025,474,619. \$1,025,474,619 \times 0.05 = \$51,273,731

**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, Building Energy Management Systems (BEMS) projects in the USA are estimated to save 17,800 MWhs per year.

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) 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)**

19,687,000

**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 19th, 2022) worldwide end-user spending on public cloud services is forecast to grow 20.4% in 2022 to total $494.7 billion, up from $332.3 billion in 2021.

The $19,687,000 figure identified above is a conservative estimate, estimated purely for the purposes of this questionnaire, and being approximately 0.1% of our 2021 revenue ($19,687,000,000), as being attributable wholly to improved reputation of utilizing lower emission products and services thereby affecting environmental climate change.

$19,687,000,000 x 0.001% = $19,687,000

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)**
19,687,000

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 $19,687,000 figure identified above is approximately 0.1% of the 2021 revenue of $19,687,000,000.

$19,687,000,000 x 0.001% = $19,687,000

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 & 2021 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**

---

**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)**

4,732,788

**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 $4,732,788 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 42 customers requested our CDP disclosure. Those with revenue ranked in positions 21 and 22 in 2021 procured services worth $4,972,416 and $4,493,159, a total of $9,465,575. $9,465,575/ 2 = $4,732,788

**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 2021 in our answer to question 4.3b. For example, Building Energy Management Systems (BEMS) projects in the USA are estimated to save 17,800 MWhs per year.

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

---

**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)**
51,273,731

**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, as shown on page 92 of Lumen's combined Proxy Statement and Annual Report to shareholders filed with SEC on 8 April 2022, and the stock price current on 31st December 2021.

Average number of stocks held of top 5 investors = 81,711,125 stocks. 81,711,125 x $12.55 = $1,025,474,619. $1,025,474,619 X 0.05 = $51,273,731

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 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 several 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.
C3. Business Strategy

C3.1

(C3.1) Does your organization’s strategy include a transition plan that aligns with a 1.5°C world?

Row 1

Transition plan
No, but our strategy has been influenced by climate-related risks and opportunities, and we are developing a transition plan within two years

Explain why your organization does not have a transition plan that aligns with a 1.5°C world and any plans to develop one in the future
Lumen is currently performing a TCFD-aligned, qualitative scenario analysis of its transition risks and opportunities. Lumen intends to use the results of the scenario analysis to inform development of its transition plan, consistent with TCFD and CDP guidance on transition plans.

C3.2

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

Use of climate-related scenario analysis to inform strategy

| Row 1 | 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.

<table>
<thead>
<tr>
<th>Climate-related scenario</th>
<th>Scenario analysis coverage</th>
<th>Temperature alignment of scenario</th>
<th>Parameters, assumptions, analytical choices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical climate scenarios RCP 8.5</td>
<td>Facility</td>
<td>RCP8.5 is a high emissions scenario characterized by increasing greenhouse gas emissions throughout the 21st century. In RCP8.5, increases in global mean surface temperature are in the range of 3.2 to 5.4°C by 2100. Because it has the largest emissions of all of the RCP scenarios, RCP8.5 also has greatest physical impacts. Lumen used RCP8.5 in its physical scenario analysis to conservatively estimate the upper end of the range of potential climate change impacts</td>
<td></td>
</tr>
</tbody>
</table>
C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

<table>
<thead>
<tr>
<th>Focal questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the potential impacts of physical and transition risks and opportunities on Lumen’s business?</td>
</tr>
<tr>
<td>What are the resulting implications for Lumen’s strategy, financial planning, and risk management?</td>
</tr>
</tbody>
</table>

Results of the climate-related scenario analysis with respect to the focal questions

Lumen conducted a physical scenario analysis using the Representative Concentration Pathway 8.5 (RCP8.5) scenario. The most common and substantial risks across all sites that have the potential for damage and/or disruption of operations were increasing average temperatures, extreme temperatures, drought, and flooding.
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 the US sites, which are 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.

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 likelihood of business interruption due to heat wave impacts on the electrical grid. One site may be exposed to direct wildfire impacts.

Recommendations from physical climate risk assessment 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. The results have been used to evaluate various climate change risks to our ongoing operations when we consider opening new facilities and/or expanding our network. Our comprehensive business continuity program focuses on prevention, collaboration, communication, response, and recovery to assist us in quickly resolving disruptive events. The scenario analysis results indicated that climate change may result in more frequent and intense severe weather, and this is a potential opportunity for Lumen as our product and services strategy will address increasing customer needs for resilient cloud services. Lumen data center services range from dedicated hosting and cloud services to more complex managed solutions, such as disaster recovery, business continuity, applications management support.

Lumen is currently performing a TCFD-aligned, qualitative scenario analysis of its transition risks and opportunities. Lumen is using the scenario analysis to understand the policy and legal, technology, market, reputation, and operational risks — as well as opportunities — that could arise from the transition to a low-carbon or carbon-constrained economy. We are using IEA’s Stated Policy Scenario (STEPS) and Sustainable Development Scenario (SDS) for the transition climate scenario analysis. The result of this analysis will help inform Lumen’s strategy, sustainability initiatives and financial planning as well as development of Lumen’s transition plan.

**C3.3**

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

<table>
<thead>
<tr>
<th>Have climate-related risks and opportunities</th>
<th>Description of influence</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Products and services</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>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 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.</strong></td>
<td></td>
</tr>
<tr>
<td>Supply chain and/or value chain</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>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. In other markets we have anticipated the potential</strong></td>
<td></td>
</tr>
</tbody>
</table>
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.

Our sustainability initiatives are strengthened by our partnerships with other organizations. For example, Lumen joined the Global Enabling Sustainability Initiative (GeSI) in 2020 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.

<table>
<thead>
<tr>
<th>Investment in R&amp;D</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

One short term example is Lumen’s strategic participation in 2021 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.

<table>
<thead>
<tr>
<th>Operations</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>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 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</td>
<td></td>
</tr>
</tbody>
</table>
C3.4

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

<table>
<thead>
<tr>
<th>Financial planning elements that have been influenced</th>
<th>Description of influence</th>
</tr>
</thead>
</table>
| Row 1 | Direct costs | 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, $23,500,000 was invested at US facilities in 2021.

In 2021, we pursued utility rebates and incentives for our utility cost reduction and energy efficiency programs. In 2021, we received approximately $800K in utility rebates and incentives including for switch grooms and decommissioning, mechanical system upgrades, replacement of motors and fans, installation of building control systems, and lighting retrofits.

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.

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
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.

<table>
<thead>
<tr>
<th>Target reference number</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Abs 1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year target was set</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Target coverage</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Company-wide</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scope(s)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope 1</td>
<td></td>
</tr>
<tr>
<td>Scope 2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scope 2 accounting method</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Market-based</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scope 3 category(ies)</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Base year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Base year Scope 1 emissions covered by target (metric tons CO2e)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>277,725.23</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Base year Scope 2 emissions covered by target (metric tons CO2e)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2,082,498.06</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Base year Scope 3 emissions covered by target (metric tons CO2e)</th>
<th></th>
</tr>
</thead>
</table>

Business Continuity Planning Team and included leveraging the climate scenario analysis to determine the resilience of the financial planning process.
Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
2,360,223.29

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1
100

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2
100

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
100

Target year
2025

Targeted reduction from base year (%)
18

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
1,935,383.0978

Scope 1 emissions in reporting year covered by target (metric tons CO2e)
222,798.11

Scope 2 emissions in reporting year covered by target (metric tons CO2e)
1,558,351.98

Scope 3 emissions in reporting year covered by target (metric tons CO2e)

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
1,781,150.09

% of target achieved relative to base year [auto-calculated]
136.3037703663

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 target coverage and identify any exclusions**
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.

As identified elsewhere in this questionnaire, some countries are not covered within our calculations, but these comprise less than 1% of our emissions.

**Plan for achieving target, and progress made to the end of the reporting year**
The percentage of target achieved identified above is 136%. We hope to maintain our performance through to our 2025 target year, and have therefore entered ‘underway’ as the status. Although the target shows 136% complete, we have classified it as ‘underway.’ We will be undertaking some re-baselining to account for boundary changes. We will then reassess our performance against the goal.

As part of our plan for achieving this target, we hope to continue our procurement of renewable electricity, real estate consolidation efforts, energy efficiency initiatives, and leveraging overall greening of the electricity grids.

We are shortly to analyze the impact that a methodological change has had upon our emissions. Whilst we expect this has had some impact on recent reductions, we do also anticipate that we will meet the target by 2025, if this has not already been achieved.

**List the emissions reduction initiatives which contributed most to achieving this target**

---

**Target reference number**
Abs 2

**Year target was set**
2019

**Target coverage**
Company-wide

**Scope(s)**
Scope 3

**Scope 2 accounting method**
Scope 3 category(ies)
   Category 1: Purchased goods and services
   Category 2: Capital goods
   Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
   Category 4: Upstream transportation and distribution
   Category 5: Waste generated in operations
   Category 6: Business travel
   Category 7: Employee commuting
   Category 8: Upstream leased assets

Base year
   2018

Base year Scope 1 emissions covered by target (metric tons CO2e)

Base year Scope 2 emissions covered by target (metric tons CO2e)

Base year Scope 3 emissions covered by target (metric tons CO2e)
   2,498,404.12

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
   2,498,404.12

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)
   87.96

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
   87.96

Target year
   2025

Targeted reduction from base year (%)
   10
Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
2,248,563.708

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

Scope 3 emissions in reporting year covered by target (metric tons CO2e)
2,226,892.22

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
2,226,892.22

% of target achieved relative to base year [auto-calculated]
108.6741323497

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 target coverage and identify any exclusions
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.

Please note: Upstream leased assets is a listed category above, but our present value for this category is zero. This is because we previously classed third-party co-locations as Scope 3, but have now reclassified (and re-baselined) them as Scope 2.

Plan for achieving target, and progress made to the end of the reporting year
The percentage of target achieved identified above is 108%. We hope to maintain our performance towards this goal throughout the 2025 target year. Although the target shows 108% complete, we have classified it as ‘underway.’ We are changing our methodology to more precisely estimate our emissions and will undertake some re-baselining. We will then reassess our performance against the goal.

To meet this target we will be moving toward a supplier specific methodology and moving away from an economic and financial metric based methodology. This will allow use to capture emissions reductions across our supply chains.
List the emissions reduction initiatives which contributed most to achieving this target

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.

<table>
<thead>
<tr>
<th>Initiative status</th>
<th>Number of initiatives</th>
<th>Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under investigation</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>To be implemented*</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Implementation commenced*</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>Implemented*</td>
<td>310</td>
<td>31,435.24</td>
</tr>
<tr>
<td>Not to be implemented</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

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)**

6,641.65

**Scope(s) or Scope 3 category(ies) where emissions savings occur**
Scope 2 (location-based)  
Scope 2 (market-based)

**Voluntary/Mandatory**  
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**  
1,750,000

**Investment required (unit currency – as specified in C0.4)**  
1,700,000

**Payback period**  
<1 year

**Estimated lifetime of the initiative**  
11-15 years

**Comment**  
Multiple projects in the USA. These projects comprise building control system installs, upgrades, commissioning, and monitoring. CO2e reduction calculated using market basis.

---

**Initiative category & Initiative type**  
Energy efficiency in buildings  
Heating, Ventilation and Air Conditioning (HVAC)

**Estimated annual CO2e savings (metric tonnes CO2e)**  
1,231.32

**Scope(s) or Scope 3 category(ies) where emissions savings occur**  
Scope 2 (location-based)  
Scope 2 (market-based)

**Voluntary/Mandatory**  
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**  
350,000

**Investment required (unit currency – as specified in C0.4)**  
1,450,000

**Payback period**  
4-10 years

**Estimated lifetime of the initiative**  
16-20 years
Comment
Multiple projects in the USA. These projects comprise mechanical system upgrades and equipment replacement. CO2e reduction calculated using market basis.

Initiative category & Initiative type
Energy efficiency in buildings
Other, please specify
Airflow management

Estimated annual CO2e savings (metric tonnes CO2e)
1,044.75

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
325,000

Investment required (unit currency – as specified in C0.4)
1,150,000

Payback period
1-3 years

Estimated lifetime of the initiative
3-5 years

Comment
Multiple projects in the USA. Improvement of airflow in technical equipment spaces improves efficiency of facility cooling. CO2e reduction calculated using market basis.
Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
275,000

Investment required (unit currency – as specified in C0.4)
700,000

Payback period
1-3 years

Estimated lifetime of the initiative
11-15 years

Comment
Multiple projects in the USA, comprising retrofits and lighting controls. CO2e reduction calculated using market basis.

Initiative category & Initiative type
Energy efficiency in production processes
Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)
11,417.61

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
3,062,125

Investment required (unit currency – as specified in C0.4)
6,000,000

Payback period
1-3 years

Estimated lifetime of the initiative
3-5 years

Comment
Multiple projects in USA, comprising switch grooms and decommissioning. CO2e reduction calculated using market basis.
Initiative category & Initiative type
   Company policy or behavioral change
   Site consolidation/closure

Estimated annual CO2e savings (metric tonnes CO2e)
   1,231.32

Scope(s) or Scope 3 category(ies) where emissions savings occur
   Scope 2 (location-based)
   Scope 2 (market-based)

Voluntary/Mandatory
   Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
   325,755

Investment required (unit currency – as specified in C0.4)
   3,200,000

Payback period
   4-10 years

Estimated lifetime of the initiative
   >30 years

Comment
   USA. Non-technical / administrative site downsizing or closures. We have calculated the reduction in kWs of electricity only as natural gas consumption is limited at these sites. CO2e reduction calculated using market basis.

Initiative category & Initiative type
   Company policy or behavioral change
   Site consolidation/closure

Estimated annual CO2e savings (metric tonnes CO2e)
   8,507.28

Scope(s) or Scope 3 category(ies) where emissions savings occur
   Scope 2 (location-based)
   Scope 2 (market-based)

Voluntary/Mandatory
   Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
   2,280,000
<table>
<thead>
<tr>
<th>Initiative category &amp; Initiative type</th>
<th>Energy efficiency in buildings Heating, Ventilation and Air Conditioning (HVAC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated annual CO2e savings (metric tonnes CO2e)</td>
<td>0</td>
</tr>
<tr>
<td>Scope(s) or Scope 3 category(ies) where emissions savings occur</td>
<td>Scope 2 (location-based) Scope 2 (market-based)</td>
</tr>
<tr>
<td>Voluntary/Mandatory</td>
<td>Voluntary</td>
</tr>
<tr>
<td>Annual monetary savings (unit currency – as specified in C0.4)</td>
<td>3,577</td>
</tr>
<tr>
<td>Investment required (unit currency – as specified in C0.4)</td>
<td>57,537</td>
</tr>
<tr>
<td>Payback period</td>
<td>16-20 years</td>
</tr>
<tr>
<td>Estimated lifetime of the initiative</td>
<td>16-20 years</td>
</tr>
<tr>
<td>Comment</td>
<td>This comprises a project in the UK upgrading air conditioning systems. Under the market-basis there are no emissions savings as the site uses electricity sourced from REGO-backed renewable sources.</td>
</tr>
</tbody>
</table>
Heating, Ventilation and Air Conditioning (HVAC)

**Estimated annual CO2e savings (metric tonnes CO2e)**
3.31

**Scope(s) or Scope 3 category(ies) where emissions savings occur**
Scope 2 (location-based)
Scope 2 (market-based)

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
26,900

**Investment required (unit currency – as specified in C0.4)**
350,000

**Payback period**
11-15 years

**Estimated lifetime of the initiative**
16-20 years

**Comment**
This comprises 3 projects in Belgium that upgraded chillers. Under the market-basis there are some emissions savings as the site uses electricity sourced from GO-backed biomass based renewable sources.

---

**Initiative category & Initiative type**
Energy efficiency in buildings
Heating, Ventilation and Air Conditioning (HVAC)

**Estimated annual CO2e savings (metric tonnes CO2e)**
0

**Scope(s) or Scope 3 category(ies) where emissions savings occur**
Scope 2 (location-based)
Scope 2 (market-based)

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
23,202

**Investment required (unit currency – as specified in C0.4)**
350,000
Payback period
16-20 years

Estimated lifetime of the initiative
16-20 years

Comment
This comprises 4 projects in The Netherlands that upgraded chillers. Under the market-basis there are no emissions savings as the site uses electricity sourced from GO-backed renewable sources.

------------------

Initiative category & Initiative type
Energy efficiency in buildings
Rectifier replacement

Estimated annual CO2e savings (metric tonnes CO2e)
0

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
14,359

Investment required (unit currency – as specified in C0.4)
60,232

Payback period
4-10 years

Estimated lifetime of the initiative
16-20 years

Comment
This comprises a project in Germany to upgrade a rectifier. Under the market-basis there are no emissions savings as the site uses electricity sourced from GO-backed renewable sources.

------------------

Initiative category & Initiative type
Energy efficiency in buildings
Heating, Ventilation and Air Conditioning (HVAC)
Estimated annual CO2e savings (metric tonnes CO2e)
0

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
5,756

Investment required (unit currency – as specified in C0.4)
7,390

Payback period
1-3 years

Estimated lifetime of the initiative
16-20 years

Comment
This comprises 1 project in Spain to upgrade cooling units. Under the market-basis there are no emissions savings as the site uses electricity sourced from GO-backed renewable sources.

Initiative category & Initiative type
Energy efficiency in buildings
Heating, Ventilation and Air Conditioning (HVAC)

Estimated annual CO2e savings (metric tonnes CO2e)
14.69

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
2,600

Investment required (unit currency – as specified in C0.4)
12,800

Payback period
4-10 years
Estimated lifetime of the initiative
16-20 years

Comment
This comprises a project refitting of chillers and cooling equipment in a Hong Kong office.

C4.3c

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

<table>
<thead>
<tr>
<th>Method</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedicated budget for energy efficiency</td>
<td>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.</td>
</tr>
<tr>
<td>Dedicated budget for other emissions reduction activities</td>
<td>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, and some sites in Brazil.</td>
</tr>
<tr>
<td>Employee engagement</td>
<td>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.</td>
</tr>
</tbody>
</table>

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?
Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation
Group of products or services

Taxonomy used to classify product(s) or service(s) as low-carbon
Other, please specify
FTSE Russell Green Revenues Data Model

**Type of product(s) or service(s)**
- Other
- Business-to-business Information Communication Technology

**Description of product(s) or service(s)**
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 CO2e.

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 41.57% of revenue.

**Have you estimated the avoided emissions of this low-carbon product(s) or service(s)?**
Yes

**Methodology used to calculate avoided emissions**
- Hypothetical company to which an estimated 10% reduction in travel was achieved

**Life cycle stage(s) covered for the low-carbon product(s) or services(s)**
- Use stage

**Functional unit used**
We have not estimated/normalized avoided emissions per unit of service delivered.

**Reference product/service or baseline scenario used**
Using 2021 UK Government emission factors, a hypothetical company of 20 office workers and 20 drivers, may have vehicle emissions of 140.55 t CO2e/pa. (2800 litres of gasoline at 2.19325 kg CO2e/litre and 53500 litres diesel at 2.51233 kg CO2e/litre). By reducing mileage and fuel use by 10% through increased use of ICT, emissions would be reduced by 14.05 t CO2e. Such an example is transferable to other companies but varies according to the nature of their business.

**Life cycle stage(s) covered for the reference product/service or baseline scenario**
- Use stage
Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

14.5

Explain your calculation of avoided emissions, including any assumptions
Using 2012 DEFRA emission factors, a hypothetical company of 20 office workers and 20 primary drivers, may have vehicle emissions of 145 tonnes CO2e/pa. (2800 litres of gasoline at 2012 DEFRA emission factor of 2.2423 kg CO2e/litre and 53500 litres diesel at 2.584 kg CO2e/litre). By reducing mileage and fuel use by 10% through increased use of ICT, emissions would be reduced by 14.5 tonnes. Such an example is transferable to other companies but varies according to the nature of their business.

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

41.57

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?
No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?
Row 1

Has there been a structural change?
No

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

<table>
<thead>
<tr>
<th>Change(s) in methodology, boundary, and/or reporting year definition?</th>
<th>Details of methodology, boundary, and/or reporting year definition change(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row 1 Yes, a change in methodology</td>
<td>For 2021 we are using the latest released IEA-sourced emission factors for location-based electricity for all countries other than the</td>
</tr>
</tbody>
</table>
USA, Canada and Great Britain. In previous years we had used the UK Government GHG Conversion Factors for Company Reporting for the Scope 2 Location-basis in all countries other than the USA and Canada, keeping these factors constant through the 2018 and 2020 inventories. In previous years we also used these same grid averages for a small proportion of electricity consumption when using the Market-based hierarchy. The UK Government-sourced factors for electricity were last updated in 2016, and those for Scope 3 electricity transmission & distribution were last updated in 2017. The IEA factors are more recent, although also some years out-of-date for most countries. Therefore, when comparisons are made between different reporting periods, there will be a small percentage change in emissions attributable to this methodological change. The impact of this is however limited as approximately 92% of electricity consumption occurs in the USA, Canada and UK, which continue using factors from a consistent source.

This is relevant to performance against Lumen’s Market-based Science-based target (which uses some grid averages) because the 2018 baseline year calculations used the UK Government international emission factors that were a couple of years out of date. The impact of this is limited. This is not only because the 2018 data was only 2 years out of date, but also because it impacts only those countries and activities for which an out-of-date UK Government-sourced grid average emission factor was used for the Market-based hierarchy, which in 2018 was just approximately 4.34% of Scope 2 Market-based emissions.

This is also relevant to our comparisons against Scope 2 emissions in 2020. Here the impact is still considered to be insignificant. In 2020 the emissions from electricity from countries this impacted comprised only 6.10% of Scope 2 location-basis emissions, and 3.78% of Scope 2 market-basis emissions.

We therefore consider the impact of this methodological change to be small. However, ready for next year’s reporting, we are planning soon to re-baseline both the 2018 through to 2020 data using the IEA emission factors that were available for each of these years, thereby employing the same methodology for all years, and removing any deviation attributable to changes in methodology.

C5.1c

(C5.1c) Have your organization’s base year emissions been recalculated as result of the changes or errors reported in C5.1a and C5.1b?
**Base year recalculation**

<table>
<thead>
<tr>
<th>Row</th>
<th>No, because we do not have the data yet and plan to recalculate next year</th>
</tr>
</thead>
</table>

**Base year emissions recalculation policy, including significance threshold**

As noted in our answer to 5.1b, we are planning soon to re-baseline both the 2018 and 2020 data using the IEA emission factors, thereby employing the same methodology for all years, and removing any deviation attributable to changes in methodology. Our policy is to re-baseline when changes exceed a threshold of 1%.

### C5.2

**(C5.2) Provide your base year and base year emissions.**

**Scope 1**

<table>
<thead>
<tr>
<th>Base year start</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1, 2018</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Base year end</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 31, 2018</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Base year emissions (metric tons CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>277,725.23</td>
</tr>
</tbody>
</table>

**Comment**

**Scope 2 (location-based)**

<table>
<thead>
<tr>
<th>Base year start</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1, 2018</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Base year end</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 31, 2018</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Base year emissions (metric tons CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,141,282.01</td>
</tr>
</tbody>
</table>

**Comment**

**Scope 2 (market-based)**

<table>
<thead>
<tr>
<th>Base year start</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1, 2018</td>
</tr>
</tbody>
</table>

| Base year end |
December 31, 2018

Base year emissions (metric tons CO2e)
2,082,498.06

Comment

Scope 3 category 1: Purchased goods and services

Base year start
January 1, 2018

Base year end
December 31, 2018

Base year emissions (metric tons CO2e)
1,751,489.12

Comment

Scope 3 category 2: Capital goods

Base year start
January 1, 2018

Base year end
December 31, 2018

Base year emissions (metric tons CO2e)
282,307

Comment

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

Base year start
January 1, 2018

Base year end
December 31, 2018

Base year emissions (metric tons CO2e)
407,043.73

Comment
Scope 3 category 4: Upstream transportation and distribution

- **Base year start**: January 1, 2018
- **Base year end**: December 31, 2018
- **Base year emissions (metric tons CO2e)**: 4,750.62

Comment

Scope 3 category 5: Waste generated in operations

- **Base year start**: January 1, 2018
- **Base year end**: December 31, 2018
- **Base year emissions (metric tons CO2e)**: 19,385.89

Comment

Scope 3 category 6: Business travel

- **Base year start**: January 1, 2018
- **Base year end**: December 31, 2018
- **Base year emissions (metric tons CO2e)**: 22,582.6

Comment

Scope 3 category 7: Employee commuting

- **Base year start**: January 1, 2018
- **Base year end**: December 31, 2018
- **Base year emissions (metric tons CO2e)**: 10,845.15
Comment

Scope 3 category 8: Upstream leased assets

Base year start
January 1, 2018

Base year end
December 31, 2018

Base year emissions (metric tons CO2e)
0

Comment
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.

Scope 3 category 9: Downstream transportation and distribution

Base year start
January 1, 2018

Base year end
December 31, 2018

Base year emissions (metric tons CO2e)
0

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

Scope 3 category 10: Processing of sold products

Base year start
January 1, 2018

Base year end
December 31, 2018

Base year emissions (metric tons CO2e)
0

Comment
At present Lumen does not sell any intermediate products for processing by downstream companies.

Scope 3 category 11: Use of sold products
Base year start
January 1, 2018

Base year end
December 31, 2018

Base year emissions (metric tons CO2e)
340,726

Comment

Scope 3 category 12: End of life treatment of sold products

Base year start
January 1, 2018

Base year end
December 31, 2018

Base year emissions (metric tons CO2e)
1,062.56

Comment

Scope 3 category 13: Downstream leased assets

Base year start
January 1, 2018

Base year end
December 31, 2018

Base year emissions (metric tons CO2e)
271.54

Comment

Scope 3 category 14: Franchises

Base year start
January 1, 2018

Base year end
December 31, 2018

Base year emissions (metric tons CO2e)
0

Comment
At present Lumen does not have franchise operations.

**Scope 3 category 15: Investments**

<table>
<thead>
<tr>
<th>Base year start</th>
<th>January 1, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base year end</td>
<td>December 31, 2018</td>
</tr>
<tr>
<td>Base year emissions (metric tons CO2e)</td>
<td>0</td>
</tr>
<tr>
<td><strong>Comment</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>

**Scope 3: Other (upstream)**

<table>
<thead>
<tr>
<th>Base year start</th>
<th>January 1, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base year end</td>
<td>December 31, 2018</td>
</tr>
<tr>
<td>Base year emissions (metric tons CO2e)</td>
<td>0</td>
</tr>
<tr>
<td><strong>Comment</strong></td>
<td>There are no other relevant upstream scope 3 emissions.</td>
</tr>
</tbody>
</table>

**Scope 3: Other (downstream)**

<table>
<thead>
<tr>
<th>Base year start</th>
<th>January 1, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base year end</td>
<td>December 31, 2018</td>
</tr>
<tr>
<td>Base year emissions (metric tons CO2e)</td>
<td>0</td>
</tr>
<tr>
<td><strong>Comment</strong></td>
<td>There are no other relevant downstream scope 3 emissions. Therefore</td>
</tr>
</tbody>
</table>

**C5.3**

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.
C6. Emissions data

C6.1

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

<table>
<thead>
<tr>
<th>Reporting year</th>
<th>Gross global Scope 1 emissions (metric tons CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>222,798.11</td>
</tr>
</tbody>
</table>

Comment

C6.2

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

Row 1

<table>
<thead>
<tr>
<th>Scope 2, location-based</th>
<th>We are reporting a Scope 2, location-based figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope 2, market-based</td>
<td>We are reporting a Scope 2, market-based figure</td>
</tr>
</tbody>
</table>

Comment

C6.3

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

<table>
<thead>
<tr>
<th>Reporting year</th>
<th>Scope 2, location-based</th>
<th>Scope 2, market-based (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,595,963.63</td>
<td>1,558,351.98</td>
</tr>
</tbody>
</table>

Comment
C6.4

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

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source
We have not yet calculated emissions for Bermuda, the British Virgin Islands, US Virgin Islands, Cayman Islands, Mauritius, New Zealand, the Philippines, and Uruguay.

Relevance of Scope 1 emissions from this source
No emissions excluded

Relevance of location-based Scope 2 emissions from this source
Emissions are relevant but not yet calculated

Relevance of market-based Scope 2 emissions from this source (if applicable)
Emissions are relevant but not yet calculated

Explain why this source is excluded
Reliable data was not currently available for these sources. In most of these countries emissions will be solely attributable to Lumen equipment at third-party co-location facilities, rather than Lumen owned or operated sites.

Estimated percentage of total Scope 1+2 emissions this excluded source represents
1

Explain how you estimated the percentage of emissions this excluded source represents
The excluded emissions are known to be less than 1% of global Scope 2 emissions, based on the quantity of equipment at these locations, which is a reliable indicator of MWh electricity consumption.

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

Emissions in reporting year (metric tons CO2e)  
1,247,094.37

Emissions calculation methodology  
Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners  
0

Please explain  
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 Fourth Assessment, 100 year average.

Capital goods

Evaluation status  
Relevant, calculated

Emissions in reporting year (metric tons CO2e)  
350,340.82

Emissions calculation methodology  
Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners  
0

Please explain  
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 Fourth Assessment, 100 year average.

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

Evaluation status  
Relevant, calculated

Emissions in reporting year (metric tons CO2e)  
596,601.37
Emissions calculation methodology
Fuel-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
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).

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
7,110.76

Emissions calculation methodology
Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain
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 Fourth Assessment, 100-year average.

### Waste generated in operations

**Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
18,277.83

**Emissions calculation methodology**
Waste-type-specific method

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
100

**Please explain**
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.

### Business travel

**Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
2,015.45

**Emissions calculation methodology**
Distance-based method

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
100

**Please explain**
This comprises travel in employee owned vehicles and short-term rental cars and air travel in commercial aircraft. 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).

**Employee commuting**

**Evaluation status**

Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**

5,451.62

**Emissions calculation methodology**

- Average data method
- Distance-based method
- Site-specific method

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

1

**Please explain**

Fuel consumption, commuting distances and modes of travel were based on survey results from our employee operations at 6 sites in Arizona, which is under 1% of total sites. 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 global total. Global Warming Potentials (GWP) are from the IPCC Fourth Assessment Report (AR4 – 100 year).

**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 CO2e of the Scope 3 total.

**Use of sold products**

**Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
199,860

**Emissions calculation methodology**
Average product method

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
100

**Please explain**
This category includes emissions wholly associated with customer use of modems 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.

**End of life treatment of sold products**

**Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
688

**Emissions calculation methodology**
Average product method
Waste-type-specific method

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
Please explain
This category wholly comprises emissions associated with customer disposal of modems 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.

Downstream leased assets

<table>
<thead>
<tr>
<th>Evaluation status</th>
<th>Relevant, calculated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions in reporting year (metric tons CO2e)</td>
<td>203.68</td>
</tr>
<tr>
<td>Emissions calculation methodology</td>
<td>Fuel-based method</td>
</tr>
<tr>
<td>Percentage of emissions calculated using data obtained from suppliers or value chain partners</td>
<td>100</td>
</tr>
</tbody>
</table>

Please explain
This category is largely not applicable however there is an exception in the UK where Lumen leases equipment and space to a customer. This category is calculated based on a nominal quantity of kWhs of electricity attributed to the customer. UK Government GHG conversion factors and GWPs from the IPCC Fourth Assessment Report, 100-year average, are applied.

Franchises

<table>
<thead>
<tr>
<th>Evaluation status</th>
<th>Not relevant, explanation provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please explain</td>
<td>At present Lumen does not have franchise operations. Therefore, this category represents 0 tonnes CO2e of the Scope 3 total.</td>
</tr>
</tbody>
</table>

Investments

<table>
<thead>
<tr>
<th>Evaluation status</th>
<th>Not relevant, explanation provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please explain</td>
<td>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.</td>
</tr>
</tbody>
</table>
Other (upstream)

**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)

**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 CO2.

<table>
<thead>
<tr>
<th>CO2 emissions from biogenic carbon (metric tons CO2)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row 1</td>
<td>3,626.59</td>
</tr>
<tr>
<td></td>
<td>This comprises the biogenic portion of fuel combustion in company owned and controlled cars.</td>
</tr>
</tbody>
</table>

C6.10

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

**Intensity figure**
0.00009047

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)**
1,781,150.09
Metric denominator
unit total revenue

Metric denominator: Unit total
19,687,000,000

Scope 2 figure used
Market-based

% change from previous year
6.49

Direction of change
Decreased

Reason for change
The 6.49% decrease in tonnes CO2e per unit revenue in 2021 compared to 2020 is due to a substantial 11.11% 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 222,723.57 tonnes CO2e. In the same period revenue fell by $1,025,000,000, nevertheless the decline in absolute emissions was sufficient to reduce the emissions intensity.

The 222,723.57 tonnes CO2e reduction in emissions is due in part Lumen’s emissions reduction projects as described in our answer to question 4.3b. The energy efficiency projects accounted for a reduction of 31,435.24 tonnes CO2e.

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.

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Scope 1 emissions (metric tons CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States of America</td>
<td>216,534.48</td>
</tr>
<tr>
<td>Canada</td>
<td>234.49</td>
</tr>
<tr>
<td>United Kingdom of Great Britain and Northern Ireland</td>
<td>483.39</td>
</tr>
<tr>
<td>France</td>
<td>160.89</td>
</tr>
<tr>
<td>Country</td>
<td>Score</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Germany</td>
<td>124.02</td>
</tr>
<tr>
<td>Spain</td>
<td>52.64</td>
</tr>
<tr>
<td>Italy</td>
<td>110.01</td>
</tr>
<tr>
<td>Netherlands</td>
<td>529.13</td>
</tr>
<tr>
<td>Belgium</td>
<td>133.3</td>
</tr>
<tr>
<td>Sweden</td>
<td>16.67</td>
</tr>
<tr>
<td>Argentina</td>
<td>103</td>
</tr>
<tr>
<td>Brazil</td>
<td>2,545.75</td>
</tr>
<tr>
<td>Colombia</td>
<td>683.89</td>
</tr>
<tr>
<td>Chile</td>
<td>160.44</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>0</td>
</tr>
<tr>
<td>Ecuador</td>
<td>0.5</td>
</tr>
<tr>
<td>Mexico</td>
<td>131.2</td>
</tr>
<tr>
<td>Panama</td>
<td>76.29</td>
</tr>
<tr>
<td>Peru</td>
<td>490.52</td>
</tr>
<tr>
<td>Venezuela (Bolivarian Republic of)</td>
<td>208.79</td>
</tr>
<tr>
<td>Singapore</td>
<td>4,825.62</td>
</tr>
<tr>
<td>Japan</td>
<td>0</td>
</tr>
<tr>
<td>Ireland</td>
<td>3.2</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>0</td>
</tr>
<tr>
<td>Austria</td>
<td>0</td>
</tr>
<tr>
<td>Poland</td>
<td>2.22</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>0</td>
</tr>
<tr>
<td>Greece</td>
<td>0</td>
</tr>
<tr>
<td>Switzerland</td>
<td>8.63</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>0</td>
</tr>
<tr>
<td>Norway</td>
<td>0</td>
</tr>
<tr>
<td>Denmark</td>
<td>4.65</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>0</td>
</tr>
<tr>
<td>Turkey</td>
<td>0</td>
</tr>
<tr>
<td>Czechia</td>
<td>0</td>
</tr>
<tr>
<td>Estonia</td>
<td>0</td>
</tr>
<tr>
<td>Finland</td>
<td>0</td>
</tr>
<tr>
<td>Hungary</td>
<td>0</td>
</tr>
<tr>
<td>Israel</td>
<td>0</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Business division</th>
<th>Scope 1 emissions (metric ton CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North American Business division</td>
<td>216,768.97</td>
</tr>
<tr>
<td>Global Accounts Management (EMEA, LATAM, APAC)</td>
<td>6,029.14</td>
</tr>
</tbody>
</table>

C7.3b

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

<table>
<thead>
<tr>
<th>Facility</th>
<th>Scope 1 emissions</th>
<th>Latitude</th>
<th>Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iceland</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monaco</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portugal</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romania</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serbia</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slovenia</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Africa</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slovakia</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taiwan, China</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kenya</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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 Wokingham UK, which comprises emissions from natural gas consumption.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Scope 1 emissions (metric tons CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating of administrative and technical buildings (natural gas combustion for space heating).</td>
<td>25,496.56</td>
</tr>
<tr>
<td>Travel, comprising use of company cars and company jets ( tCO2e)</td>
<td>109,296.8</td>
</tr>
<tr>
<td>Maintenance of technical buildings - testing of back-up generators</td>
<td>65,646.05</td>
</tr>
<tr>
<td>Other fuel consumption used in maintenance of network, including use of forklift trucks.</td>
<td>262.98</td>
</tr>
<tr>
<td>Cooling of technical and administrative buildings (fugitive refrigerant emissions)</td>
<td>22,095.72</td>
</tr>
<tr>
<td>Self-generated solar electricity</td>
<td>0</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Scope 2, location-based (metric tons CO2e)</th>
<th>Scope 2, market-based (metric tons CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States of America</td>
<td>1,443,164.07</td>
<td>1,444,633.3</td>
</tr>
<tr>
<td>Canada</td>
<td>839.96</td>
<td>779.11</td>
</tr>
<tr>
<td>United Kingdom of Great Britain and Northern Ireland</td>
<td>28,900.04</td>
<td>19,829.03</td>
</tr>
<tr>
<td>France</td>
<td>1,293.03</td>
<td>1,151.38</td>
</tr>
<tr>
<td>Germany</td>
<td>22,775.45</td>
<td>6,449.85</td>
</tr>
<tr>
<td>Spain</td>
<td>1,178.34</td>
<td>1,229.38</td>
</tr>
<tr>
<td>Italy</td>
<td>914.87</td>
<td>699.85</td>
</tr>
<tr>
<td>Netherlands</td>
<td>13,132.2</td>
<td>3,326.42</td>
</tr>
<tr>
<td>Belgium</td>
<td>1,427.82</td>
<td>226.94</td>
</tr>
<tr>
<td>Sweden</td>
<td>54.1</td>
<td>311.55</td>
</tr>
<tr>
<td>Country</td>
<td>First Year</td>
<td>Second Year</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Argentina</td>
<td>10,926.12</td>
<td>10,921.86</td>
</tr>
<tr>
<td>Brazil</td>
<td>8,948.95</td>
<td>4,161.3</td>
</tr>
<tr>
<td>Colombia</td>
<td>5,066.19</td>
<td>5,035.44</td>
</tr>
<tr>
<td>Chile</td>
<td>10,654.72</td>
<td>10,654.72</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>1.21</td>
<td>1.21</td>
</tr>
<tr>
<td>Ecuador</td>
<td>1,175.18</td>
<td>1,175.18</td>
</tr>
<tr>
<td>Mexico</td>
<td>2,889.14</td>
<td>2,851.66</td>
</tr>
<tr>
<td>Panama</td>
<td>1,416.41</td>
<td>1,416.41</td>
</tr>
<tr>
<td>Peru</td>
<td>3,650.85</td>
<td>3,650.85</td>
</tr>
<tr>
<td>Venezuela (Bolivarian Republic of)</td>
<td>5,005.21</td>
<td>5,005.21</td>
</tr>
<tr>
<td>Singapore</td>
<td>4,825.62</td>
<td>4,193.81</td>
</tr>
<tr>
<td>Hong Kong SAR, China</td>
<td>4,687.11</td>
<td>4,493.12</td>
</tr>
<tr>
<td>Japan</td>
<td>4,698.42</td>
<td>3,225.3</td>
</tr>
<tr>
<td>Ireland</td>
<td>471.52</td>
<td>848.74</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>154.25</td>
<td>145.91</td>
</tr>
<tr>
<td>Austria</td>
<td>259.83</td>
<td>257.68</td>
</tr>
<tr>
<td>Poland</td>
<td>1,794.07</td>
<td>2,259.46</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>737.05</td>
<td>662.61</td>
</tr>
<tr>
<td>Greece</td>
<td>2.45</td>
<td>2.19</td>
</tr>
<tr>
<td>Switzerland</td>
<td>76.94</td>
<td>53.15</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>132.93</td>
<td>380.25</td>
</tr>
<tr>
<td>Norway</td>
<td>28.09</td>
<td>1,104.23</td>
</tr>
<tr>
<td>Denmark</td>
<td>457.94</td>
<td>2,493.82</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>34.83</td>
<td>33.3</td>
</tr>
<tr>
<td>Turkey</td>
<td>54.49</td>
<td>58.47</td>
</tr>
<tr>
<td>Czechia</td>
<td>646.49</td>
<td>803.13</td>
</tr>
<tr>
<td>Estonia</td>
<td>137.07</td>
<td>129.38</td>
</tr>
<tr>
<td>Finland</td>
<td>93.33</td>
<td>196.44</td>
</tr>
<tr>
<td>Hungary</td>
<td>96.96</td>
<td>116.97</td>
</tr>
<tr>
<td>Israel</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Iceland</td>
<td>0.02</td>
<td>41.24</td>
</tr>
<tr>
<td>Monaco</td>
<td>45.15</td>
<td>43.79</td>
</tr>
<tr>
<td>Portugal</td>
<td>12.55</td>
<td>7.13</td>
</tr>
<tr>
<td>Romania</td>
<td>328.99</td>
<td>268.42</td>
</tr>
<tr>
<td>Serbia</td>
<td>351.74</td>
<td>360.49</td>
</tr>
</tbody>
</table>
### C7.6

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

<table>
<thead>
<tr>
<th>Business division</th>
<th>Scope 2, location-based (metric tons CO2e)</th>
<th>Scope 2, market-based (metric tons CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North American Business division</td>
<td>1,444,004.02</td>
<td>1,445,412.42</td>
</tr>
<tr>
<td>Global Accounts Management (EMEA, LATAM, APAC)</td>
<td>151,959.61</td>
<td>112,939.56</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Facility</th>
<th>Scope 2, location-based (metric tons CO2e)</th>
<th>Scope 2, market-based (metric tons CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
<td>51.24</td>
<td>0</td>
</tr>
</tbody>
</table>
associated emissions. An example is provided of a facility in Islington UK, which comprises emissions from electricity consumption.

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

<table>
<thead>
<tr>
<th>Activity</th>
<th>Scope 2, location-based (metric tons CO2e)</th>
<th>Scope 2, market-based (metric tons CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power provision to Information Communication Technology, IT, heating &amp; cooling</td>
<td>1,584,969.54</td>
<td>1,547,357.85</td>
</tr>
<tr>
<td>Imported heat &amp; steam used for heating</td>
<td>3,828.38</td>
<td>3,828.38</td>
</tr>
<tr>
<td>Chilled Water</td>
<td>7,165.72</td>
<td>7,165.74</td>
</tr>
</tbody>
</table>

(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) 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.

<table>
<thead>
<tr>
<th>Change in emissions (metric tons CO2e)</th>
<th>Direction of change</th>
<th>Emissions value (percentage)</th>
<th>Please explain calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in renewable energy consumption</td>
<td>0</td>
<td>No change</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>There was no change in the proportion of renewable energy coverage at Lumen-controlled facilities. (Please note: the CDP questionnaire guidance says both to leave rows blank if there was no change, but also requires the 'renewable energy' field to be completed, even if there is no change, if Management Points are to be awarded).</td>
</tr>
<tr>
<td>Other emissions reduction activities</td>
<td>18,713.77</td>
<td>Decreased</td>
<td>0.93</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Emissions reduction activities accounted for a 18,713.77 tonne CO2e reduction. Total Scope 1 &amp; Scope 2 (market-basis) emissions in 2020 were 2,003,873.66 tonnes CO2e. Therefore, we have</td>
</tr>
</tbody>
</table>
Lumen Technologies CDP Climate Change Questionnaire 2022 Thursday, August 11, 2022

| Divestment          |       |       | calculated the percentage reduction as follows: -
|---------------------|-------|-------| (18,713.77/2,003,873.66)x100 = 0.93% |
| Acquisitions        |       |       | |
| Mergers             |       |       | |
| Change in output    | 67,516.49 | Decreased | 3.37 |
|                     |       |       | We are estimating a 3.37% reduction in output based on reduced revenue and other changes in company operations. We have estimated that this accounts for approximately 67,516.49 tonnes of CO2e. |
|                     |       |       | Scope 1 & Scope 2 (market) t CO2e in 2020 was 2,003,873.66 t CO2e. |
|                     |       |       | Therefore, (67,516.49/2,003,873.66)x100 = 3.37% |
| Change in methodology | 30,058.1 | Decreased | 1.5 |
|                     |       |       | In 2021 we updated and improved our methodology compared to 2020, adopting a more up-to-date emission factor source for countries outside USA, Canada and the UK. We are planning to re-baseline later this year, and we believe these had a minor impact and account for a reduction of 30,058.10 t CO2e. |
|                     |       |       | Scope 1 & Scope 2 (market) t CO2e in 2020 was 2,003,873.66 t CO2e. |
|                     |       |       | Therefore, (38,058.10/2,003,873.66)x100 = 1.5% |
| Change in boundary  |       |       | |
| Change in physical operating conditions |       |       | |
| Unidentified        |       |       | |
| Other               | 106,435.21 | Decreased | 5.31 |
|                     |       |       | The vast majority of our electricity consumption is in the USA. Between 2020 and 2021, there was an increase in the carbon efficiency of the US grid as |
reflected in the eGrid US average emission factors. This had the effect of reducing our emissions by an estimated 106,435.21 tCO2e.

Scope 1 & Scope 2 (market) tCO2e in 2020 was 2,003,873.66 tCO2e.

Therefore,  
\[(106,435.21/2,003,873.66)\times 100 = 5.31\% \]

### 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.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Indicate whether your organization undertook this energy-related activity in the reporting year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption of fuel (excluding feedstocks)</td>
<td>Yes</td>
</tr>
<tr>
<td>Consumption of purchased or acquired electricity</td>
<td>Yes</td>
</tr>
<tr>
<td>Consumption of purchased or acquired heat</td>
<td>Yes</td>
</tr>
<tr>
<td>Consumption of purchased or acquired steam</td>
<td>Yes</td>
</tr>
<tr>
<td>Consumption of purchased or acquired cooling</td>
<td>Yes</td>
</tr>
</tbody>
</table>
C8.2a

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

<table>
<thead>
<tr>
<th>Heating value</th>
<th>MWh from renewable sources</th>
<th>MWh from non-renewable sources</th>
<th>Total (renewable and non-renewable) MWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption of fuel (excluding feedstock) HHV (higher heating value)</td>
<td>352.93</td>
<td>853,523.26</td>
<td>853,876.19</td>
</tr>
<tr>
<td>Consumption of purchased or acquired electricity</td>
<td>319,717.77</td>
<td>4,017,710.75</td>
<td>4,337,428.52</td>
</tr>
<tr>
<td>Consumption of purchased or acquired heat</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Consumption of purchased or acquired steam</td>
<td>0</td>
<td>16,913.15</td>
<td>16,913.15</td>
</tr>
<tr>
<td>Consumption of purchased or acquired cooling</td>
<td>0</td>
<td>14,694.98</td>
<td>14,694.98</td>
</tr>
<tr>
<td>Consumption of self-generated non-fuel renewable energy</td>
<td>14.81</td>
<td>14,823.87</td>
<td></td>
</tr>
<tr>
<td>Total energy consumption</td>
<td>320,085.49</td>
<td>4,902,842.14</td>
<td>5,222,927.63</td>
</tr>
</tbody>
</table>

C8.2b

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

<table>
<thead>
<tr>
<th>Indicate whether your organization undertakes this fuel application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption of fuel for the generation of electricity</td>
</tr>
<tr>
<td>Consumption of fuel for the generation of heat</td>
</tr>
<tr>
<td>Consumption of fuel for the generation of steam</td>
</tr>
</tbody>
</table>
C8.2c

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

**Sustainable biomass**

<table>
<thead>
<tr>
<th>Heating value</th>
<th>Unable to confirm heating value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total fuel MWh consumed by the organization</strong></td>
<td>0</td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of electricity</td>
<td>0</td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of heat</td>
<td>0</td>
</tr>
<tr>
<td><strong>Comment</strong></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

**Other biomass**

<table>
<thead>
<tr>
<th>Heating value</th>
<th>HHV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total fuel MWh consumed by the organization</strong></td>
<td>352.93</td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of electricity</td>
<td>0</td>
</tr>
<tr>
<td>MWh fuel consumed for self-generation of heat</td>
<td>352.93</td>
</tr>
<tr>
<td><strong>Comment</strong></td>
<td>This comprises ethanol used in the US vehicle fleet. In accordance with the guidance, we have included 'any other combustion' in the category 'MWH fuel consumed for the self generation of heat' i.e. ethanol consumption in cars.</td>
</tr>
</tbody>
</table>

**Other renewable fuels (e.g. renewable hydrogen)**

| Heating value | Unable to confirm heating value |
Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

Comment
Not applicable

Coal

Heating value
Unable to confirm heating value

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

Comment
Not applicable

Oil

Heating value
Unable to confirm heating value

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

Comment
Not applicable

Gas

Heating value
HHV

Total fuel MWh consumed by the organization
MWh fuel consumed for self-generation of electricity
12,812.18

MWh fuel consumed for self-generation of heat
127,853.18

Comment
Although we have reported consumption for self generation of electricity, this comprises the testing of emergency generators where the power is directed to a load bank rather than consumed. This electricity generation is therefore not included in our consumption figures.

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value
HHV

Total fuel MWh consumed by the organization
712,857.9

MWh fuel consumed for self-generation of electricity
261,442.26

MWh fuel consumed for self-generation of heat
451,415.63

Comment
This comprises diesel and gasoline used in cars and for testing generators, propane and jet fuel. Although we have reported consumption for self generation of electricity, this comprises the testing of emergency generators where the power is directed to a load bank rather than consumed. This electricity generation is therefore not included in our consumption figures.

In accordance with the guidance, we have included 'any other combustion' in the category 'MWH fuel consumed for the self generation of heat' i.e. diesel and gasoline consumption in cars.

Total fuel

Heating value
HHV

Total fuel MWh consumed by the organization
853,876.19

MWh fuel consumed for self-generation of electricity
274,254.44

MWh fuel consumed for self-generation of heat
C8.2d

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

<table>
<thead>
<tr>
<th></th>
<th>Total Gross generation (MWh)</th>
<th>Generation that is consumed by the organization (MWh)</th>
<th>Gross generation from renewable sources (MWh)</th>
<th>Generation from renewable sources that is consumed by the organization (MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>1,332.53</td>
<td>14.82</td>
<td>1,332.53</td>
<td>14.82</td>
</tr>
<tr>
<td>Heat</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Steam</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cooling</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

C8.2e

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

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Hydropower (capacity unknown)

Country/area of low-carbon energy consumption
Spain

Tracking instrument used
GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
1,329

Country/area of origin (generation) of the low-carbon energy or energy attribute
Spain

Comment
The Commissioning year is not known.

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Low-carbon energy mix, please specify
Geothermal and various solid, liquid and gaseous thermal sources

Country/area of low-carbon energy consumption
France

Tracking instrument used
GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
11,208

Country/area of origin (generation) of the low-carbon energy or energy attribute
Italy

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
The low carbon energy was sourced from multiple generating facilities, predominantly in Finland and Italy, and also Ireland. The commissioning years range from 1961 to 2020.

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity
Low-carbon technology type  
Hydropower (capacity unknown)

Country/area of low-carbon energy consumption  
Belgium

Tracking instrument used  
GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)  
7,075

Country/area of origin (generation) of the low-carbon energy or energy attribute  
Norway

Comment  
The generating facilities are located primarily in Norway, but also in Germany and Italy. The commissioning years are not known.

Sourcing method  
Unbundled energy attribute certificates (EACs) purchase

Energy carrier  
Electricity

Low-carbon technology type  
Hydropower (capacity unknown)

Country/area of low-carbon energy consumption  
Germany

Tracking instrument used  
GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)  
54,010

Country/area of origin (generation) of the low-carbon energy or energy attribute  
Norway
Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
1,981

**Comment**
The hydro-sourced electricity was from multiple facilities in Norway, with commissioning dates of 1968, 1981 and 1985.

<table>
<thead>
<tr>
<th>Sourcing method</th>
<th>Unbundled energy attribute certificates (EACs) purchase</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy carrier</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electricity</td>
</tr>
<tr>
<td><strong>Low-carbon technology type</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low-carbon energy mix, please specify</td>
</tr>
<tr>
<td></td>
<td>84 MWhs solar, 1710 MWhs biomass municipal solid waste EfW</td>
</tr>
<tr>
<td><strong>Country/area of low-carbon energy consumption</strong></td>
<td>Italy</td>
</tr>
<tr>
<td><strong>Tracking instrument used</strong></td>
<td>GO</td>
</tr>
<tr>
<td><strong>Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)</strong></td>
<td>1,794.12</td>
</tr>
<tr>
<td><strong>Country/area of origin (generation) of the low-carbon energy or energy attribute</strong></td>
<td>Italy</td>
</tr>
<tr>
<td><strong>Comment</strong></td>
<td>The commissioning year of the facilities is not known.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sourcing method</th>
<th>Unbundled energy attribute certificates (EACs) purchase</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy carrier</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electricity</td>
</tr>
<tr>
<td><strong>Low-carbon technology type</strong></td>
<td></td>
</tr>
</tbody>
</table>
Sustainable biomass

**Country/area of low-carbon energy consumption**
Netherlands

**Tracking instrument used**
GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
31,526.03

**Country/area of origin (generation) of the low-carbon energy or energy attribute**
Sweden

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**

**Comment**
The commissioning year of the facilities is not known.

---

**Sourcing method**
Unbundled energy attribute certificates (EACs) purchase

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify
Offshore wind and solar

**Country/area of low-carbon energy consumption**
United Kingdom of Great Britain and Northern Ireland

**Tracking instrument used**
REGO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
77,107.89

**Country/area of origin (generation) of the low-carbon energy or energy attribute**
United Kingdom of Great Britain and Northern Ireland
Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
The commissioning year of the facilities is not known.

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Wind

Country/area of low-carbon energy consumption
Brazil

Tracking instrument used
I-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
44,300.42

Country/area of origin (generation) of the low-carbon energy or energy attribute
Brazil

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2,015

Comment
The commissioning year of the facilities is not known.
Country/area of low-carbon energy consumption
Brazil

Tracking instrument used
I-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
1,558.3

Country/area of origin (generation) of the low-carbon energy or energy attribute
Brazil

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
This consumption comprises electricity at some of our 3rd party co-location facilities.
The commissioning year of the facilities is not known.

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Renewable energy mix, please specify
Hydro, wind, solar, geothermal

Country/area of low-carbon energy consumption
Colombia

Tracking instrument used
I-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
159.58

Country/area of origin (generation) of the low-carbon energy or energy attribute
Colombia

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
Comment
This consumption comprises electricity at some of our 3rd party co-location facilities. The commissioning year of the facilities is not known.

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Renewable energy mix, please specify
Wind, solar

Country/area of low-carbon energy consumption
Mexico

Tracking instrument used
I-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
94.07

Country/area of origin (generation) of the low-carbon energy or energy attribute
Mexico

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
This consumption comprises electricity at some of our 3rd party co-location facilities. The commissioning year of the facilities is not known.
Country/area of low-carbon energy consumption
United Arab Emirates

Tracking instrument used
I-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
16.51

Country/area of origin (generation) of the low-carbon energy or energy attribute
United Arab Emirates

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
This consumption comprises electricity at some of our 3rd party co-location facilities. The commissioning year of the facilities is not known.

Sourcing method
Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier
Electricity

Low-carbon technology type
Renewable energy mix, please specify
Mix not specified, but identified as zero CO2e

Country/area of low-carbon energy consumption
Bulgaria

Tracking instrument used
GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
45.81

Country/area of origin (generation) of the low-carbon energy or energy attribute
Bulgaria

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
Comment
This consumption comprises electricity at some of our 3rd party co-location facilities. The country of origin and commissioning year of the facilities is not known.

Sourcing method
Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier
Electricity

Low-carbon technology type
Hydropower (capacity unknown)

Country/area of low-carbon energy consumption
Switzerland

Tracking instrument used
Contract

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
390.65

Country/area of origin (generation) of the low-carbon energy or energy attribute
Switzerland

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
This consumption comprises electricity at some of our 3rd party co-location facilities. The commissioning year of the facilities is not known.

Sourcing method
Other, please specify
Bundled GOs from supplier

Energy carrier
Electricity

Low-carbon technology type
Renewable energy mix, please specify
Bundled GOs specified as zero CO2e but technology type not specified
Country/area of low-carbon energy consumption
  Germany

Tracking instrument used
  GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
  1,318.64

Country/area of origin (generation) of the low-carbon energy or energy attribute
  Germany

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
  This consumption comprises electricity at some of our 3rd party co-location facilities. The country of origin of the low carbon energy and commissioning year of the facilities is not known.

Sourcing method
  Other, please specify
     Bundled GOs from supplier

Energy carrier
  Electricity

Low-carbon technology type
  Renewable energy mix, please specify
     hydro, solar, biomass, wind

Country/area of low-carbon energy consumption
  Spain

Tracking instrument used
  GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
  519.17

Country/area of origin (generation) of the low-carbon energy or energy attribute
  Spain
Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
This consumption comprises electricity at some of our 3rd party co-location facilities. The country of origin of the low carbon energy and commissioning year of the facilities is not known.

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Wind

Country/area of low-carbon energy consumption
Finland

Tracking instrument used
GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
316.19

Country/area of origin (generation) of the low-carbon energy or energy attribute
Finland

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
This consumption comprises electricity at some of our 3rd party co-location facilities. The commissioning year of the facilities is not known.

Sourcing method
Other, please specify
Bundled GOs through supplier

Energy carrier
Electricity
Low-carbon technology type
Hydropower (capacity unknown)

Country/area of low-carbon energy consumption
France

Tracking instrument used
GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
621.44

Country/area of origin (generation) of the low-carbon energy or energy attribute
France

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
This consumption comprises electricity at some of our 3rd party co-location facilities. The country of origin of the low carbon energy and commissioning year of the facilities is not known.

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Sustainable biomass

Country/area of low-carbon energy consumption
United Kingdom of Great Britain and Northern Ireland

Tracking instrument used
REGO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
2,937.67

Country/area of origin (generation) of the low-carbon energy or energy attribute
United Kingdom of Great Britain and Northern Ireland
Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
This consumption comprises electricity at some of our 3rd party co-location facilities. The commissioning year of the facilities is not known.

Sourcing method
Other, please specify
Bundled GO through supplier

Energy carrier
Electricity

Low-carbon technology type
Wind

Country/area of low-carbon energy consumption
Ireland

Tracking instrument used
GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
107.41

Country/area of origin (generation) of the low-carbon energy or energy attribute
Ireland

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
This consumption comprises electricity at some of our 3rd party co-location facilities. The country of origin of the low carbon energy and commissioning year of the facilities is not known.

Sourcing method
Other, please specify
Bundled GO through supplier

Energy carrier
Electricity

**Low-carbon technology type**
Hydropower (capacity unknown)

**Country/area of low-carbon energy consumption**
Italy

**Tracking instrument used**
GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
143.67

**Country/area of origin (generation) of the low-carbon energy or energy attribute**
Italy

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**

**Comment**
This consumption comprises electricity at some of our 3rd party co-location facilities. The commissioning year of the facilities is not known.

---

**Sourcing method**
Other, please specify
- Bundled GOs through supplier

**Energy carrier**
Electricity

**Low-carbon technology type**
Hydropower (capacity unknown)

**Country/area of low-carbon energy consumption**
Netherlands

**Tracking instrument used**
GO

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
171.57
Country/area of origin (generation) of the low-carbon energy or energy attribute

Netherlands

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

This consumption comprises electricity at some of our 3rd party co-location facilities. The country of origin of the low carbon energy and commissioning year of the facilities is not known.

Sourcing method

Other, please specify

Bundled GOs through supplier

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify

Not specified

Country/area of low-carbon energy consumption

Portugal

Tracking instrument used

GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

27.5

Country/area of origin (generation) of the low-carbon energy or energy attribute

Portugal

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

This consumption comprises electricity at some of our 3rd party co-location facilities. The country of origin of the low carbon energy and commissioning year of the facilities is not known.
Sourcing method
Other, please specify
Bundled GOs through supplier

Energy carrier
Electricity

Low-carbon technology type
Wind

Country/area of low-carbon energy consumption
Poland

Tracking instrument used
GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
28.6

Country/area of origin (generation) of the low-carbon energy or energy attribute
Poland

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
This consumption comprises electricity at some of our 3rd party co-location facilities. The country of origin of the low carbon energy and commissioning year of the facilities is not known.

Sourcing method
Other, please specify
Bundled GOs through supplier

Energy carrier
Electricity

Low-carbon technology type
Hydropower (capacity unknown)

Country/area of low-carbon energy consumption
Sweden

Tracking instrument used
GO
Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
  160.85

Country/area of origin (generation) of the low-carbon energy or energy attribute
  Sweden

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
  This consumption comprises electricity at some of our 3rd party co-location facilities. The commissioning year of the facilities is not known.

Sourcing method
  Unbundled energy attribute certificates (EACs) purchase

Energy carrier
  Electricity

Low-carbon technology type
  Wind

Country/area of low-carbon energy consumption
  United States of America

Tracking instrument used
  US-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
  32,460

Country/area of origin (generation) of the low-carbon energy or energy attribute
  United States of America

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
  This consumption comprises electricity at some of our 3rd party co-location facilities. The commissioning year of the facilities is not known.
Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Wind

Country/area of low-carbon energy consumption
Canada

Tracking instrument used
Other, please specify
REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
469

Country/area of origin (generation) of the low-carbon energy or energy attribute
Canada

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
This consumption comprises electricity at some of our 3rd party co-location facilities. The commissioning year of the facilities is not known.

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Renewable energy mix, please specify
Wind, solar

Country/area of low-carbon energy consumption
Hong Kong SAR, China

Tracking instrument used
I-REC
Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

236

Country/area of origin (generation) of the low-carbon energy or energy attribute

China

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

This consumption comprises electricity at some of our 3rd party co-location facilities. The commissioning year of the facilities is not known.

Sourcing method

Unbundled energy attribute certificates (EACs) purchase

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify

Wind, solar

Country/area of low-carbon energy consumption

Japan

Tracking instrument used

I-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

3,014

Country/area of origin (generation) of the low-carbon energy or energy attribute

China

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

This consumption comprises electricity at some of our 3rd party co-location facilities. The commissioning year of the facilities is not known.
Sourcing method
   Unbundled energy attribute certificates (EACs) purchase

Energy carrier
   Electricity

Low-carbon technology type
   Hydropower (capacity unknown)

Country/area of low-carbon energy consumption
   Singapore

Tracking instrument used
   I-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
   1,634

Country/area of origin (generation) of the low-carbon energy or energy attribute
   Singapore

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
   This consumption comprises electricity at some of our 3rd party co-location facilities.
   The country of origin of the low carbon energy and commissioning year of the facilities is not known.

C8.2g

(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.

Country/area
   Argentina

Consumption of electricity (MWh)
   37,937.92

Consumption of heat, steam, and cooling (MWh)
   0
Total non-fuel energy consumption (MWh) [Auto-calculated]

37,937.92

Country/area
Australia
Consumption of electricity (MWh)
3,621.02
Consumption of heat, steam, and cooling (MWh)
0
Total non-fuel energy consumption (MWh) [Auto-calculated]
3,621.02

Country/area
Austria
Consumption of electricity (MWh)
2,067.88
Consumption of heat, steam, and cooling (MWh)
0
Total non-fuel energy consumption (MWh) [Auto-calculated]
2,067.88

Country/area
Belgium
Consumption of electricity (MWh)
8,596.17
Consumption of heat, steam, and cooling (MWh)
0
Total non-fuel energy consumption (MWh) [Auto-calculated]
8,596.17
<table>
<thead>
<tr>
<th>Country/area</th>
<th>Consumption of electricity (MWh)</th>
<th>Consumption of heat, steam, and cooling (MWh)</th>
<th>Total non-fuel energy consumption (MWh) [Auto-calculated]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>85,717.67</td>
<td>0</td>
<td>85,717.67</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>1,685.45</td>
<td>0</td>
<td>1,685.45</td>
</tr>
<tr>
<td>Canada</td>
<td>6,471.16</td>
<td>0</td>
<td>6,471.16</td>
</tr>
<tr>
<td>Chile</td>
<td>24,018.77</td>
<td>0</td>
<td>24,018.77</td>
</tr>
</tbody>
</table>
Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
24,018.77

-----------------------------------------------

Country/area
China

Consumption of electricity (MWh)
3,511.2

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
3,511.2

-----------------------------------------------

Country/area
Colombia

Consumption of electricity (MWh)
26,290.56

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
26,290.56

-----------------------------------------------

Country/area
Costa Rica

Consumption of electricity (MWh)
204.71

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
204.71
<table>
<thead>
<tr>
<th>Country/area</th>
<th>Croatia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consumption of electricity (MWh)</strong></td>
<td>265.03</td>
</tr>
<tr>
<td><strong>Consumption of heat, steam, and cooling (MWh)</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>Total non-fuel energy consumption (MWh) [Auto-calculated]</strong></td>
<td>265.03</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country/area</th>
<th>Czechia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consumption of electricity (MWh)</strong></td>
<td>1,460.34</td>
</tr>
<tr>
<td><strong>Consumption of heat, steam, and cooling (MWh)</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>Total non-fuel energy consumption (MWh) [Auto-calculated]</strong></td>
<td>1,460.34</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country/area</th>
<th>Denmark</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consumption of electricity (MWh)</strong></td>
<td>4,711.36</td>
</tr>
<tr>
<td><strong>Consumption of heat, steam, and cooling (MWh)</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>Total non-fuel energy consumption (MWh) [Auto-calculated]</strong></td>
<td>4,711.36</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country/area</th>
<th>Ecuador</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consumption of electricity (MWh)</strong></td>
<td>0</td>
</tr>
</tbody>
</table>

---

Lumen Technologies CDP Climate Change Questionnaire 2022 Thursday, August 11, 2022

---

COUNTRY/AREA

CROATIA

**Consumption of electricity (MWh)**

265.03

**Consumption of heat, steam, and cooling (MWh)**

0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**

265.03

---

COUNTRY/AREA

CZECHIA

**Consumption of electricity (MWh)**

1,460.34

**Consumption of heat, steam, and cooling (MWh)**

0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**

1,460.34

---

COUNTRY/AREA

DENMARK

**Consumption of electricity (MWh)**

4,711.36

**Consumption of heat, steam, and cooling (MWh)**

0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**

4,711.36

---

COUNTRY/AREA

ECUADOR

**Consumption of electricity (MWh)**

0
7,818.87

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
7,818.87

---

Country/area
Estonia

Consumption of electricity (MWh)
203.24

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
203.24

---

Country/area
Finland

Consumption of electricity (MWh)
1,004.68

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
1,004.68

---

Country/area
France

Consumption of electricity (MWh)
24,033.96

Consumption of heat, steam, and cooling (MWh)
0
<table>
<thead>
<tr>
<th>Country/area</th>
<th>Consumption of electricity (MWh)</th>
<th>Consumption of heat, steam, and cooling (MWh)</th>
<th>Total non-fuel energy consumption (MWh) [Auto-calculated]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>65,767.99</td>
<td>0</td>
<td>65,767.99</td>
</tr>
<tr>
<td>Greece</td>
<td>4.92</td>
<td>0</td>
<td>4.92</td>
</tr>
<tr>
<td>Hong Kong SAR, China</td>
<td>5,697.92</td>
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<td>5,697.92</td>
</tr>
</tbody>
</table>
Country/area
Hungary

Consumption of electricity (MWh)

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]

Country/area
Iceland

Consumption of electricity (MWh)
97.39

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
97.39

Country/area
India

Consumption of electricity (MWh)
8,082.21

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
8,082.21

Country/area
Ireland

Consumption of electricity (MWh)
1,596.2
<table>
<thead>
<tr>
<th>Country/area</th>
<th>Consumption of electricity (MWh)</th>
<th>Consumption of heat, steam, and cooling (MWh)</th>
<th>Total non-fuel energy consumption (MWh) [Auto-calculated]</th>
</tr>
</thead>
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<td>0</td>
<td>0</td>
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<td>Italy</td>
<td>3,197.74</td>
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<td>Japan</td>
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<td>9,612.16</td>
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<tr>
<td>Country/area</td>
<td>Consumption of electricity (MWh)</td>
<td>Consumption of heat, steam, and cooling (MWh)</td>
<td>Total non-fuel energy consumption (MWh) [Auto-calculated]</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------------------------------</td>
</tr>
<tr>
<td>Kenya</td>
<td>18.26</td>
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<td>18.26</td>
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<td>Luxembourg</td>
<td>943.31</td>
<td>0</td>
<td>943.31</td>
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<tr>
<td>Malaysia</td>
<td>26.86</td>
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<td>Mexico</td>
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</tr>
<tr>
<td>Country/Area</td>
<td>Consumption of Electricity (MWh)</td>
<td>Consumption of Heat, Steam, and Cooling (MWh)</td>
<td>Total Non-fuel Energy Consumption (MWh) [Auto-calculated]</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------------------</td>
<td>-----------------------------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Monaco</td>
<td>110.98</td>
<td>0</td>
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<td>Netherlands</td>
<td>35,550.09</td>
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<tr>
<td>Norway</td>
<td>2,727.09</td>
<td>0</td>
<td>2,727.09</td>
</tr>
</tbody>
</table>
**Total non-fuel energy consumption (MWh) [Auto-calculated]**

2,727.09

<table>
<thead>
<tr>
<th>Country/area</th>
<th>Consumption of electricity (MWh)</th>
<th>Consumption of heat, steam, and cooling (MWh)</th>
<th>Total non-fuel energy consumption (MWh) [Auto-calculated]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panama</td>
<td>3,406.46</td>
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<td>3,406.46</td>
</tr>
<tr>
<td>Peru</td>
<td>18,055.65</td>
<td>0</td>
<td>18,055.65</td>
</tr>
<tr>
<td>Poland</td>
<td>2,686.13</td>
<td>0</td>
<td>2,686.13</td>
</tr>
<tr>
<td>Country/area</td>
<td>Consumption of electricity (MWh)</td>
<td>Consumption of heat, steam, and cooling (MWh)</td>
<td>Total non-fuel energy consumption (MWh) [Auto-calculated]</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Portugal</td>
<td>52.86</td>
<td>0</td>
<td>52.86</td>
</tr>
<tr>
<td>Romania</td>
<td>953.04</td>
<td>0</td>
<td>953.04</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>93.31</td>
<td>0</td>
<td>93.31</td>
</tr>
<tr>
<td>Serbia</td>
<td>472.01</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
472.01

Country/area
Singapore
Consumption of electricity (MWh)
12,482.19
Consumption of heat, steam, and cooling (MWh)
0
Total non-fuel energy consumption (MWh) [Auto-calculated]
12,482.19

Country/area
Slovakia
Consumption of electricity (MWh)
608.39
Consumption of heat, steam, and cooling (MWh)
0
Total non-fuel energy consumption (MWh) [Auto-calculated]
608.39

Country/area
Slovenia
Consumption of electricity (MWh)
495.81
Consumption of heat, steam, and cooling (MWh)
0
Total non-fuel energy consumption (MWh) [Auto-calculated]
495.81
Country/area
South Africa

Consumption of electricity (MWh)
601.71

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
601.71

Country/area
Republic of Korea

Consumption of electricity (MWh)
765.37

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
765.37

Country/area
Spain

Consumption of electricity (MWh)
5,915.38

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
5,915.38

Country/area
Sweden

Consumption of electricity (MWh)
<table>
<thead>
<tr>
<th>Country/area</th>
<th>Consumption of electricity (MWh)</th>
<th>Consumption of heat, steam, and cooling (MWh)</th>
<th>Total non-fuel energy consumption (MWh) [Auto-calculated]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland</td>
<td>3,166.35</td>
<td>0</td>
<td>3,166.35</td>
</tr>
<tr>
<td>Taiwan, China</td>
<td>845.87</td>
<td>0</td>
<td>845.87</td>
</tr>
<tr>
<td>Thailand</td>
<td>352.13</td>
<td>0</td>
<td>352.13</td>
</tr>
</tbody>
</table>
Total non-fuel energy consumption (MWh) [Auto-calculated]

352.13

Country/area
Turkey

Consumption of electricity (MWh)
125.45

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
125.45

Country/area
United Arab Emirates

Consumption of electricity (MWh)
305.38

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
305.38

Country/area
United Kingdom of Great Britain and Northern Ireland

Consumption of electricity (MWh)
136,058.96

Consumption of heat, steam, and cooling (MWh)
62.35

Total non-fuel energy consumption (MWh) [Auto-calculated]
136,121.31
Country/area
United States of America

Consumption of electricity (MWh)  
3,757,020.99

Consumption of heat, steam, and cooling (MWh)  
31,435.01

Total non-fuel energy consumption (MWh) [Auto-calculated]  
3,788,456

---

Country/area
Venezuela (Bolivarian Republic of)

Consumption of electricity (MWh)  
8,025.03

Consumption of heat, steam, and cooling (MWh)  
0

Total non-fuel energy consumption (MWh) [Auto-calculated]  
8,025.03

C9. Additional metrics

C9.1

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

C10. Verification

C10.1

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

<table>
<thead>
<tr>
<th>Scope</th>
<th>Verification/assurance status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope 1</td>
<td>Third-party verification or assurance process in place</td>
</tr>
<tr>
<td>Scope 2 (location-based or market-based)</td>
<td>Third-party verification or assurance process in place</td>
</tr>
<tr>
<td>Scope 3</td>
<td>Third-party verification or assurance process in place</td>
</tr>
</tbody>
</table>
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
Underway but not complete for reporting year – previous statement of process attached

Type of verification or assurance
Limited assurance

Attach the statement

- Lumen Technologies Inc - 2020 CDP Verification Statement Final - issued 20210728.pdf
- Appendix C - Lumen Technologies Inc - 2020 CDP - Reporter Inventory Location Based Calculation Summary.pdf
- Appendix C - Lumen Technologies Inc - 2020 CDP - Reporter Inventory MWh Calculation Summary.pdf

Page/section reference
See Verification Statement, pages 1 & 2.
Pages 1-13 of Report, 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 and Appendix C - Reporter Inventory MWh 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
Underway but not complete for reporting year – previous statement of process attached

Type of verification or assurance
Limited assurance

Attach the statement

- Lumen Technologies Inc - 2020 CDP Verification Statement Final - issued 20210728.pdf
- Appendix C - Lumen Technologies Inc - 2020 CDP - Reporter Inventory Location Based Calculation Summary.pdf
- Appendix C - Lumen Technologies Inc - 2020 CDP - Reporter Inventory MWh Calculation Summary.pdf

Page/ section reference
See Verification Statement, pages 1 & 2.
Pages 1-13 of Report, 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 and Appendix C - Reporter Inventory MWh Calculation Summary

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
100
Attach the statement

- Lumen Technologies Inc - 2020 CDP Verification Statement Final - issued 20210728.pdf
- Appendix C - Lumen Technologies Inc - 2020 CDP - Reporter Inventory Market Based Calculation Summary.pdf
- Appendix C - Lumen Technologies Inc - 2020 CDP - Reporter Inventory MWh Calculation Summary.pdf

Page/ section reference

See Verification Statement, pages 1 & 2.
Pages 1-13 of Report, 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 and Appendix C - Reporter Inventory MWh 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: Purchased goods and services

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Underway but not complete for current reporting year – first year it has taken place

Type of verification or assurance

Limited assurance

Attach the statement

Page/section reference
This category is being verified for this reporting period. Our verification process is under way but not yet complete. We did not have this category verified in previous years and are therefore unable to attach a previous year’s statement.

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
100

Scope 3 category
Scope 3: Capital goods

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Underway but not complete for current reporting year – first year it has taken place

Type of verification or assurance
Limited assurance

Attach the statement

Page/section reference
This category is being verified for this reporting period. Our verification process is under way but not yet complete. We did not have this category verified in previous years and are therefore unable to attach a previous year’s statement.

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
Underway but not complete for reporting year – previous statement of process attached

Type of verification or assurance
Limited assurance
Attach the statement

- Lumen Technologies Inc - 2020 CDP Verification Statement Final - issued 20210728.pdf
- Appendix C - Lumen Technologies Inc - 2020 CDP - Reporter Inventory Location Based Calculation Summary.pdf

Page/section reference
See Verification Statement, pages 1 & 2.
Pages 1-13 of Report, 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 3 category
Scope 3: Upstream transportation and distribution

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Underway but not complete for current reporting year – first year it has taken place

Type of verification or assurance
Limited assurance

Attach the statement

Page/section reference
This category is being verified for this reporting period. Our verification process is underway but not yet complete. We did not have this category verified in previous years and are therefore unable to attach a previous year's statement.

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
100
Scope 3 category
    Scope 3: Waste generated in operations

Verification or assurance cycle in place
    Annual process

Status in the current reporting year
    Underway but not complete for current reporting year – first year it has taken place

Type of verification or assurance
    Limited assurance

Attach the statement

Page/section reference
    This category is being verified for this reporting period. Our verification process is underway but not yet complete. We did not have this category verified in previous years and are therefore unable to attach a previous year’s statement.

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
    Underway but not complete for reporting year – previous statement of process attached

Type of verification or assurance
    Limited assurance

Attach the statement

Page/section reference
See Verification Statement, pages 1 & 2.
Pages 1-13 of Report, 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 3 category**
Scope 3: Employee commuting

**Verification or assurance cycle in place**
Annual process

**Status in the current reporting year**
Underway but not complete for current reporting year – first year it has taken place

**Type of verification or assurance**
Limited assurance

**Attach the statement**

---

**Page/section reference**
This category is being verified for this reporting period. Our verification process is underway but not yet complete. We did not have this category verified in previous years and are therefore unable to attach a previous year's statement.

**Relevant standard**
ISO14064-3

**Proportion of reported emissions verified (%)**
100

---

**Scope 3 category**
Scope 3: Use of sold products

**Verification or assurance cycle in place**
Annual process

**Status in the current reporting year**
Underway but not complete for current reporting year – first year it has taken place

**Type of verification or assurance**
Limited assurance

Attach the statement

Page/section reference
This category is being verified for this reporting period. Our verification process is under way but not yet complete. We did not have this category verified in previous years and are therefore unable to attach a previous year’s statement.

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
100

---

Scope 3 category
Scope 3: End-of-life treatment of sold products

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Underway but not complete for current reporting year – first year it has taken place

Type of verification or assurance
Limited assurance

Attach the statement

Page/section reference
This category is being verified for this reporting period. Our verification process is under way but not yet complete. We did not have this category verified in previous years and are therefore unable to attach a previous year’s statement.

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
100

---

Scope 3 category
Scope 3: Downstream leased assets

Verification or assurance cycle in place
Annual process
Status in the current reporting year
Underway but not complete for reporting year – previous statement of process attached

Type of verification or assurance
Limited assurance

Attach the statement

- Lumen Technologies Inc - 2020 CDP Verification Statement Final - issued 20210728.pdf
- Appendix C - Lumen Technologies Inc - 2020 CDP - Reporter Inventory Location Based Calculation Summary.pdf

Page/section reference
See Verification Statement, pages 1 & 2.
Pages 1-13 of Report, 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

C10.2

(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?

<table>
<thead>
<tr>
<th>Disclosure module verification relates to</th>
<th>Data verified</th>
<th>Verification standard</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>C8. Energy</td>
<td>Energy consumption</td>
<td>ISO14064-3</td>
<td>MWhs are verified as part of the process of verifying emissions. We have not attached last year's verification documents as they do not explicitly refer to verification of MWhs, although the 2022 verification reports, when available, will identify that MWhs were verified.</td>
</tr>
</tbody>
</table>
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.

- UK ETS
- Other carbon tax, please specify
- UK Climate Change Levy

C11.1b

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

<table>
<thead>
<tr>
<th>UK ETS</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Scope 1 emissions covered by the ETS</td>
</tr>
<tr>
<td>% of Scope 2 emissions covered by the ETS</td>
</tr>
<tr>
<td>Period start date</td>
</tr>
<tr>
<td>Period end date</td>
</tr>
<tr>
<td>Allowances allocated</td>
</tr>
<tr>
<td>Allowances purchased</td>
</tr>
<tr>
<td>Verified Scope 1 emissions in metric tons CO2e</td>
</tr>
<tr>
<td>Verified Scope 2 emissions in metric tons CO2e</td>
</tr>
<tr>
<td>Details of ownership</td>
</tr>
</tbody>
</table>
Comment
Lumen has one facility, formerly included in the UK ETS. Now this site is classified as an Ultra-small Emitter (USE). As such, Lumen continues to monitor emissions, but has no allowance allocated. If the site were to exceed the 2,500 tCO2 limit placed on USEs it would require to re-join the UK ETS. Although many of the previous requirements no longer apply, the regulations still require monitoring of annual fuel use and emissions to demonstrate the site still qualifies as an ultra-small emitter.

As the site is classed as an Ultrasmall Emitter (USE) it is not a requirement for emissions to be independently verified. However, the emissions that we have assessed internally for 01/01/2021 – 31/12/2021 are 32 tCO2, all of which are Scope 1 (natural gas and diesel).

C11.1c

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

Other carbon tax, please specify

<table>
<thead>
<tr>
<th>Period start date</th>
<th>Period end date</th>
<th>% of total Scope 1 emissions covered by tax</th>
<th>Total cost of tax paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1, 2021</td>
<td>December 31, 2021</td>
<td>0.04</td>
<td>4,627</td>
</tr>
</tbody>
</table>

Comment
The Climate Change Levy is applied to electricity, natural gas and LPG in the UK. We have no LPG use in the UK. 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 and the question's specification of Scope 1 emissions.
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 2021. 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 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 CO2e. These sites are monitored using a portal that allows remote viewing of current and all historic kWhs and CO2e. 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 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/clients
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
0.15

% total procurement spend (direct and indirect)

% of supplier-related Scope 3 emissions as reported in C6.5
13.32

Rationale for the coverage of your engagement
We have engaged with 35 electricity suppliers in the USA. 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 CO2e; note that although this accounts for a small percentage of supplier-related Scope 3 emissions, it also represents engagement with companies that supply power that accounts for 46.35% of our global Scope 2 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. The engagement extents to suppliers that represent approximately 50% of US electricity supply, being a threshold that ensures the information gathered is of significance as an input into our decision making. Measures of success include being able to quantify reductions in our Scope 2 electricity (market-based) emissions of CO2e, relevant to our USA operations, that would arrive with such a switch, and being able to present this as part of a business case.

Comment
C12.1b

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

Type of engagement & Details of engagement
Education/information sharing
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
99.66

Please explain the rationale for selecting this group of customers and scope of engagement
In 2021, Lumen continued to participate in the Voluntary Agreement for Ongoing Improvement to the Energy Efficiency of Small Network Equipment. Lumen worked together with providers of residential broadband internet service and manufacturers of small network equipment to improve the efficiency of equipment such as modems and routers used by consumers to access services. Lumen chose to engage with these customers as recipients of its products, and provided them with access to energy efficiency/usage details for their modems via a hyperlink in Lumen's ESG Report 2021.

Impact of engagement, including measures of success
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, which can be considered a measure of success.

The 2021 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. The 2021 report is the most recent available, and Lumen has no reason to believe that standards have since declined. D+R International’s 2021 report stated that “the average weighted power of each category of new SNE relative to broadband speed delivered has decreased by 78% and has declined every year under the Voluntary Agreement.” Lumen’s engagement with 100% of our consumer broadband customers has resulted in energy consumption savings as noted above, while broadband speeds have continued to increase and support a growing number of consumer connected devices.
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 Sustainability Committee 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. Additionally, the Broomfield office periodically hosts employee E-waste drop-off events onsite, where employees can responsibly recycle their personal electronics. 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.

In 2021, Lumen conducted its inaugural “materiality” assessment, an analysis and validation process to guide how we prioritize the sustainability and environmental, social, and governance (ESG) issues that matter most to our stakeholders and our future. Working with an independent consultant, Lumen conducted a peer and industry benchmarking review of sustainability topics that are common to the communications and technology industry. Lumen assessed international standards and guidelines, such as the Sustainability Accounting Standards Board (SASB), the Taskforce for Climate-related Financial Reporting (TCFD) and the Global Reporting Initiative (GRI). Lumen also engaged stakeholders including employees, community partners, customers, governmental agencies and regulators, investors, suppliers, as well as Lumen’s Board of Directors and senior leadership team.
C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization’s purchasing process?

No, and we do not plan to introduce climate-related requirements within the next two years

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

<table>
<thead>
<tr>
<th>Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, we engage directly with policy makers</td>
</tr>
<tr>
<td>Yes, we engage indirectly through trade associations</td>
</tr>
</tbody>
</table>

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

No, and we do not plan to have one in the next two years

Describe the process(es) your organization has in place to ensure that your engagement activities 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 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.

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?
Focus of policy, law, or regulation that may impact the climate
Mandatory climate-related reporting

Specify the policy, law, or regulation on which your organization is engaging with policy makers
Securities and Exchange Commission (SEC) proposed rules regarding “The Enhancement and Standardization of Climate-Related Disclosures for Investors” (File Number S7-10-22) rulemaking to enhance and standardize climate-related disclosures for investors

Policy, law, or regulation geographic coverage
National

Country/region the policy, law, or regulation applies to
United States of America

Your organization’s position on the policy, law, or regulation
Support with minor exceptions

Description of engagement with policy makers
Participated in comment period for proposed rulemaking; provided comments via US Council on International Business (USCIB).

Details of exceptions (if applicable) and your organization’s proposed alternative approach to the policy, law or regulation
1. The SEC should establish a level playing field for disclosures of Scope 3 GHG emissions
2. The proposed one percent threshold for disclosures of climate-related financial statement metrics is inconsistent with current disclosure practice and the SEC’s existing guidance on materiality
3. The SEC should provide registrants with appropriate tools and clearer definitions to determine when financial impacts are “climate related.”
4. The rules should not impose additional disclosure obligations and associated liabilities on registrants that elect to use emerging analytical tools.
5. The SEC should provide registrants with more flexibility on timelines and longer phase-in periods for the new requirements.
6. The SEC should establish a separate form and timeline for submissions of climate-related disclosures and allow registrants to keep such disclosures separate from other periodic reports that must be filed with the Commission

Have you evaluated whether your organization’s engagement is aligned with the goals of the Paris Agreement?
No, we have not evaluated
C12.3b

(C12.3b) Provide details of the trade associations your organization engages with which are likely to take a position on any policy, law or regulation that may impact the climate.

---

**Trade association**

Other, please specify

US Council on International Business (USCIB), Environment Committee

**Is your organization’s position on climate change consistent with theirs?**

Consistent

**Has your organization influenced, or is your organization attempting to influence their position?**

We are not attempting to influence their position

**State the trade association’s position on climate change, explain where your organization’s position differs, and how you are attempting to influence their position (if applicable)**

The USCIB summaries its position on Climate Change and Energy as follows. Lumen's position is consistent with that of USCIB and Lumen is not attempting to influence their position.

Encourage the US to stay actively involved in the UN climate treaty, and to remain in the Paris Agreement, to defend and advance US economic interests, and to fight against proposals that would undermine US competitiveness, or block business involvement in the UNFCCC.

Seek opportunities to design international climate cooperation that works with markets and business to deploy investment and innovation and to encourage companies in all sectors to integrate climate mitigation into their activities, supply and value chains.

Work with members to dialogue with foreign governments and UN officials on the private sector’s expertise in measuring, reporting and verification—essential to assess countries’ comparative efforts on climate change policy.

Advocates for appropriate regulatory frameworks to protect investments in green technology and deploy technology through trade and commercial transactions.

Advocate that UN negotiations must not give rise to barriers to trade and investment or overlook the role financial institutions play in the UN's efforts to mobilize funds for climate action. In fact, trade encourages climate-friendly investments and broad dissemination of cleaner technologies and energy sources.

Highlight and communicate U.S. business expertise and views on more accessible, affordable and cleaner energy systems in the context of environmental risks, climate change considerations, economic growth and free and open markets in international policy deliberations.

Promote global energy systems that allow U.S. companies to compete and flourish, to
develop and disseminate more sustainable and efficient energy systems and technologies and to manage and improve energy use, conservation and environmental/social impacts, in line with SDG7.

Encourage integration of international energy policy issues across other policy areas: promoting enabling frameworks to encourage investment and innovation while promoting more sustainable and environmentally friendly development and commercial activity.

Carbon pricing is an important, but not the only, market-based climate policy tool. Countries have unique economic and energy circumstances and goals, so any such pricing at the international level needs to reflect those realities.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

32,600

Describe the aim of your organization’s funding

The funding comprises Lumen’s USCIB membership fee.

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?

No, we have not evaluated

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


Page/Section reference

p10 - Forward-Looking Statement, Environmental Stewardship & Sustainability, including energy & emissions, GHG emission reduction initiatives, sustainability-linked Bond, climate-preparedness, climate change risks and business continuity program.

p24 - Item 1A Risk Factors - climate change risks, including physical & transitional.

Content elements
Governance
Strategy
Risks & opportunities

Comment
The Annual Report for fiscal year 2021 filed on Form 10-k is attached.

Publication
In voluntary sustainability report

Status
Complete

Attach the document

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
C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

<table>
<thead>
<tr>
<th>Row</th>
<th>Board-level oversight and/or executive management-level responsibility for biodiversity-related issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No, and we do not plan to have both within the next two years</td>
</tr>
</tbody>
</table>
C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

<table>
<thead>
<tr>
<th>Row</th>
<th>Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No, and we do not plan to do so within the next 2 years</td>
</tr>
</tbody>
</table>

C15.3

(C15.3) Does your organization assess the impact of its value chain on biodiversity?

<table>
<thead>
<tr>
<th>Row</th>
<th>Does your organization assess the impact of its value chain on biodiversity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No, and we do not plan to assess biodiversity-related impacts within the next two years</td>
</tr>
</tbody>
</table>

C15.4

(C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

<table>
<thead>
<tr>
<th>Row</th>
<th>Have you taken any actions in the reporting period to progress your biodiversity-related commitments?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No, and we do not plan to undertake any biodiversity-related actions</td>
</tr>
</tbody>
</table>

C15.5

(C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?

<table>
<thead>
<tr>
<th>Row</th>
<th>Does your organization use indicators to monitor biodiversity performance</th>
<th>Indicators used to monitor biodiversity performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

C15.6

(C15.6) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

<table>
<thead>
<tr>
<th>Report type</th>
<th>Content elements</th>
<th>Attach the document and indicate where in the document the relevant biodiversity information is located</th>
</tr>
</thead>
</table>
C16. 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.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

<table>
<thead>
<tr>
<th>Job title</th>
<th>Corresponding job category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Compliance and Sustainability Manager</td>
<td>Environment/Sustainability manager</td>
</tr>
</tbody>
</table>

SC. Supply chain module

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

<table>
<thead>
<tr>
<th>Please select your submission options</th>
<th>I understand that my response will be shared with all requesting stakeholders</th>
<th>Response permission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td>Public</td>
</tr>
</tbody>
</table>

Please confirm below

I have read and accept the applicable Terms