# Lumen Technologies - Climate Change 2023

## C0. Introduction

### C0.1

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

Lumen Technologies, Inc. (“Lumen” or “Company”) is an international facilities-based technology and communications (“ICT”) company focused on providing our business and mass markets customers with a broad array of integrated services and solutions necessary to fully participate in our rapidly evolving digital world. We are dedicated to furthering human progress through technology by connecting people, data, and applications – quickly, securely, and effortlessly. With approximately 400,000 route fiber miles and serving customers worldwide, 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 helps customers acquire, analyze, and act on data, including efforts to reduce their energy consumption with our products and services by enabling smart technologies, dematerialization, and virtualization. We believe understanding and supporting [SJI1] our customers’ sustainability 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 23 February 2023. 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 and indicate whether you will be providing emissions data for past reporting years.**

**Reporting year**

**Start date**
January 1 2022

**End date**
December 31 2022

**Indicate if you are providing emissions data for past reporting years**
Yes

**Select the number of past reporting years you will be providing Scope 1 emissions data for**
3 years

**Select the number of past reporting years you will be providing Scope 2 emissions data for**
3 years

**Select the number of past reporting years you will be providing Scope 3 emissions data for**
3 years

### C0.3

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

Australia
Austria
Belgium
Bulgaria
Canada
Chile
China
Croatia
Czechia
Denmark
Estonia
Finland
France
Germany
Greece
Hong Kong SAR, China
Hungary
Iceland
India
Ireland
Israel
Italy
Japan
Kenya
Luxembourg
Malaysia
Mauritius
Mexico
Netherlands
New Zealand
Norway
Peru
Philippines
Poland
Portugal
Republic of Korea
Romania
Russian Federation
Serbia
Singapore
Slovakia
Slovenia
South Africa
Spain
Sweden
Switzerland
Taiwan, China
Thailand
Turkey
United Kingdom of Great Britain and Northern Ireland
United States of America

## 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.)?**

| Indicate whether you are able to provide a unique identifier for your organization | Provide your unique identifier |
|---|---|
| Yes, an ISIN code | US5502411037 |

## C1. Governance

### C1.1

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

Yes

### C1.1a

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

| Position of individual or committee | Responsibilities for climate-related issues |
|---|---|
| Director on board | As part of its risk and governance oversight responsibilities, Lumen's Board of Directors ("Board") monitors environmental management programs, including climate change related issues. The Board believes that environmental social and governance ("ESG") and risk management expertise are among the essential skills necessary for effective oversight. In 2022, the Board included 3 members with ESG expertise and 3 members with risk management expertise. In 2022, 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 ("NCG") to monitor issues and report back to the full Board.<br><br>The Board and the NCG, 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, and the SBTs remain active through 2025.<br><br>In 2022 the Board engaged with investors and recognized they were interested in learning more about Lumen's climate action plan and the impact our 2022 divestitures will have on our plan to set new science-based targets. |
| Board-level committee | The Nominating and Corporate Governance Committee ("NCG") which has primary responsibility for ESG oversight, is comprised entirely of independent directors and in 2022 had 4 members and met 4 times. Among other things, the NCG 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 NCG 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 Risk and Security Committee ("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 2022 the RSC had 4 Board members and held 4 meetings. |

### C1.1b

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

| Frequency with which climate-related issues are a scheduled agenda item | Governance mechanisms into which climate-related issues are integrated | Scope of board-level oversight | Please explain |
|---|---|---|---|
| Scheduled – some meetings | Overseeing and guiding employee incentives<br>Reviewing and guiding strategy<br>Overseeing and guiding the development of a transition plan<br>Reviewing and guiding the risk management process<br>Other, please specify (Reviewing & guiding major plans of action) | <Not Applicable> | As part of its risk and governance oversight responsibilities, Lumen's Board of Directors ("Board") monitors environmental management programs, including climate change related issues. The Board believes that environmental social and governance ("ESG") and risk management expertise are among the essential skills necessary for effective oversight. In 2022, the Board included 3 members with ESG expertise and 3 members with risk management expertise. In 2022, 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 ("NCG") to monitor issues and report back to the full Board.<br>The Board and the NCG, 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, and the SBTs remain active through 2025.<br>In 2022 the Board engaged with investors and recognized that one topic they were interested in learning more about Lumen's climate action plan and the impact our 2022 divestitures will have on our plan to set new science based targets.<br>The Board's Human Resources Compensation Committee ("HRCC") is responsible for overseeing compensation for Senior Officers (i.e. incentives), overseeing the administration of the Company equity incentive and executive compensation programmes, and overseeing the Company's human resources strategies, including its talent development strategies. |
| Scheduled – some meetings | Reviewing and guiding strategy<br>Other, please specify (Reviewing & guiding major plans of action) | <Not Applicable> | The Nominating and Corporate Governance Committee ("NCG") which has primary responsibility for ESG oversight, is comprised entirely of independent directors and in 2022 had 4 members and met 4 times. Among other things, the NCG 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 NCG 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. |
| Scheduled – some meetings | Reviewing and guiding strategy<br>Reviewing and guiding the risk management process | <Not Applicable> | The Risk and Security Committee ("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 2022 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?**

| | Board member(s) have competence on climate-related issues | Criteria used to assess competence of board member(s) on climate-related issues | Primary reason for no board-level competence on climate-related issues | Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future |
|---|---|---|---|---|
| Row 1 | Yes | 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. | <Not Applicable> | <Not Applicable> |

## C1.2

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

**Position or committee**
Chief Financial Officer (CFO)

**Climate-related responsibilities of this position**
Developing a climate transition plan
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

**Coverage of responsibilities**
<Not Applicable>

**Reporting line**
CEO reporting line

**Frequency of reporting to the board on climate-related issues via this reporting line**
Annually

**Please explain**
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, where assessment and monitoring of climate-related issues occurs.

Lumen's EH&S team and Risk Management team are responsible for monitoring their respective aspects of climate-related issues. These two teams report directly to Lumen's SVP Treasurer who reports to the CFO. Therefore, climate-related issues are typically identified by EH&S or Risk Management, then escalated to the SVP Treasurer, then onto the CFO. This structure allows the CFO to monitor and track various climate-related issues.

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**Position or committee**
Other C-Suite Officer, please specify (Senior Vice-President - Treasurer)

**Climate-related responsibilities of this position**
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

**Coverage of responsibilities**
<Not Applicable>

**Reporting line**
Finance - CFO reporting line

**Frequency of reporting to the board on climate-related issues via this reporting line**
Annually

**Please explain**
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. The Senior Vice President - Treasurer also serves as an executive sponsor of the Sustainability Management Committee and reports to the CFO.

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**Position or committee**
Sustainability committee

**Climate-related responsibilities of this position**
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

**Coverage of responsibilities**
<Not Applicable>

**Reporting line**
Finance - CFO reporting line

**Frequency of reporting to the board on climate-related issues via this reporting line**
Quarterly

**Please explain**
Lumen has an ESG Committee, known as the Sustainability Management Committee (“SMC”). The SMC 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 SMC 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 program’s efficacy and success.

This structure utilizes the organizational hierarchy and multiple reporting channels to link top level oversight to those with high level responsibility for operations that influence our management of climate-change related issues. SMC 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. SMC members are 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 SMC 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.

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## C1.3

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

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

## C1.3a

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

**Entitled to incentive**
Chief Financial Officer (CFO)

**Type of incentive**
Monetary reward

**Incentive(s)**
Shares

**Performance indicator(s)**
Progress towards a climate-related target

**Incentive plan(s) this incentive is linked to**
Both Short-Term and Long-Term Incentive Plan

**Further details of incentive(s)**
The CFO is incentivized to meet our climate-related targets.

**Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan**
Our compensation decisions now include the addition of ESG goals for our executive officers' individual performance scorecards. In addition, Customer Experience has a 10% weighting for executive compensation, and Lumen views its climate and sustainability performance as an important component of maintaining and improving its relationships with our customers.

The CFO 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 CFO's annual incentive bonus is partially based on achieving these objectives/targets.

# C2. Risks and opportunities

## C2.1

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

## C2.1a

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

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

## C2.1b

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

Lumen evaluates financial and strategic risks in both subjective and objective terms including assessing the value creation, vulnerability, and timing of any financial commitments, strategic decisions, and operational programs essential to short term success, medium range opportunity development, and long-term sustainability and value creation. As a U.S. publicly traded Company, we disclose in our quarterly and annual financial reports filed with the SEC, which provides financial details and related management discussion and analysis about Lumen's business, strategy, and risks. As part of our financial controls, enterprise risk management, and business continuity planning programs, Lumen is constantly assessing, defining, and addressing the substantive financial and strategic impacts the dynamic global economy, environment, and regulatory regimes may present. Balancing these factors, many of which are subjective and cannot be specifically quantified, the Company appropriately allocates resources to mitigate the risk of negative impacts in various ways including maintaining 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 23 February 2023, under Item 1A ‘Risk Factors’.

The ERM program has a clear process to identify, assess, and respond to risks and opportunities, such as climate-related risks, which could have a substantive financial or strategic impact. In addition to review of quarterly management reports, the ERM process involves an annual enterprise risks assessment based around 40 key financial, compliance, operational and strategic risks facing the company. This assessment process is facilitated by Internal Audit in collaboration with the Ethics & Compliance team within the legal department and involves interviews with executives across business functions, and consideration of other factors such as the external environmental and the history of previous issues which could indicate a relatively higher or lower risk in a particular area. The results of the assessment are presented by Internal Audit to the senior leaders, the Audit Committee and the Risk and Security Committee in order to define the most critical risks (typically six to eight) which the Board and management believe warrant more detailed and frequent monitoring throughout the year. Internal Audit also uses the results of this Enterprise Risk Assessment to determine key focus areas within the Internal Audit plan for the upcoming year and performs a quarterly update to the risk assessment to identify any changes potentially requiring a Board or Internal Audit response. For each of the six to eight critical ERM risks we identify executive risk owners who are responsible for defining key risk indicators, metrics and targets to indicate how effectively the respective risk is being managed. On an annual basis each risk owner presents a deep-dive assessment to the Risk & Security Committee explaining their quantitative measures, goals and plans for the upcoming year. On a quarterly basis Internal Audit works with each executive risk owner to update these indicators, identify any divergence from goals and note actions taken and planned. The risk owners assign an overall color and trend to indicate their overall assessment of their management of that risk. The resulting dashboard and detail for these ERM risks is presented to the Risk & Security Committee at each quarterly meeting. Each Committee regularly reports to the full Board regarding its risk oversight functions. The results of the Annual Enterprise Risk Assessment are compared to both the Risk Factors disclosed in the company’s annual report (10-K) and against the charters and agendas for the Board Committees to ensure alignment between the Company’s assessment, external disclosures and coverage by the Board of the respective key risks. We believe this combination of annual and quarterly review by the Board Committees, along with the ability of the Board to call upon risk owners at any time as required, allows the Board to effectively exercise its oversight function over key risks to Lumen.

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. We evaluate various climate change risks to our ongoing operations when we consider expanding our network or facilities. Our comprehensive business continuity program focuses on prevention, collaboration, communication, response and recovery to assist us in quickly resolving disruptive events. Weather events such as severe flooding and hurricanes can impact our ability to deliver services, so business resiliency and adaptability is key to the long-term viability of our business.

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 2022 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 2022 Lumen identified $1.463 million of claims most of which were associated with hurricanes. 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 2022, Lumen spent approximately $6,700,000 on roof inspections, repairs, and replacements. These expenditures include the following:-
• Roof inspections by professional roofers at a cost of approximately $1,100,000 for 3,600 roofs
• Roof repairs at $2,300,000 million involving 2,500 roofs.
• Additionally, Lumen spent $3.3 million on 30 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 Management Committee

The Sustainability Management Committee (“SMC”) 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. SMC 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. SMC members are 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.

SMC members have various roles relating to risk. They are responsible for monitoring regulatory changes, and therefore identifying transitional risks associated with climate change and carbon tax legislation in the short and medium timeframes. SMC members also oversee 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. SMC members work with such teams to monitor these initiatives and report on progress towards targets, such as SBTs.

An example of the SMC’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?**

| | Relevance & inclusion | Please explain |
|---|---|---|
| Current regulation | Relevant, always included | Current regulations are relevant and always included in the Company's processes for identifying and assessing climate-related risks because (1) Information Communication Technology (ICT) is a highly regulated 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 23 February 2023, under Item 1A 'Risk Factors'. An example of a regulation related to climate change risk that the Company has identified, assessed, and is currently managing is the Renewable Energy Standard (RES) in Colorado US. This law/regulation requires investor-owned utilities to generate 30% of their electricity from renewable sources by 2020. This regulation and its revisions have the potential to increase energy costs for the Company's operations in Colorado. Through careful monitoring of the state regulatory environment, we were able to identify the potential risks and opportunities from this regulation and take action to mitigate the risk. For example, facility energy efficiency projects (equipment optimization, upgrading building control systems, lighting replacement initiatives) were implemented to mitigate the risk of increased energy costs that may arise from this regulation. |
| 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. Increasing focus on ESG matters has resulted in, and is expected to continue to result in, the adoption of legal and regulatory requirements<br>designed to mitigate the effects of climate change on the environment, as well as legal and regulatory requirements requiring additional related disclosures. If new laws or regulations are more stringent than current legal or regulatory requirements, we may experience increased compliance burdens and costs to meet such obligations. 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 .<br>See also the Company's Annual Report on form 10-K filed with the US Securities and Exchange Commission on 23 February 2023, under Item 1A 'Risk Factors'. |
| 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.<br>See also the Company's Annual Report on form 10-K filed with the US Securities and Exchange Commission on 23 February 2023, under Item 1A 'Risk Factors'. |
| Market | Relevant, always included | Shifts in supply and demand are relevant and always included in the Company's processes for identifying and assessing climate related risks due to the potential impact of decreased revenues that could arise from not capitalizing on new market opportunities. Lumen always considers ways to help customers reduce energy consumption with our products and services by enabling smart technologies, dematerialization, and virtualization. By being aligned with our customers' climate change mitigation goals and communicating our efforts we create strategic advantage. A failure to do so would expose us to risk.<br>One example is Lumen's continued participation in 2022 in the Voluntary Agreement for Ongoing Improvement to Energy Efficiency of Small Network Equipment agreed upon among providers of residential broadband internet service and<br>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. The draft 2022 report issued by independent auditor D+R International showed that nearly 98.5 percent of new modems, routers and other internet equipment purchased and sold in 2022 for U.S. consumer broadband use met the energy efficiency standards.<br>See also the Company's Annual Report on form 10-K filed with the US Securities and Exchange Commission on 23 February 2023, under Item 1A 'Risk Factors'. |
| Reputation | Relevant, always included | Reputation is relevant and always included in Lumen's processes for identifying and assessing climate related risks due to the potential negative impact of lost revenue that may arise from customers dissatisfaction with Lumen's 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.<br>See also the Company's Annual Report on form 10-K filed with the US Securities and Exchange Commission on 23 February 2023, under Item 1A 'Risk Factors'. |
| Acute physical | Relevant, always included | 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.<br><br>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.<br><br>See also the Company's Annual Report on form 10-K filed with the US Securities and Exchange Commission on 23 February 2023, under Item 1A 'Risk Factors'. |
| Chronic physical | Relevant, always included | 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.<br>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.<br>See also the Company's Annual Report on form 10-K filed with the US Securities and Exchange Commission on 23 February 2023, under Item 1A 'Risk Factors'. |

## C2.3

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

Yes

## C2.3a

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

**Identifier**

Risk 1

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

Downstream

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

| | |
|---|---|
| Emerging regulation | Carbon pricing mechanisms |

**Primary potential financial impact**
Increased indirect (operating) costs

**Climate risk type mapped to traditional financial services industry risk classification**
<Not Applicable>

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

**Time horizon**
Short-term

**Likelihood**
About as likely as not

**Magnitude of impact**
Medium

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

**Potential financial impact figure (currency)**
6940041

**Potential financial impact figure – minimum (currency)**
<Not Applicable>

**Potential financial impact figure – maximum (currency)**
<Not Applicable>

**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 2022 Lumen emitted 152,999.14 tonnes CO2e as a result of fuel consumption in the USA. In 2022, Lumen would have been liable for a tax of approximately $6,940,041 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). 152,999.14 tonnes CO2e x $45.36/tonne = $6,940,040.99

**Cost of response to risk**
15147535

**Description of response and explanation of cost calculation**
Lumen monitors changes in regulation/policy and develops 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 2022.

Regarding the cost of management, we have initiated and continue to expand already implement energy / carbon reduction initiatives which would contribute towards the management of this risks. However, we have calculated the cost of management based upon the identified cost of US carbon reduction initiatives in 2022 (which will generate significant cost savings for many years) being $15,097,535 and an additional $50,000 to cover additional tax planning and management. $15,097,535 + $50,000 = $15,147,535. Note that we have focused on the US with respect to this risk because we are already subject to carbon taxes in EMEA and therefore have not factored this in as an additional (i.e. future potential) risk. Our exposure in LATAM and APAC is relatively limited given the far smaller consumption compared to the US.

**Comment**

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**Identifier**
Risk 2

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

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

| | |
|---|---|
| Acute physical | Other, please specify (Increased severity of extreme weather events, such as hurricanes and floods, and increased frequency of wildfires) |

**Primary potential financial impact**
Increased capital expenditures

**Climate risk type mapped to traditional financial services industry risk classification**
<Not Applicable>

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

**Time horizon**
Medium-term

**Likelihood**
More likely than not

**Magnitude of impact**
Medium

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

**Potential financial impact figure (currency)**
3931000

**Potential financial impact figure – minimum (currency)**
<Not Applicable>

**Potential financial impact figure – maximum (currency)**
<Not Applicable>

**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 $3,931,000 is the average combined losses over the past 3 years. 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. In 2022 losses arose from hurricanes ($1,408,000), other storms ($54,000) and wildfires ($1000) totaling approximately $1,463,000.

($2,430,000 +$ 7,900,000+$1,463,000)/3 = $3,931,000

**Cost of response to risk**
6700000

**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 2022, Lumen spent approximately $6,700,000 on roof inspections, repairs, and replacements. These expenditures include the following:-
• Roof inspections by professional roofers at a cost of approximately $1,100,000 for 3,600 roofs
• Roof repairs at $2,300,000 million involving 2,500 roofs.
• Additionally, Lumen spent $3,300,000 million on 30 roof replacements.

**Comment**

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**Identifier**
Risk 3

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

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

| | |
|---|---|
| Reputation | Increased stakeholder concern or negative stakeholder feedback |

**Primary potential financial impact**
Decreased revenues due to reduced demand for products and services

**Climate risk type mapped to traditional financial services industry risk classification**
<Not Applicable>

**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)**
3094864

**Potential financial impact figure – minimum (currency)**
<Not Applicable>

**Potential financial impact figure – maximum (currency)**
<Not Applicable>

**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 (2022) of those customers who request that Lumen participate in the CDP Supply Chain questionnaire.
Initially 50 customers requested our CDP disclosure. Those with revenue ranked in positions 25 and 26 in 2022 procured services worth $3,292,616 and $2,897,113 a total of $ 6,189,729. $ 6,189,729 / 2 = $ 3,094,864

**Cost of response to risk**
200000

**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 2022 in our answer to question 4.3b. For example, switch groom and decommissioning projects in the USA are estimated to have saved 4,750,000 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

**Climate risk type mapped to traditional financial services industry risk classification**
<Not Applicable>

**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)**
9338308

**Potential financial impact figure – minimum (currency)**
<Not Applicable>

**Potential financial impact figure – maximum (currency)**
<Not Applicable>

**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 3 investors (taken from SEC Filings in February and April 2023), and the stock price on 26th June 2023.
Average number of stocks held of top 3 investors = 93,852,337.67 stocks. 93,852,337.67 x $1.99 = $186,766,152

$186,766,152 x 0.05 = $9,338,308

**Cost of response to risk**
200000

**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

**(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. Both present an opportunity for Lumen to expand its business. 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)**
17478000

**Potential financial impact figure – minimum (currency)**
<Not Applicable>

**Potential financial impact figure – maximum (currency)**
<Not Applicable>

**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 $17,478,000 figure identified above is a conservative estimate, estimated purely for the purposes of this questionnaire, and being approximately 0.1% of our 2022 revenue ($17,478,000,000), as being attributable wholly to improved reputation of utilizing lower emission products and services thereby affecting environmental climate change. $17,478,000,000 x 0.001% = $17,478,000

**Cost to realize opportunity**
30000

**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 reduced the demand for energy for ancillary servers such as cooling, thereby reducing an organization's carbon footprint.

Regarding the mitigation of our climate impacts, Lumen manages this on an ongoing basis, procuring renewable electricity in many European countries, and implementing energy/carbon reduction projects throughout the business. Regarding results, in 2022 100% of electricity was renewable at Lumen-controlled facilities in the UK, France, Germany, Netherlands, Belgium, Spain, Italy, Sweden and Norway, with most of this from zero CO2e sources and the remainder from low CO2e biogenic sources.

Regarding cost, the provision of communications solutions is our core service, therefore the cost reported here 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. We recognize there are also additional costs associated with marketing and communicating performance in order to fully realize opportunities associated with a sustainability-linked consumer.

**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**
Short-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)**
17478000

**Potential financial impact figure – minimum (currency)**
<Not Applicable>

**Potential financial impact figure – maximum (currency)**
<Not Applicable>

**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 $17,478,000 figure identified above is approximately 0.1% of the 2022 revenue of $17,478,000,000.
$17,478,000,000 x 0.001% = $17,478,000

**Cost to realize opportunity**
200000

**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. The timescale of delivery of this service is instantaneous. 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)**
3094864

**Potential financial impact figure – minimum (currency)**
<Not Applicable>

**Potential financial impact figure – maximum (currency)**
<Not Applicable>

**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 $3,094,864 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.
Those with revenue ranked in positions 25 and 26 in 2022 procured services worth $3,292,616 and $2,897,113 a total of $ 6,189,729. $ 6,189,729 / 2 = $ 3,094,864

**Cost to realize opportunity**
200000

**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 2022 in our answer to question 4.3b. For example, Building Energy Management System projects implemented in the USA in 2022 are estimated to save 3,467 MWhs per year. Such energy and carbon saving initiatives occur on an ongoing basis. As a result Lumen is able to regularly communicate these success stories and realize the opportunity, using publications such as the Annual Report, Proxy Statement, and CSR Reports.

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**
Short-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)**
9338308

**Potential financial impact figure – minimum (currency)**
<Not Applicable>

**Potential financial impact figure – maximum (currency)**
<Not Applicable>

**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 3 investors increase their investment by 5%. We have used the average stock holding of Lumen's top 3 investors (taken from SEC Filings in February and April 2023), and the stock price on 26th June 2023.
Average number of stocks held of top 3 investors = 93,852,337.67 stocks. 93,852,337.67 x $1.99 = $186,766,152
$186,766,152 x 0.05 = $9,338,308

**Cost to realize opportunity**
200000

**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. For example, Building Energy Management System projects implemented in the USA in 2022 are estimated to save 3,467 MWhs per year. Such energy and carbon saving initiatives occur on an ongoing basis. As a result Lumen is able to regularly communicate these success stories and realize the opportunity, using publications such as the Annual Report, Proxy Statement, and CSR Reports.

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

**Comment**

## C3. Business Strategy

## C3.1

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

**Row 1**

**Climate transition plan**

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

**Publicly available climate transition plan**

<Not Applicable>

**Mechanism by which feedback is collected from shareholders on your climate transition plan**

<Not Applicable>

**Description of feedback mechanism**

<Not Applicable>

**Frequency of feedback collection**

<Not Applicable>

**Attach any relevant documents which detail your climate transition plan (optional)**

<Not Applicable>

**Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world and any plans to develop one in the future**

Lumen has performed 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. We have the first draft of a transition plan and we intend to have it completed in time for next year's CDP reporting cycle.

**Explain why climate-related risks and opportunities have not influenced your strategy**

<Not Applicable>

## 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 | Primary reason why your organization does not use climate-related scenario analysis to inform its strategy | Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future |
|---|---|---|---|
| Row 1 | Yes, qualitative, but we plan to add quantitative in the next two years | <Not Applicable> | <Not Applicable> |

## C3.2a

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

| Climate-related scenario | Scenario analysis coverage | Temperature alignment of scenario | Parameters, assumptions, analytical choices |
|---|---|---|---|
| Physical climate scenarios: RCP 8.5 | Facility | <Not Applicable> | 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 on 7 critical assets (sites) over two future time horizons: a medium-term horizon (2035) and a long-term horizon (2060). |
| Transition scenarios: IEA STEPS (previously IEA NPS) | Company-wide | <Not Applicable> | The IEA STEPS scenario takes a granular, sector-by-sector look at existing policies and measures as well as those that are under development. The STEPS does not assume that governments will reach all announced goals, and explores where the energy system might go without a major additional steer from policy makers. For example, the STEPS includes only existing and announced carbon pricing initiatives. |
| Transition scenarios: IEA SDS | Company-wide | <Not Applicable> | As a "well below 2 °C" pathway, the SDS represents a gateway to the outcomes targeted by the Paris Agreement. The SDS is based on a surge in clean energy policies and investment that puts the energy system on track for key Sustainable Development Goals (SDGs). In this scenario, all current net zero pledges are achieved in full and there are extensive efforts to realize near-term emissions reductions. Advanced economies reach net zero emissions by 2050, China around 2060, and all other countries by 2070 at the latest. Under the SDS scenario, the CO2 price will reach USD 120 per ton of CO2 in 2030 in all regions with net zero pledges. |

## 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**

**Focal questions**

What are the potential impacts of physical and transition risks and opportunities on Lumen's business?
What are the resulting implications for Lumen's strategy, financial planning, and risk management?

**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 has completed 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.**

| | Have climate-related risks and opportunities influenced your strategy in this area? | Description of influence |
|---|---|---|
| Products and services | Yes | Lumen's purpose to "further human progress through technology" drives our strategy of operational excellence is focused on customers as well as investors and employees. Our customer focused objectives can only be fully realized if we provide resilient, reliable service. Climate change risk has influenced our customer service provision at various levels, and in the short term. For example, our Business Continuity Planning Team recognize the risk of service interruption from extreme weather events associated with 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.<br><br>Through our Business Continuity Planning function, Lumen is one of four members participating in the President's National Security Telecommunications Committee.<br><br>As described in our answer to question 3.2a above, Lumen conducted a physical scenario analysis using the IPCC Business-as-Usual (RCP 8.5) scenario. This study evaluated the acute and chronic physical climate impacts at 7 critical assets in the USA and Panama in both the medium term (2035) and long term (2060). Recommendations were made to both the Board and the Business Continuity Planning Team and included leveraging the climate scenario analysis to determine the resilience of the business strategy. |
| Supply chain and/or value chain | Yes | 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.<br><br>In other markets we have anticipated the potential introduction of carbon taxes and legislation. For example, we anticipated a potential increase in energy costs in Colorado due to the 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.<br>Our sustainability initiatives are strengthened by our partnerships with other organizations. For example, Lumen has been a member of the Global Enabling Sustainability Initiative (GeSI) since 2020 and utilizes their resources and best practices to further our sustainability programmes. GeSI is a leading source of impartial information, resources, and best practices for achieving social and environmental sustainability through digital resources. |
| Investment in R&D | Yes | Climate related risks and opportunities have prompted a strategic approach to our investment in R&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.<br><br>One short term example is Lumen's strategic participation in 2022 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. |
| Operations | Yes | A major short and medium-term response to climate-related risks and opportunities has been a senior management decision to support a wide range of energy efficiency and emissions reduction programmes that alleviate the transitional risks associated with carbon taxes and regulations, reduce our impact, and realize the opportunities associated with a senior management level of performance as expected by our customers. Examples include our adoption of a global science-based target (SBT) to reduce emissions, certification to the ISO 50001 Energy Management Systems standard at some facilities, and procurement of renewables in EMEA, investment in solar panel projects in Brazil, and in the USA and EMEA significant investment in energy efficiency in buildings and processes. |

## C3.4

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

| | Financial planning elements that have been influenced | Description of influence |
|---|---|---|
| Row 1 | Direct costs | 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, approximately $15,100,000 was invested at US facilities in 2022.<br><br>In 2022, we pursued utility rebates and incentives for our utility cost reduction and energy efficiency programs. In 2022, we received approximately $975K 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.<br><br>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.<br><br>As described in our answer to question 3.2a above, Lumen has conducted a physical scenario analysis using the Intergovernmental Panel on Climate Change Business-as-Usual (RCP 8.5) scenario. This study evaluated the acute and chronic physical climate impacts at 7 critical assets in the USA and Panama in both the medium term (2035) and long term (2060). Recommendations were made to both the Board and the Business Continuity Planning Team and included leveraging the climate scenario analysis to determine the resilience of the financial planning process. |

## C3.5

**(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?**

| | Identification of spending/revenue that is aligned with your organization's climate transition | Indicate the level at which you identify the alignment of your spending/revenue with a sustainable finance taxonomy |
|---|---|---|
| Row 1 | Yes, we identify alignment with a sustainable finance taxonomy | At the company level only |

## C3.5a

**(C3.5a) Quantify the percentage share of your spending/revenue that is aligned with your organization's climate transition.**

**Financial Metric**
OPEX

**Type of alignment being reported for this financial metric**
Alignment with a sustainable finance taxonomy

**Taxonomy under which information is being reported**
Other, please specify (Our consolidated financial statements are prepared in accordance with accounting and taxonomy principles that are generally accepted in the United States. )

**Objective under which alignment is being reported**
Climate change mitigation

**Amount of selected financial metric that is aligned in the reporting year (unit currency as selected in C0.4)**
16185863

**Percentage share of selected financial metric aligned in the reporting year (%)**
0.09

**Percentage share of selected financial metric planned to align in 2025 (%)**
0.09

**Percentage share of selected financial metric planned to align in 2030 (%)**
0.09

**Describe the methodology used to identify spending/revenue that is aligned**
Lumen technologies has an established and dedicated budget for all environmental sustainability initiatives. This includes budget for our ongoing energy efficiency and climate change mitigation efforts. Specifically, we spent $16,185,863 in 2022 on all of our environmental sustainability efforts and energy efficiency projects. Our total operating expenditures in the same period was $17,383,000,000. Thus, taking $16,185,863 / $17,383,000,000 = 0.09% share of our total operating expenses is aligned with sustainable taxonomy in the reporting year

## C3.5c

**(C3.5c) Provide any additional contextual and/or verification/assurance information relevant to your organization's taxonomy alignment.**

# C4. Targets and performance

## C4.1

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

## C4.1a

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

**Target reference number**
Abs 1

**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

**Year target was set**
2019

**Target coverage**
Company-wide

**Scope(s)**
Scope 1
Scope 2

**Scope 2 accounting method**
Market-based

**Scope 3 category(ies)**
<Not Applicable>

**Base year**
2018

**Base year Scope 1 emissions covered by target (metric tons CO2e)**
223628.6

**Base year Scope 2 emissions covered by target (metric tons CO2e)**
1674423.05

**Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (upstream) emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (downstream) emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year total Scope 3 emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Total base year emissions covered by target in all selected Scopes (metric tons CO2e)**
1898051.64

**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, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)**
<Not Applicable>

**Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)**
<Not Applicable>

**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]**
1556402.3448

**Scope 1 emissions in reporting year covered by target (metric tons CO2e)**
173905.55

**Scope 2 emissions in reporting year covered by target (metric tons CO2e)**
1250240.11

**Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Other (upstream) emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Other (downstream) emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)**
1424145.66

**Does this target cover any land-related emissions?**
No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

**% of target achieved relative to base year [auto-calculated]**
138.711241807942

**Target status in reporting year**
Underway

**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.

**Plan for achieving target, and progress made to the end of the reporting year**
The percentage of target achieved identified above is 138%. We hope to maintain our performance through to our 2025 target year, and have therefore entered 'underway' as the status.

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.

**List the emissions reduction initiatives which contributed most to achieving this target**
<Not Applicable>

**Target reference number**
Abs 2

**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

**Year target was set**
2019

**Target coverage**
Company-wide

**Scope(s)**
Scope 3

**Scope 2 accounting method**
<Not Applicable>

**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

**Base year**
2018

**Base year Scope 1 emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 2 emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)**
1123079.97

**Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)**
137144.73

**Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)**
335983.71

**Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)**
4750.62

**Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)**
11847.64

**Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)**
21774.92

**Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)**
4576.55

**Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (upstream) emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (downstream) emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year total Scope 3 emissions covered by target (metric tons CO2e)**

1639158.15

**Total base year emissions covered by target in all selected Scopes (metric tons CO2e)**
1639158.15

**Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1**
<Not Applicable>

**Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2**
<Not Applicable>

**Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)**
100

**Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)**
100

**Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)**
100

**Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)**
100

**Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)**
100

**Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)**
100

**Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)**
100

**Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)**
<Not Applicable>

**Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)**
86.31

**Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes**
86.31

**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]**

1475242.335

**Scope 1 emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 2 emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)**
449743.41

**Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)**
153566.15

**Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)**
368557.45

**Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)**
9759.74

**Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)**
10558.19

**Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)**
6331.22

**Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)**
736.08

**Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Other (upstream) emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Other (downstream) emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)**
999252.23

**Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)**
999252.23

**Does this target cover any land-related emissions?**
No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

**% of target achieved relative to base year [auto-calculated]**
390.386931242724

**Target status in reporting year**
Underway

**Please explain target coverage and identify any exclusions**
This target covers all upstream Scope 3 categories.

**Plan for achieving target, and progress made to the end of the reporting year**
The percentage of target achieved identified above is 390%. We hope to maintain our performance towards this goal throughout the 2025 target year. Although the target shows 390% 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 have also moved toward a hybrid supplier specific methodology and 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**
<Not Applicable>

## C4.2

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

No other climate-related targets

## C4.3

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

Yes

## C4.3a

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

| | Number of initiatives | Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *) |
|---|---|---|
| Under investigation | 12 | 0 |
| To be implemented* | 7 | 236 |
| Implementation commenced* | 0 | 0 |
| Implemented* | 258 | 23615 |
| Not to be implemented | 25 | 0 |

## C4.3b

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

**Initiative category & Initiative type**

| | |
|---|---|
| Energy efficiency in buildings | Lighting |

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

37.27

**Scope(s) or Scope 3 category(ies) where emissions savings occur**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

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

130683

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

110000

**Payback period**

<1 year

**Estimated lifetime of the initiative**

11-15 years

**Comment**

This comprises 1 project at a UK site to install LED lighting. We have not selected Scope 2 Market-basis for the Scope(s) where emissions savings occur because this site is supplied with Guarantee of Origin-backed renewable electricity and emits zero tCO2e under the Market-basis.

**Initiative category & Initiative type**

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

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

31.34

**Scope(s) or Scope 3 category(ies) where emissions savings occur**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

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

13699

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

230000

**Payback period**
16-20 years

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

**Comment**
This comprises one major project at a German facility. We have not selected Scope 2 Market-basis for the Scope(s) where emissions savings occur because this site is supplied with Guarantee of Origin-backed renewable electricity and emits zero tCO2e under the Market-basis.

---

**Initiative category & Initiative type**

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

**Estimated annual CO2e savings (metric tonnes CO2e)**
15.67

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

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
6600

**Investment required (unit currency – as specified in C0.4)**
185000

**Payback period**
>25 years

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

**Comment**
This comprises projects at 5 German sites. We have not selected Scope 2 Market-basis for the Scope(s) where emissions savings occur because these sites are supplied with Guarantee of Origin-backed renewable electricity and emit zero tCO2e under the Market-basis.

---

**Initiative category & Initiative type**

| | |
|---|---|
| Energy efficiency in buildings | Lighting |

**Estimated annual CO2e savings (metric tonnes CO2e)**
24.4

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

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
142953

**Investment required (unit currency – as specified in C0.4)**
199328

**Payback period**
1-3 years

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

**Comment**
This comprises one project at a Belgian site. We have not selected Scope 2 Market-basis for the Scope(s) where emissions savings occur because this site is supplied with Guarantee of Origin-backed renewable electricity and emits zero tCO2e under the Market-basis.

---

**Initiative category & Initiative type**

| | |
|---|---|
| Energy efficiency in buildings | Building Energy Management Systems (BEMS) |

**Estimated annual CO2e savings (metric tonnes CO2e)**
2696.38

**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)**
693598

**Investment required (unit currency – as specified in C0.4)**
1793294

**Payback period**
1-3 years

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

**Comment**
This comprises 53 projects at US sites to install, upgrade and commission Building Management Systems (BEMS).

---

**Initiative category & Initiative type**

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

**Estimated annual CO2e savings (metric tonnes CO2e)**
692.75

**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)**
178199

**Investment required (unit currency – as specified in C0.4)**
443532

**Payback period**
1-3 years

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

**Comment**
This comprises 5 projects in the USA to upgrade mechanical ventilation systems and replace equipment.

---

**Initiative category & Initiative type**

| | |
|---|---|
| Energy efficiency in buildings | Other, please specify (Improved airflow in technical equipment spaces) |

**Estimated annual CO2e savings (metric tonnes CO2e)**
379.11

**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)**
97520

**Investment required (unit currency – as specified in C0.4)**
36133

**Payback period**
4-10 years

**Estimated lifetime of the initiative**
3-5 years

**Comment**
This comprises improvement of airflow in technical equipment spaces which improves the efficiency of facility cooling. 7 projects in the USA.

---

**Initiative category & Initiative type**

| | |
|---|---|
| Energy efficiency in buildings | Lighting |

**Estimated annual CO2e savings (metric tonnes CO2e)**
611.88

**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)**
157395

**Investment required (unit currency – as specified in C0.4)**
582800

**Payback period**
4-10 years

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

**Comment**
This comprises LED retrofits and lighting controls at 6 sites in the USA.

---

**Initiative category & Initiative type**

| | |
|---|---|
| Energy efficiency in production processes | Process optimization |

**Estimated annual CO2e savings (metric tonnes CO2e)**
3693.15

**Scope(s) or Scope 3 category(ies) where emissions savings occur**
Scope 2 (location-based)
Scope 2 (market-based)
Scope 3 category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
1434383

**Investment required (unit currency – as specified in C0.4)**
2151575

**Payback period**
1-3 years

**Estimated lifetime of the initiative**
3-5 years

**Comment**
This comprises switch grooms and decommissioning at 6 sites in the USA.

---

**Initiative category & Initiative type**

| | |
|---|---|
| Company policy or behavioral change | Site consolidation/closure |

**Estimated annual CO2e savings (metric tonnes CO2e)**
2837.9

**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)**
730000

**Investment required (unit currency – as specified in C0.4)**
3285000

**Payback period**
4-10 years

**Estimated lifetime of the initiative**
Ongoing

**Comment**
5 non-technical / administrative sites were downsized or closed in the USA.

---

**Initiative category & Initiative type**

| | |
|---|---|
| Company policy or behavioral change | Site consolidation/closure |

**Estimated annual CO2e savings (metric tonnes CO2e)**
12595.6

**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)**
3240000

**Investment required (unit currency – as specified in C0.4)**
6480000

**Payback period**
1-3 years

**Estimated lifetime of the initiative**
Ongoing

**Comment**
This comprises 7 technical size downsizes or closures in the USA.

## C4.3c

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

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

## C4.5

**(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?**
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**
The EU Taxonomy for environmentally sustainable economic activities

**Type of product(s) or service(s)**

| | |
|---|---|
| Other | Other, please specify (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.

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

**Methodology used to calculate avoided emissions**
Other, please specify (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)**
Other, please specify (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 2022 UK Government emission factors, a hypothetical company of 20 office workers and 20 drivers, may have vehicle emissions of 142.90 t CO2e/pa. (2800 litres of gasoline at 2.1618 kg CO2e/litre and 53,500 litres diesel at 2.55784
kg CO2e/litre). By reducing mileage and fuel use by 10% through increased use of ICT, emissions would be reduced by 14.29 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**
14.29

**Explain your calculation of avoided emissions, including any assumptions**
Using 2022 UK Government emission factors, a hypothetical company of 20 office workers and 20 drivers, may have vehicle emissions of 142.90 t CO2e/pa. (2800 litres of gasoline at 2.1618 kg CO2e/litre and 53,500 litres diesel at 2.55784
kg CO2e/litre). By reducing mileage and fuel use by 10% through increased use of ICT, emissions would be reduced by 14.29 t CO2e. 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

## 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?**
Yes, a divestment

**Name of organization(s) acquired, divested from, or merged with**
Lumen sold its Latin American business to Stonespeak Infrastructure Partners on 1 August 2022.

On 3 October 2022 Lumen sold its Incumbent Local Exchange Carrier (ILEC) business in 20 US States to Brightspeed.

**Details of structural change(s), including completion dates**
Lumen sold its Latin American business to Stonespeak Infrastructure Partners on 1 August 2022 (completion date). This sale affected all operations of all Scopes in Latin American countries and thus all emissions previously reported in these countries are no longer applicable.

Lumen sold its Incumbent Local Exchange Carrier (ILEC) business in 20 US States to Brightspeed on 3 October 2022 (completion date). This affects Scope 1, Scope 2 and Scope 3 operations associated with ILEC in these 20 states and as such these emissions are no longer associated with Lumen.

## C5.1b

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

| | Change(s) in methodology, boundary, and/or reporting year definition? | Details of methodology, boundary, and/or reporting year definition change(s) |
|---|---|---|
| Row 1 | Yes, a change in methodology | We have also improved our Methodology for calculating Scope 3 category 1, Purchased Goods and Services using, where available, supplier emission data as well as spend. In the 2022 we declared a change in methodology for the 2022 reporting year, where for Scope 2 emissions outside of North America (and excluding the UK) we changed using IEA sourced emission factors rather than UK Government sourced factors for both the Location basis and, where applicable in the hierarchy, also the Market-basis. We have now re-baselined our baseline year and subsequent years with the use of these factors. |

## C5.1c

**(C5.1c) Have your organization's base year emissions and past years' emissions been recalculated as a result of any changes or errors reported in C5.1a and/or C5.1b?**

| | Base year recalculation | Scope(s) recalculated | Base year emissions recalculation policy, including significance threshold | Past years' recalculation |
|---|---|---|---|---|
| Row 1 | Yes | Scope 1<br>Scope 2, location-based<br>Scope 2, market-based<br>Scope 3 | Our policy is to re-baseline when changes result in emissions of tCO2e exceeding a threshold of 1%. We are therefore re-baselining our 2018 baseline year and subsequent years, due to the divestment of operations in Latin American countries, the divestment of ILEC operations in 20 US States, and also due to a revised technique for calculating Scope 3 category 1 Purchased Goods and Services, and also due to the substitution of UK Government emission factors with IEA-sourced factors, as described more fully in our answers to questions 5.1a and 5.1b. | Yes |

## C5.2

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

### Scope 1

**Base year start**
January 1 2018

**Base year end**
December 31 2018

**Base year emissions (metric tons CO2e)**
223628.6

**Comment**
These emissions have been re-baselined.

### Scope 2 (location-based)

**Base year start**
January 1 2018

**Base year end**
December 31 2018

**Base year emissions (metric tons CO2e)**
1717364.42

**Comment**
These emissions have been re-baselined.

### Scope 2 (market-based)

**Base year start**
January 1 2018

**Base year end**
December 31 2018

**Base year emissions (metric tons CO2e)**
1674423.05

**Comment**
These emissions have been re-baselined.

**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)**
1123079.97

**Comment**
This category has been re-baselined.

**Scope 3 category 2: Capital goods**

**Base year start**
January 1 2018

**Base year end**
December 31 2018

**Base year emissions (metric tons CO2e)**
137144.73

**Comment**
This category has been re-baselined.

**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)**
335983.71

**Comment**
This category has been re-baselined.

**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)**
4750.62

**Comment**
This category has been re-baselined.

**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)**
11847.64

**Comment**
This category has been re-baselined.

**Scope 3 category 6: Business travel**

**Base year start**
January 1 2018

**Base year end**
December 31 2018

**Base year emissions (metric tons CO2e)**
21774.92

**Comment**
This category has been re-baselined.

### Scope 3 category 7: Employee commuting

**Base year start**
January 1 2018

**Base year end**
December 31 2018

**Base year emissions (metric tons CO2e)**
4576.55

**Comment**
This category has been re-baselined.

### 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)**
235915.86

**Comment**
This category has been re-baselined.

### 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)**
640

**Comment**
This category has been re-baselined.

**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)**
0

**Comment**
This category is not applicable.

**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**

**Base year start**
January 1 2018

**Base year end**
December 31 2018

**Base year emissions (metric tons CO2e)**
0

**Comment**
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.

**Scope 3: Other (upstream)**

**Base year start**
January 1 2018

**Base year end**
December 31 2018

**Base year emissions (metric tons CO2e)**
0

**Comment**
There are no other relevant upstream scope 3 emissions.

**Scope 3: Other (downstream)**

**Base year start**
January 1 2018

**Base year end**
December 31 2018

**Base year emissions (metric tons CO2e)**
0

**Comment**
There are no other relevant downstream scope 3 emissions. Therefore

## C5.3

**(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.**
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

## C6. Emissions data

## C6.1

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

**Reporting year**

**Gross global Scope 1 emissions (metric tons CO2e)**
173905.55

**Start date**
January 1 2022

**End date**
December 31 2022

**Comment**

**Past year 1**

**Gross global Scope 1 emissions (metric tons CO2e)**
191267.26

**Start date**
January 1 2019

**End date**
December 31 2019

**Comment**
Re-baselined.

**Past year 2**

**Gross global Scope 1 emissions (metric tons CO2e)**
160686.3

**Start date**
January 1 2020

**End date**
December 31 2020

**Comment**
Re-baselined

**Past year 3**

**Gross global Scope 1 emissions (metric tons CO2e)**
160636.76

**Start date**
January 1 2021

**End date**
December 31 2021

**Comment**
Re-baselined.

## C6.2

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

**Row 1**

**Scope 2, location-based**
We are reporting a Scope 2, location-based figure

**Scope 2, market-based**
We are reporting a Scope 2, market-based figure

**Comment**

## C6.3

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

**Reporting year**

**Scope 2, location-based**
1283549.34

**Scope 2, market-based (if applicable)**
1250240.11

**Start date**
January 1 2022

**End date**
December 31 2022

**Comment**

**Past year 1**

**Scope 2, location-based**
1533485.13

**Scope 2, market-based (if applicable)**
1477234.66

**Start date**
January 1 2019

**End date**
December 31 2019

**Comment**

**Past year 2**

**Scope 2, location-based**
1398091.13

**Scope 2, market-based (if applicable)**
1351016.02

**Start date**
January 1 2020

**End date**
December 31 2020

**Comment**
Re-baselined

**Past year 3**

**Scope 2, location-based**
1360081.31

**Scope 2, market-based (if applicable)**
1321591.98

**Start date**
January 1 2021

**End date**
December 31 2021

**Comment**
Re-baselined.

## C6.4

**(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?**
No

## C6.5

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

### Purchased goods and services

**Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
449743.41

**Emissions calculation methodology**
Hybrid method

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
30

**Please explain**
To calculate Lumen's scope 3, category 1 emissions, a methodology was used based on the company's spend data. Where data was available specific supplier data was used where available from the CDP platform and matched to Lumen's commodity type purchases and revenue. This data was then collated and calculated to allocate emissions by supplier. The emissions factors for each spend category were adjusted based on primary data inputs specific to Lumen commodities and spend categories, resulting in precise calculations of emissions associated with specific suppliers.
For spend data that couldn't be matched to a specific supplier, emissions were categorized into relevant DEFRA input output (EEIO) categories, and annual spend figures were multiplied by emissions factors sourced from the Cradle to Gate factors. 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)**
153566.15

**Emissions calculation methodology**
Spend-based method

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

**Please explain**
To calculate Lumen's scope 3, category 2 emissions, a methodology was used based on the company's spend data. Where data was available specific supplier data was used where available from the CDP platform and matched to Lumen's capital good type purchases and revenue. This data was then collated and calculated to allocate emissions by supplier. The emissions factors for each spend category were adjusted based on primary data inputs specific to Lumen capital good commodities and spend categories, resulting in precise calculations of emissions associated with specific suppliers.
For spend data that couldn't be matched to a specific supplier, emissions were categorized into relevant DEFRA input output (EEIO) categories, and annual spend figures were multiplied by emissions factors sourced from the Cradle to Gate factors. 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)**
368557.45

**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)**
9759.74

**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)**
10558.19

**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)**
6331.22

**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)**
736.08

**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

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**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

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**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

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**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)**
158076.56

**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)**
476.87

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

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

**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

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**Please explain**
Lumen does not have any downstream leased assets. Where we host co-location facilities these are under Lumen control and are included in our Scope 1 & 2 categories. Therefore, downstream leased assets accounts for 0 tonnes CO2e.

### Franchises

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**Please explain**
At present Lumen does not have franchise operations. Therefore, this category represents 0 tonnes CO2e of the Scope 3 total.

### Investments

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

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

### Other (upstream)

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**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

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

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

## C6.5a

**(C6.5a) Disclose or restate your Scope 3 emissions data for previous years.**

**Past year 1**

**Start date**
January 1 2019

**End date**
December 31 2021

**Scope 3: Purchased goods and services (metric tons CO2e)**
735414.64

**Scope 3: Capital goods (metric tons CO2e)**
195346.73

**Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)**
270601.28

**Scope 3: Upstream transportation and distribution (metric tons CO2e)**
6333.5

**Scope 3: Waste generated in operations (metric tons CO2e)**
11413.4

**Scope 3: Business travel (metric tons CO2e)**
15656.3

**Scope 3: Employee commuting (metric tons CO2e)**
4250.65

**Scope 3: Upstream leased assets (metric tons CO2e)**
0

**Scope 3: Downstream transportation and distribution (metric tons CO2e)**
0

**Scope 3: Processing of sold products (metric tons CO2e)**
0

**Scope 3: Use of sold products (metric tons CO2e)**
185190.95

**Scope 3: End of life treatment of sold products (metric tons CO2e)**
538.36

**Scope 3: Downstream leased assets (metric tons CO2e)**
0

**Scope 3: Franchises (metric tons CO2e)**
0

**Scope 3: Investments (metric tons CO2e)**
0

**Scope 3: Other (upstream) (metric tons CO2e)**
0

**Scope 3: Other (downstream) (metric tons CO2e)**
0

**Comment**
These categories have been re-baselined.

**Past year 2**

**Start date**
January 1 2020

**End date**
December 31 2020

**Scope 3: Purchased goods and services (metric tons CO2e)**
495017.58

**Scope 3: Capital goods (metric tons CO2e)**
228104.54

**Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)**
259338.52

**Scope 3: Upstream transportation and distribution (metric tons CO2e)**
5291.05

**Scope 3: Waste generated in operations (metric tons CO2e)**
13185.08

**Scope 3: Business travel (metric tons CO2e)**
4872.6

**Scope 3: Employee commuting (metric tons CO2e)**
3513.01

**Scope 3: Upstream leased assets (metric tons CO2e)**
0

**Scope 3: Downstream transportation and distribution (metric tons CO2e)**
0

**Scope 3: Processing of sold products (metric tons CO2e)**
0

**Scope 3: Use of sold products (metric tons CO2e)**
182761.07

**Scope 3: End of life treatment of sold products (metric tons CO2e)**
563.39

**Scope 3: Downstream leased assets (metric tons CO2e)**
0

**Scope 3: Franchises (metric tons CO2e)**
0

**Scope 3: Investments (metric tons CO2e)**
0

**Scope 3: Other (upstream) (metric tons CO2e)**
0

**Scope 3: Other (downstream) (metric tons CO2e)**
0

**Comment**
Re-baselined

**Past year 3**

**Start date**
January 1 2021

**End date**
December 31 2021

**Scope 3: Purchased goods and services (metric tons CO2e)**
477653

**Scope 3: Capital goods (metric tons CO2e)**
166765.76

**Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)**
433665.47

**Scope 3: Upstream transportation and distribution (metric tons CO2e)**
6257.34

**Scope 3: Waste generated in operations (metric tons CO2e)**
12180.21

**Scope 3: Business travel (metric tons CO2e)**
2171.35

**Scope 3: Employee commuting (metric tons CO2e)**
2752.5

**Scope 3: Upstream leased assets (metric tons CO2e)**
0

**Scope 3: Downstream transportation and distribution (metric tons CO2e)**
0

**Scope 3: Processing of sold products (metric tons CO2e)**
0

**Scope 3: Use of sold products (metric tons CO2e)**
137458.77

**Scope 3: End of life treatment of sold products (metric tons CO2e)**
414.67

**Scope 3: Downstream leased assets (metric tons CO2e)**
0

**Scope 3: Franchises (metric tons CO2e)**
0

**Scope 3: Investments (metric tons CO2e)**
0

**Scope 3: Other (upstream) (metric tons CO2e)**
0

**Scope 3: Other (downstream) (metric tons CO2e)**
0

**Comment**
Re-baselined.

## C6.7

**(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?**
No

## 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**
0.00008148

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)**
1424145.66

**Metric denominator**
unit total revenue

**Metric denominator: Unit total**
17478000000

**Scope 2 figure used**
Market-based

**% change from previous year**
8.22

**Direction of change**
Increased

**Reason(s) for change**
Other emissions reduction activities
Change in revenue

**Please explain**
The 8.22 % increase in tonnes CO2e per unit revenue in 2022 compared to 2021 is predominantly due to a reduction in revenue.

In the period, Scope 1 & 2 emissions (market-based) emissions declined by 58,083.07 tonnes CO2e, a 3.92% reduction. In the same period revenue fell by $ 2,209,000,000, meaning our emissions intensity per unit revenue increased.

The absolute emissions reductions are due in part to Lumen's emissions reduction projects as described in our answer to question 4.3b. The energy efficiency projects accounted for a reduction of 12,540.39 tonnes CO2e (Scope 1 & Scope 2 market basis).

---

**Intensity figure**
49.11

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)**
1424145.66

**Metric denominator**
Other, please specify (Employees)

**Metric denominator: Unit total**
29000

**Scope 2 figure used**
Market-based

**% change from previous year**
3.94

**Direction of change**
Increased

**Reason(s) for change**
Other emissions reduction activities
Other, please specify (Reduction in employees)

**Please explain**
The 3.94 % increase in tonnes CO2e per full time employee in 2022 compared to 2021 is predominantly due to a reduction in employees associated with divestitures.

In the period, Scope 1 & 2 emissions (market-based) emissions declined by 58,083.07 tonnes CO2e, a 3.92% reduction. In the same period employee numbers reduced from 31,373 to 29,000, meaning our emissions intensity per employee increased.

The absolute emissions reductions are due in part to Lumen's emissions reduction projects as described in our answer to question 4.3b. The energy efficiency projects accounted for a reduction of 12,540.39 tonnes CO2e (Scope 1 & Scope 2 market basis).

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## 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/area/region.**

| Country/area/region | Scope 1 emissions (metric tons CO2e) |
|---|---|
| United States of America | 172438.42 |
| Canada | 317.2 |
| United Kingdom of Great Britain and Northern Ireland | 526.2 |
| France | 66.29 |
| Germany | 278.97 |
| Spain | 33.62 |
| Italy | 10.5 |
| Netherlands | 170.42 |
| Belgium | 24.38 |
| Sweden | 22.26 |
| Singapore | 0 |
| Japan | 0 |
| Ireland | 2.86 |
| United Arab Emirates | 0 |
| Austria | 0 |
| Poland | 2.03 |
| Bulgaria | 0 |
| Greece | 0 |
| Switzerland | 7.13 |
| Luxembourg | 0 |
| Norway | 0 |
| Denmark | 5.25 |
| Russian Federation | 0 |
| Turkey | 0 |
| Czechia | 0 |
| Estonia | 0 |
| Finland | 0 |
| Hungary | 0 |
| Iceland | 0 |
| Monaco | 0 |
| Portugal | 0 |
| Romania | 0 |
| Serbia | 0 |
| Slovenia | 0 |
| South Africa | 0 |
| Slovakia | 0 |
| India | 0 |
| Australia | 0 |
| China | 0 |
| Republic of Korea | 0 |
| Taiwan, China | 0 |
| Thailand | 0 |
| Malaysia | 0 |
| Kenya | 0 |
| Croatia | 0 |
| Hong Kong SAR, China | 0 |
| New Zealand | 0 |
| Guam | 0 |

## C7.3

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

By business division
By facility
By activity

## C7.3a

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

| Business division | Scope 1 emissions (metric ton CO2e) |
|---|---|
| North American Business division | 172755.62 |
| Global Accounts Management (EMEA, LATAM, APAC) | 1149.93 |

## C7.3b

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

| Facility | Scope 1 emissions (metric tons CO2e) | Latitude | Longitude |
|---|---|---|---|
| As many of our technical locations form part of the critical national infrastructure, due to security considerations we are 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. | 23.84 | 51.4373 | -0.88468 |

## C7.3c

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

| Activity | Scope 1 emissions (metric tons CO2e) |
|---|---|
| Heating of administrative and technical buildings (natural gas combustion for space heating). | 27755.463 |
| Travel, comprising use of company cars and company jets, and other vehicles ( tCO2e) | 125737.74 |
| Maintenance of technical buildings - testing of back-up generators | 679.94 |
| Cooling of technical and administrative buildings (fugitive refrigerant emissions) | 19732.4 |

## C7.5

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

| Country/area/region | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| United States of America | 1191464.02 | 1188928.72 |
| Canada | 747.83 | 731.369 |
| United Kingdom of Great Britain and Northern Ireland | 25062.41 | 17007.487 |
| France | 1329.46 | 1507.005 |
| Germany | 22740.79 | 6991.23 |
| Spain | 909.06 | 1074.4 |
| Italy | 1022.41 | 1426.92 |
| Netherlands | 11170.17 | 1709.75 |
| Belgium | 1058.44 | 215.99 |
| Sweden | 60.98 | 60.54 |
| Singapore | 3108.49 | 2795.31 |
| Hong Kong SAR, China | 3463.07 | 3428.44 |
| Japan | 4047.17 | 2811.23 |
| Ireland | 703.42 | 947.19 |
| United Arab Emirates | 161.17 | 152.67 |
| Austria | 285.9 | 0 |
| Poland | 1744.79 | 2316.77 |
| Bulgaria | 688.56 | 858.84 |
| Greece | 1.6 | 2.62 |
| Switzerland | 78.5 | 0 |
| Luxembourg | 92.72 | 388.34 |
| Norway | 11.04 | 402.55 |
| Denmark | 520.25 | 2624.33 |
| Russian Federation | 33.58 | 33.58 |
| Turkey | 52.93 | 52.93 |
| Czechia | 644.84 | 644.84 |
| Estonia | 122.78 | 145.36 |
| Finland | 73.38 | 464.14 |
| Hungary | 98.09 | 160.29 |
| Iceland | 0.01 | 51.74 |
| Monaco | 6.04 | 13.87 |
| Portugal | 8.05 | 23.83 |
| Romania | 262.75 | 262.8 |
| Serbia | 329.98 | 450.39 |
| Slovenia | 109.33 | 183.84 |
| South Africa | 538.71 | 538.71 |
| Slovakia | 109.92 | 145.39 |
| India | 5301.68 | 5301.68 |
| Australia | 2166.78 | 2166.78 |
| China | 2045.75 | 2045.75 |
| Republic of Korea | 319.9 | 319.9 |
| Taiwan, China | 488.05 | 488.05 |
| Thailand | 202.65 | 202.65 |
| Malaysia | 17.56 | 17.56 |
| Kenya | 1.12 | 1.12 |
| Croatia | 40.23 | 40.23 |
| New Zealand | 5.06 | 5.06 |
| Guam | 97.92 | 97.92 |

## C7.6

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

By business division
By facility
By activity

## C7.6a

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

| Business division | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| North American Business division | 1192211.85 | 1189660.09 |
| Global Accounts Management (EMEA, LATAM, APAC) | 91337.49 | 60580.02 |

## C7.6b

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

| Facility | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| As many of our technical locations form part of the critical national infrastructure, due to security considerations we are unable to disclose locations (including grid references) or therefore report on associated emissions. An example is provided of a facility in Islington UK, which comprises emissions from electricity consumption. | 7169.74 | 0 |

## C7.6c

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

| Activity | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| Power provision to Information Communication Technology, IT, heating & cooling | 1270451.96 | 1237141.11 |
| Imported heat & steam used for heating | 3252.24 | 3252.24 |
| Chilled Water | 9845.14 | 9846.77 |

## C7.7

**(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?**

Not relevant as we do not have any subsidiaries

## C7.9

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

Decreased

## C7.9a

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

| | Change in emissions (metric tons CO2e) | Direction of change in emissions | Emissions value (percentage) | Please explain calculation |
|---|---|---|---|---|
| Change in renewable energy consumption | 0 | No change | 0 | |
| Other emissions reduction activities | 343127 | Decreased | 23 | We have reduced market-based emissions across our portfolio by consolidating real estate and implementing energy-efficiency projects. The resulting market-based emission reduction was 343,127 tCO2e, divided by our total adjusted emissions in the previous year of 1,482,229 tCO2e gives a 23% reduction (343,127/1,482,229)*100 = 23%. |
| Divestment | 0 | No change | | |
| Acquisitions | 0 | No change | | |
| Mergers | 0 | No change | | |
| Change in output | 285044 | Increased | 19 | We have increased market-based emissions across our portfolio due to an increase in output of our operations. Specifically, an increase in our Quantum Fiber enablements contributed to the change in output. The resulting market-based emission increase was 285,044tCO2e, divided by our total adjusted emissions in the previous year of 1,482,229 tCO2e gives a 19% increase (285,044/1,482,229 )*100 = 19%. |
| Change in methodology | 0 | No change | | |
| Change in boundary | 0 | No change | | |
| Change in physical operating conditions | 0 | No change | | |
| Unidentified | 0 | No change | 0 | |
| Other | 0 | No change | | |

## C7.9b

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

Market-based

## C8. Energy

### C8.1

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

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

### C8.2

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

| | Indicate whether your organization undertook this energy-related activity in the reporting year |
|---|---|
| Consumption of fuel (excluding feedstocks) | Yes |
| Consumption of purchased or acquired electricity | Yes |
| Consumption of purchased or acquired heat | No |
| Consumption of purchased or acquired steam | Yes |
| Consumption of purchased or acquired cooling | Yes |
| Generation of electricity, heat, steam, or cooling | No |

### C8.2a

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

| | Heating value | MWh from renewable sources | MWh from non-renewable sources | Total (renewable and non-renewable) MWh |
|---|---|---|---|---|
| Consumption of fuel (excluding feedstock) | HHV (higher heating value) | 387.82 | 655600.34 | 655988.16 |
| Consumption of purchased or acquired electricity | <Not Applicable> | 207864.27 | 3174186.54 | 3382050.81 |
| Consumption of purchased or acquired heat | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of purchased or acquired steam | <Not Applicable> | 0 | 14354.8 | 14354.8 |
| Consumption of purchased or acquired cooling | <Not Applicable> | 0 | 19671.79 | 19671.79 |
| Consumption of self-generated non-fuel renewable energy | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Total energy consumption | <Not Applicable> | 208252.08 | 3863813.47 | 4072065.56 |

### C8.2b

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

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

### C8.2c

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

**Sustainable biomass**

**Heating value**

**Total fuel MWh consumed by the organization**
0

**MWh fuel consumed for self-generation of electricity**
<Not Applicable>

**MWh fuel consumed for self-generation of heat**
<Not Applicable>

**MWh fuel consumed for self-generation of steam**
<Not Applicable>

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**
<Not Applicable>

**Comment**
Not applicable

**Other biomass**

**Heating value**
HHV

**Total fuel MWh consumed by the organization**
387.82

**MWh fuel consumed for self-generation of electricity**
<Not Applicable>

**MWh fuel consumed for self-generation of heat**
<Not Applicable>

**MWh fuel consumed for self-generation of steam**
<Not Applicable>

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**
<Not Applicable>

**Comment**
This comprises ethanol used in the US vehicle fleet.

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

**Heating value**

**Total fuel MWh consumed by the organization**
0

**MWh fuel consumed for self-generation of electricity**
<Not Applicable>

**MWh fuel consumed for self-generation of heat**
<Not Applicable>

**MWh fuel consumed for self-generation of steam**
<Not Applicable>

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**
<Not Applicable>

**Comment**
Not applicable

### Coal

#### Heating value

#### Total fuel MWh consumed by the organization
0

#### MWh fuel consumed for self-generation of electricity
<Not Applicable>

#### MWh fuel consumed for self-generation of heat
<Not Applicable>

#### MWh fuel consumed for self-generation of steam
<Not Applicable>

#### MWh fuel consumed for self-generation of cooling
<Not Applicable>

#### MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

#### Comment
Not applicable

### Oil

#### Heating value
HHV

#### Total fuel MWh consumed by the organization
245984.15

#### MWh fuel consumed for self-generation of electricity
<Not Applicable>

#### MWh fuel consumed for self-generation of heat
<Not Applicable>

#### MWh fuel consumed for self-generation of steam
<Not Applicable>

#### MWh fuel consumed for self-generation of cooling
<Not Applicable>

#### MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

#### Comment
This comprises all diesel fuel oil consumption, including for stationary combustion sources and mobile combustion sources.

### Gas

#### Heating value
HHV

#### Total fuel MWh consumed by the organization
153808.47

#### MWh fuel consumed for self-generation of electricity
<Not Applicable>

#### MWh fuel consumed for self-generation of heat
<Not Applicable>

#### MWh fuel consumed for self-generation of steam
<Not Applicable>

#### MWh fuel consumed for self-generation of cooling
<Not Applicable>

#### MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

#### Comment
This comprises all natural gas and propane used for stationary combustion sources.

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

**Heating value**
HHV

**Total fuel MWh consumed by the organization**
255807.72

**MWh fuel consumed for self-generation of electricity**
<Not Applicable>

**MWh fuel consumed for self-generation of heat**
<Not Applicable>

**MWh fuel consumed for self-generation of steam**
<Not Applicable>

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**
<Not Applicable>

**Comment**
This comprises motor gasoline, compressed natural gas, jet fuel, and propane used in our corporate mobile source fleet (i.e. vehicles and aircraft)

**Total fuel**

**Heating value**
HHV

**Total fuel MWh consumed by the organization**
655988.16

**MWh fuel consumed for self-generation of electricity**
<Not Applicable>

**MWh fuel consumed for self-generation of heat**
<Not Applicable>

**MWh fuel consumed for self-generation of steam**
<Not Applicable>

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**
<Not Applicable>

**Comment**
This includes total of all fuels noted above.

## 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.**

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

**Sourcing method**
Unbundled procurement of energy attribute certificates (EACs)

**Energy carrier**
Electricity

**Low-carbon technology type**
Wind

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
81172.93

**Tracking instrument used**
REGO

**Country/area of origin (generation) of the low-carbon energy or energy attribute**
United Kingdom of Great Britain and Northern Ireland

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

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

France

**Sourcing method**
Unbundled procurement of energy attribute certificates (EACs)

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify (Wind & solar)

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
12000

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
Yes

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
2007

**Comment**
The renewable energy was generated by multiple facilities with commissioning years ranging from 2007-2021.

---

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

**Sourcing method**
Unbundled procurement of energy attribute certificates (EACs)

**Energy carrier**
Electricity

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

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
52000

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
Yes

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
1927

**Comment**
The renewable energy was produced by multiple facilities of commissioning years between 1927 and 2019.

---

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

**Sourcing method**
Unbundled procurement of energy attribute certificates (EACs)

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify (Mainly wind and some marine)

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
31523.27

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

**Comment**
Italy, Croatia, Czech Republic and Portugal comprised the countries of origin of the low carbon energy.

---

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

Spain

**Sourcing method**
Unbundled procurement of energy attribute certificates (EACs)

**Energy carrier**
Electricity

**Low-carbon technology type**
Solar

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
1719.46

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

**Comment**
We are unable to identify the year of commissioning of the renewable facilities.

---

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

**Sourcing method**
Unbundled procurement of energy attribute certificates (EACs)

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify (Wind and biomass)

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
1866.3

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

**Comment**
The countries of origin were Sweden and The Netherlands. We are unable to identify the commissioning years of the renewable facilities.

---

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

**Sourcing method**
Unbundled procurement of energy attribute certificates (EACs)

**Energy carrier**
Electricity

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

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
2591.24

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

**Comment**
We are unable to identify the commissioning years of the renewable facilities.

---

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

Norway

**Sourcing method**
Unbundled procurement of energy attribute certificates (EACs)

**Energy carrier**
Electricity

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

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
1892.29

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

**Comment**
We are unable to identify the commissioning years of the renewable facilities.

---

**Country/area of low-carbon energy consumption**
United Arab Emirates

**Sourcing method**
Other, please specify (Bundled GOs through supplier)

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify (Hydro, wind, solar)

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
16.08

**Tracking instrument used**
I-REC

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

**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**
Bulgaria

**Sourcing method**
Other, please specify (Bundled GOs through supplier)

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify (Unspecified zero carbon)

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
39.95

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

---

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

**Sourcing method**
Other, please specify (Bundled GOs through supplier)

**Energy carrier**
Electricity

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

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
227

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

---

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

**Sourcing method**
Other, please specify (Bundled GOs through supplier)

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify (Unspecified zero carbon )

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
1336.62

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

---

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

**Sourcing method**
Other, please specify (Bundled GOs through supplier)

**Energy carrier**
Electricity

**Low-carbon technology type**
Low-carbon energy mix, please specify (Hydro, solar, biomass, win)

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
391.47

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

**Comment**

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

---

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

**Sourcing method**
Other, please specify (Bundled GOs through supplier)

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify (Unspecified zero carbon renewable)

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
114

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

---

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

**Sourcing method**
Other, please specify (Bundled GOS through supplier)

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify (Local wind and hydro)

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
378.64

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

---

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

**Sourcing method**
Other, please specify (Bundled GOS & REGOs through supplier)

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify (Unspcified zero carbon renewable)

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
1853.25

**Tracking instrument used**
REGO

**Country/area of origin (generation) of the low-carbon energy or energy attribute**
United Kingdom of Great Britain and Northern Ireland

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

---

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

**Sourcing method**
Other, please specify (Bundled GOs through supplier)

**Energy carrier**
Electricity

**Low-carbon technology type**
Wind

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
75.97

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

---

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

**Sourcing method**
Other, please specify (Bundled GOs through supplier)

**Energy carrier**
Electricity

**Low-carbon technology type**
Wind

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
126.05

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

---

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

**Sourcing method**
Other, please specify (Bundled GOs through supplier)

**Energy carrier**
Electricity

**Low-carbon technology type**
Wind

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
144.3

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

---

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

**Sourcing method**
Other, please specify (Bundled GOs through supplier)

**Energy carrier**
Electricity

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

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
12

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

---

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

**Sourcing method**
Other, please specify (Bundled GOs through supplier)

**Energy carrier**
Electricity

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

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
60

**Tracking instrument used**
GO

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

---

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

**Sourcing method**
Other, please specify (Power Purchase Agreement and RECs)

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify (wind, solar)

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
7893.31

**Tracking instrument used**
US-REC

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

---

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

**Sourcing method**
Other, please specify (Power Purchase Agreements and RECs)

**Energy carrier**
Electricity

**Low-carbon technology type**
Wind

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
148.46

**Tracking instrument used**
US-REC

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

---

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

**Sourcing method**
Other, please specify (Renewables backed by LGCs)

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify (Unknown multiple renewable sources)

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
177

**Tracking instrument used**
Australian LGC

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

---

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

**Sourcing method**
Other, please specify (Bundled i-RECs through supplier)

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify (Small hydro, wind, solar)

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

**Tracking instrument used**
I-REC

**Country/area of origin (generation) of the low-carbon energy or energy attribute**
Hong Kong SAR, China

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

---

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

**Sourcing method**
Other, please specify (Japanese non-fossil fuel certificates and i-RECs)

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify (Wind, solar, hydro)

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
2667.11

**Tracking instrument used**
Other, please specify (i-RECs and Japanese non-fossil fuel certificates)

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

**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**
Singapore

**Sourcing method**
Other, please specify (Bundled PPAs through supplier)

**Energy carrier**
Electricity

**Low-carbon technology type**
Renewable energy mix, please specify (Hydro, wind, solar)

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
802

**Tracking instrument used**
I-REC

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

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

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

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## C8.2g

**(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.**

**Country/area**
United Kingdom of Great Britain and Northern Ireland

**Consumption of purchased electricity (MWh)**
129601.89

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
129601.89

---

**Country/area**
Austria

**Consumption of purchased electricity (MWh)**
2170.87

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
2170.87

---

**Country/area**
Belgium

**Consumption of purchased electricity (MWh)**
8079.72

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
8079.72

---

**Country/area**
Bulgaria

**Consumption of purchased electricity (MWh)**
1700.98

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
1700.98

---

**Country/area**
Croatia

**Consumption of purchased electricity (MWh)**
265.03

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
265.03

---

**Country/area**
Czechia

**Consumption of purchased electricity (MWh)**
1503.13

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
1503.13

---

**Country/area**
Denmark

**Consumption of purchased electricity (MWh)**
4708.16

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
4708.16

---

**Country/area**
Estonia

**Consumption of purchased electricity (MWh)**
203.24

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

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

---

**Country/area**
Finland

**Consumption of purchased electricity (MWh)**
1005.26

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
1005.26

---

**Country/area**
France

**Consumption of purchased electricity (MWh)**
24438.54

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
24438.54

---

**Country/area**
Germany

**Consumption of purchased electricity (MWh)**
63557.26

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
63557.26

---

**Country/area**
Greece

**Consumption of purchased electricity (MWh)**
4.92

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
4.92

---

**Country/area**
Hungary

**Consumption of purchased electricity (MWh)**
500.98

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
500.98

---

**Country/area**

Iceland

**Consumption of purchased electricity (MWh)**
97.39

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

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

---

**Country/area**
Ireland

**Consumption of purchased electricity (MWh)**
2070.71

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
2070.71

---

**Country/area**
Italy

**Consumption of purchased electricity (MWh)**
3786.69

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
3786.69

---

**Country/area**
Kenya

**Consumption of purchased electricity (MWh)**
18.26

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
18.26

---

**Country/area**
Luxembourg

**Consumption of purchased electricity (MWh)**
925.33

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
925.33

---

**Country/area**
Monaco

**Consumption of purchased electricity (MWh)**
110.98

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
110.98

---

**Country/area**
Netherlands

**Consumption of purchased electricity (MWh)**
35562.48

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
35562.48

---

**Country/area**
Norway

**Consumption of purchased electricity (MWh)**
2693.69

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
2693.69

---

**Country/area**
Poland

**Consumption of purchased electricity (MWh)**
2711.82

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
2711.82

---

**Country/area**
Portugal

**Consumption of purchased electricity (MWh)**
53.49

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
53.49

---

**Country/area**
Romania

**Consumption of purchased electricity (MWh)**
953.04

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
953.04

---

**Country/area**
Russian Federation

**Consumption of purchased electricity (MWh)**
93.31

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
93.31

---

**Country/area**
Serbia

**Consumption of purchased electricity (MWh)**
472.01

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

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

---

**Country/area**
Slovakia

**Consumption of purchased electricity (MWh)**
779.54

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
779.54

---

**Country/area**
Slovenia

**Consumption of purchased electricity (MWh)**
495.81

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
495.81

---

**Country/area**
South Africa

**Consumption of purchased electricity (MWh)**
601.71

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

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

---

**Country/area**
Spain

**Consumption of purchased electricity (MWh)**
6016.29

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
6016.29

---

**Country/area**

Sweden

**Consumption of purchased electricity (MWh)**
4138.93

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

**Consumption of purchased heat, steam, and cooling (MWh)**
66.55

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
4205.48

---

**Country/area**
Switzerland

**Consumption of purchased electricity (MWh)**
3354.58

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
3354.58

---

**Country/area**
Turkey

**Consumption of purchased electricity (MWh)**
125.45

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

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

---

**Country/area**
United Arab Emirates

**Consumption of purchased electricity (MWh)**
304.95

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
304.95

---

**Country/area**
United States of America

**Consumption of purchased electricity (MWh)**
3030902.39

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

**Consumption of purchased heat, steam, and cooling (MWh)**
33960.04

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
3064862.43

---

**Country/area**
Canada

**Consumption of purchased electricity (MWh)**
9474.19

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
9474.19

---

**Country/area**
Australia

**Consumption of purchased electricity (MWh)**
3323.28

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
3323.28

---

**Country/area**
China

**Consumption of purchased electricity (MWh)**
3283.7

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
3283.7

---

**Country/area**
Guam

**Consumption of purchased electricity (MWh)**
157.11

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
157.11

---

**Country/area**
Hong Kong SAR, China

**Consumption of purchased electricity (MWh)**
5400.92

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
5400.92

---

**Country/area**
India

**Consumption of purchased electricity (MWh)**
7627.22

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
7627.22

---

**Country/area**
Japan

**Consumption of purchased electricity (MWh)**
8733.63

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
8733.63

---

**Country/area**
Luxembourg

**Consumption of purchased electricity (MWh)**
925.33

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
925.33

---

**Country/area**
Malaysia

**Consumption of purchased electricity (MWh)**
26.86

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
26.86

---

**Country/area**
New Zealand

**Consumption of purchased electricity (MWh)**
39

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
39

---

**Country/area**
Singapore

**Consumption of purchased electricity (MWh)**
7960.27

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
7960.27

---

**Country/area**
Republic of Korea

**Consumption of purchased electricity (MWh)**
687.37

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
687.37

---

**Country/area**

Taiwan, China

**Consumption of purchased electricity (MWh)**
890.44

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
890.44

---

**Country/area**
Thailand

**Consumption of purchased electricity (MWh)**
437.97

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
<Not Applicable>

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

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
437.97

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## 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.**

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

### C10.1a

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

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

**Status in the current reporting year**
Complete

**Type of verification or assurance**
Limited assurance

**Attach the statement**
Lumen Technologies Inc - 2022 CDP Letter FINAL_Issued 20230802.pdf
Lumen Technologies Inc - 2021 CDP Letter Final issued 20221121.pdf
Lumen Technologies Inc - 2021 CDP Verification Report Final issued 20221121.pdf
Lumen Technologies Inc - 2021 CDP Verification Statement Final issued 2022.11.21.pdf
Lumen Technologies Inc - 2022 CDP Verification Report Final _Issued 20230802.pdf
Lumen Technologies Inc - 2022 CDP Verification Statement FINAL_Issued 20230802.pdf

**Page/ section reference**
See verification statement, pages 1 &2 and verification report, pages 1-12 and CDP letter, pages 1-3.

**Relevant standard**
ISO14064-3

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

## C10.1b

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

**Scope 2 approach**
Scope 2 location-based

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

**Status in the current reporting year**
Complete

**Type of verification or assurance**
Limited assurance

**Attach the statement**
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Lumen Technologies Inc - 2021 CDP Letter Final issued 20221121.pdf
Lumen Technologies Inc - 2021 CDP Verification Report Final issued 20221121.pdf
Lumen Technologies Inc - 2021 CDP Verification Statement Final issued 2022.11.21.pdf
Lumen Technologies Inc - 2022 CDP Verification Report Final _Issued 20230802.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).

**Relevant standard**
ISO14064-3

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

---

**Scope 2 approach**
Scope 2 market-based

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

**Status in the current reporting year**
Complete

**Type of verification or assurance**
Limited assurance

**Attach the statement**
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**Page/ section reference**
See verification statement, pages 1 &2 and verification report, pages 1-12 and CDP letter, pages 1-3.

**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**
Complete

**Type of verification or assurance**
Limited assurance

**Attach the statement**
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Lumen Technologies Inc - 2022 CDP Verification Statement FINAL_Issued 20230802.pdf

**Page/section reference**

See verification statement, pages 1 &2 and verification report, pages 1-12 and CDP letter, pages 1-3.

**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**
Complete

**Type of verification or assurance**
Limited assurance

**Attach the statement**
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**Page/section reference**
See verification statement, pages 1 &2 and verification report, pages 1-12 and CDP letter, pages 1-3.

**Relevant standard**
ISO14064-3

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

---

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

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

**Status in the current reporting year**
Complete

**Type of verification or assurance**
Limited assurance

**Attach the statement**
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**Page/section reference**
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**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**
Complete

**Type of verification or assurance**
Limited assurance

**Attach the statement**
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**Page/section reference**
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**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**
Complete

**Type of verification or assurance**
Limited assurance

**Attach the statement**
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**Page/section reference**
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**Relevant standard**
ISO14064-3

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

---

**Scope 3 category**
Scope 3: Business travel

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

**Status in the current reporting year**
Complete

**Type of verification or assurance**
Limited assurance

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**Page/section reference**
See verification statement, pages 1 &2 and verification report, pages 1-12 and CDP letter, pages 1-3.

**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**
Complete

**Type of verification or assurance**
Limited assurance

**Attach the statement**
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**Page/section reference**
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**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**
Complete

**Type of verification or assurance**
Limited assurance

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Lumen Technologies Inc - 2021 CDP Letter Final issued 20221121.pdf
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**Page/section reference**
See verification statement, pages 1 &2 and verification report, pages 1-12 and CDP letter, pages 1-3.

**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**
Complete

**Type of verification or assurance**
Limited assurance

**Attach the statement**
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Lumen Technologies Inc - 2021 CDP Letter Final issued 20221121.pdf
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Lumen Technologies Inc - 2022 CDP Verification Statement FINAL_Issued 20230802.pdf

**Page/section reference**
See verification statement, pages 1 &2 and verification report, pages 1-12.

**Relevant standard**
ISO14064-3

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

---

## C10.2

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

## C10.2a

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

| Disclosure module verification relates to | Data verified | Verification standard | Please explain |
|---|---|---|---|
| C8. Energy | Energy consumption | ISO14064-3 | MWhs are verified as part of the process of verifying emissions. p1-3<br>Lumen Technologies Inc - 2022 CDP Letter FINAL_Issued 20230802.pdf<br>Lumen Technologies Inc - 2021 CDP Letter Final issued 20221121.pdf<br>Lumen Technologies Inc - 2021 CDP Verification Report Final issued 20221121.pdf<br>Lumen Technologies Inc - 2021 CDP Verification Statement Final issued 2022.11.21.pdf<br>Lumen Technologies Inc - 2022 CDP Verification Report Final _Issued 20230802.pdf<br>Lumen Technologies Inc - 2022 CDP Verification Statement FINAL_Issued 20230802.pdf |

## C11. Carbon pricing

### C11.1

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

Yes

### C11.1a

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

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.**

**UK ETS**

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

0.05

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

0

**Period start date**

January 1 2022

**Period end date**

December 31 2022

**Allowances allocated**

0

**Allowances purchased**

0

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

0

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

0

**Details of ownership**

Facilities we own and operate

**Comment**

Lumen has one facility formerly included in the EU Emissions Trading Scheme (EU ETS). This site is now classified as an Ultra-small Emitter (USE) under the UK Emissions Trading Scheme (UK ETS). 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 Ultra Small Emitter (USE) it is not a requirement for emissions to be independently verified. However, the emissions that we have assessed internally for 01/01/2022 – 31/12/2022 are 86.16 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**

**Period start date**
January 1 2022

**Period end date**
December 31 2022

**% of total Scope 1 emissions covered by tax**
0.02

**Total cost of tax paid**
1530.61

**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 2022, with the figure provided shown in US dollars.

## 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 our facilities in the UK. All sites are effected by the UK Climate Change Levy; which applies to electricity and fuel consumption in buildings. Three of our UK sites have Climate Change Agreements, at which the levy is reduced when targets are achieved. If targets are not met, then we purchase allowances to ensure compliance. The UK ETS applies to one site, but as an Ultra Small Emitter there are no allowances and trading, as described above.

Our strategy is to continually enhance the energy efficiency (including the power utilization efficiency) of our major sites to meet the targets. The 3 Company sites covered by Climate Change Agreements (CCA) consume approximately 46% 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. In recent years the Islington facility has had chiller fan upgrades, UPS replacements, LED lighting upgrades and the installation of ultrasonic humidification. Most energy reduction initiatives are implemented within 6 months. The impact of emissions reduction projects is shown in monthly Utility Reports, and annual savings at UK sites are approximately 267,000 kWhs over the last 3 years. Energy efficiency is also delivered through selecting equipment based on its lifetime power consumption, switch-offs and consolidation projects to avoid excessive demand. This is in addition to reducing emissions at Lumen controlled sites by purchasing Renewable Energy Guarantees of Origin (REGOs).

## C11.2

**(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?**
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 other climate related information at least annually from suppliers

**% of suppliers by number**
0.12

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

**% of supplier-related Scope 3 emissions as reported in C6.5**
21

**Rationale for the coverage of your engagement**
In 2022 we engaged with 25 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 suppliers and supplier-related Scope 3 emissions, it also represents engagement with companies that supply power that accounts for an estimated 56.55% of our global Scope 2 emissions (market-basis).

**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 extends to suppliers that represent approximately 60% of US electricity supply, being a threshold that ensures the information gathered is of significance as an input into our 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**
100

**Please explain the rationale for selecting this group of customers and scope of engagement**
In 2022, 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, the rationale being this is an effective means to reduce energy consumption by 100 percent of end-users. Lumen customers can access energy efficiency/usage details for their modems from Lumen's public website.

**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 draft 2022 report issued by independent auditor D+R International showed that nearly 98.5 percent of new modems, routers and other internet equipment purchased and sold in 2022 for U.S. consumer broadband use met the energy efficiency standards. The 2022 report will be published in July 2023. The draft report also stated that, “the average weighted power of each category of new SNE relative to broadband speed delivered has decreased by 87% and has declined every year under the Voluntary Agreement." The climate change impact can be considered commensurate with these reductions. Lumen customers can access energy efficiency/usage details for their modems from Lumen's public website.

## C12.1d

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

Lumen engages with its broad set of value chain stakeholders beyond customers and suppliers, including investors, employees, community partners, governmental agencies and regulators, investors, suppliers, as well as Lumen's Board of Directors and senior leadership team. 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 continues to utilize these findings to prioritize its engagements with stakeholders; additionally, Lumen is in the process of conducting a subsequent double-materiality assessment to further its commitment to optimizing its stakeholder engagement process. Lumen also continues to assess and align with 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) to continuously optimize our disclosure strategy to stakeholders.

Lumen has 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), such as virtual educational webinars and/or volunteer opportunities. 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. 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 actively engages with investors by participating in various ESG questionnaires and/or meetings in order 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 .

## 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**

**External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate**

Yes, we engage directly with policy makers

Yes, our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate

**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

**Attach commitment or position statement(s)**

<Not Applicable>

**Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan**

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.

**Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate**

<Not Applicable>

**Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate**

<Not Applicable>

## 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?**

**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

**Category of policy, law, or regulation that may impact the climate**
Climate change mitigation

**Focus area of policy, law, or regulation that may impact the climate**
Climate-related reporting

**Policy, law, or regulation geographic coverage**
National

**Country/area/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 on this policy, law, or regulation is aligned with the goals of the Paris Agreement?**
No, we have not evaluated

**Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?**
<Not Applicable>

## C12.3b

**(C12.3b) Provide details of the trade associations your organization is a member of, or 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 policy consistent with theirs?**
Consistent

**Has your organization attempted to influence their position in the reporting year?**
No, we did not attempt to influence their position

**Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position**
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 (currency as selected in C0.4)**
33000

**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**
Lumen Annual Report for fiscal year 2022 10-k 23 Feb 2023.pdf

**Page/Section reference**
p10 - Environmental Stewardship & Sustainability - Governance & responsibilities, energy efficiency & Green House Gas reduction initiatives, tracking performance against Science-Based Targets, Sustainability-linked Bond

p11 - Evaluation of climate change risks, preparedness, business continuity

p25 - Item 1A Risks. Climate change risks including extreme weather events, reputational and legal risks

**Content elements**
Governance
Strategy
Risks & opportunities
Emission targets

**Comment**
The Annual Report for fiscal year 2022 filed on Form 10-k is attached.

**Publication**
In mainstream reports

**Status**
Complete

**Attach the document**
Proxy Statement 5 April 23.pdf

**Page/Section reference**
p12, 13 - ESG Highlights, Our Impact - Environment – Science-based Targets, renewable energy initiatives, supporting customers' carbon reduction, transportation initiatives

p20 Board ESG Skills

p35 - Board-level Nominating & Corporate Governance Committee, ESG Strategy & quarterly ESG reviews

p40 – formation of Sustainability Management Committee

p47-48 Sustainability Initiatives – TCFD-aligned climate change transition risks & opportunities assessment

pB61 – sustainability-linked notes

**Content elements**
Governance
Strategy
Risks & opportunities
Emission targets
Other metrics

**Comment**
Proxy Statement - 14A filing. This is the Proxy Statement that covers the 2022 CDP reporting year.

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**Publication**
In voluntary sustainability report

**Status**
Complete

**Attach the document**
lumen-esg-report 2021.pdf

**Page/Section reference**
p43, 53-58 Governance

p6, 33 ESG Strategy
p37 Climate Strategy

p36 ESG Risks, Opportunities & Impacts
p57 TCFD alignment (risks)

p38, 39 Emissions figures

p37, 38, 3, 7, 8, 33 Emissions Targets

p8 recycling metrics, p8 renewable electricity, p40 water use metrics, p41 waste metrics

p34 Compliance

**Content elements**
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics
Other, please specify (Compliance)

**Comment**
Lumen's 2021 ESG Report was published in 2022.

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## C12.5

**(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.**

| | Environmental collaborative framework, initiative and/or commitment | Describe your organization's role within each framework, initiative and/or commitment |
|---|---|---|
| Row 1 | Task Force on Climate-related Financial Disclosures (TCFD)<br>Other, please specify (Science-Based Targets Initiative (SBTi)) | TCFD: We have conducted a physical climate change risk assessment to help us evaluate specific threats and identify mitigation opportunities. The study assessed climate risk to seven sites and assets that are<br>critical to our business, under a high emissions scenario out to both 2035 and 2060. The assessment aligned with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations and focused on the business-as-usual scenario of the Intergovernmental Panel on Climate Change (IPCC),which has the greatest physical impacts. We are currently performing a TCFD aligned, qualitative scenario analysis of our transition risks and opportunities. We intend to use the results of this analysis to inform the eventual development of a low carbon transition plan, consistent with TCFD and CDP transition planning guidance. We continue to align our ESG reporting with TCFD as referenced in our ESG report.<br>SBTi: In 2019, Lumen Technologies (Lumen) established two science-based targets (SBTs) approved by the Science Based Targets Initiative (SBTi) to reduce GHG emissions: SBT-1 is to reduce absolute scope 1 and 2 GHG emissions by 18% and SBT-2 is to reduce scope 3 GHG emissions by 10%; both by 2025 from a 2018 baseline year. To reduce our carbon footprint, we are committed to identifying and implementing energy efficiency and greenhouse gas (GHG) emissions reduction initiatives. We continue to reduce our absolute GHG emissions and intensity by purchasing renewable energy and investing in facility efficiency improvements/new technologies and are on track towards meeting our SBTs<br>Other (Global Enabling Sustainability Initiative (GeSI): Lumen has been a member of the Global Enabling Sustainability Initiative (GeSI) since 2020 and uses 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. |

## C15. Biodiversity

### C15.1

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

| | Board-level oversight and/or executive management-level responsibility for biodiversity-related issues | Description of oversight and objectives relating to biodiversity | Scope of board-level oversight |
|---|---|---|---|
| Row 1 | No, and we do not plan to have both within the next two years | <Not Applicable> | <Not Applicable> |

### C15.2

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

| | Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity | Biodiversity-related public commitments | Initiatives endorsed |
|---|---|---|---|
| Row 1 | No, and we do not plan to do so within the next 2 years | <Not Applicable> | <Not Applicable> |

### C15.3

**(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?**

**Impacts on biodiversity**

**Indicate whether your organization undertakes this type of assessment**
No and we don't plan to within the next two years

**Value chain stage(s) covered**
<Not Applicable>

**Portfolio activity**
<Not Applicable>

**Tools and methods to assess impacts and/or dependencies on biodiversity**
<Not Applicable>

**Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)**
<Not Applicable>

**Dependencies on biodiversity**

**Indicate whether your organization undertakes this type of assessment**
No and we don't plan to within the next two years

**Value chain stage(s) covered**
<Not Applicable>

**Portfolio activity**
<Not Applicable>

**Tools and methods to assess impacts and/or dependencies on biodiversity**
<Not Applicable>

**Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)**
<Not Applicable>

## C15.4

**(C15.4) Does your organization have activities located in or near to biodiversity- sensitive areas in the reporting year?**

No

## C15.5

**(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?**

| | Have you taken any actions in the reporting period to progress your biodiversity-related commitments? | Type of action taken to progress biodiversity- related commitments |
|---|---|---|
| Row 1 | No, and we do not plan to undertake any biodiversity-related actions | <Not Applicable> |

## C15.6

**(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?**

| | Does your organization use indicators to monitor biodiversity performance? | Indicators used to monitor biodiversity performance |
|---|---|---|
| Row 1 | No | Please select |

## C15.7

**(C15.7) 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).**

| Report type | Content elements | Attach the document and indicate where in the document the relevant biodiversity information is located |
|---|---|---|

# 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.**

| | Job title | Corresponding job category |
|---|---|---|
| Row 1 | Chief Financial Officer, Lumen Technologies | Chief Financial Officer (CFO) |

# SC. Supply chain module

## SC0.0

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

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

## SC0.1