



Telenor Group's response to CDP 2020

Climate Change (Investor CDP) for the reporting year
1 January-31 December 2019

Sector: Telecommunications

Industry Group: Diversified Telecommunication Services

Sub Industry: Integrated Telecommunication Services



C0. Introduction

C0.1

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

Climate change is one of the greatest challenges facing people, businesses and governments.

The mobile industry's technology and smart services through Internet of Things (IoT) have the potential to cut global carbon emissions, reduce resource intensity, stimulate economic growth, and deliver substantial social benefits. Telenor has over the years followed up potential business initiatives and partnerships offering eco efficient solutions.

Telenor Group is a leading telecommunications company across the Nordics and Asia with 186 million customers and annual sales of around USD 12 billion (2019). We hold #1 or #2 positions in most of our markets. We are committed to responsible business conduct and driven by the ambition of empowering societies. Connectivity has been Telenor's domain for more than 160 years, and our purpose is to connect our customers to what matters most. Telenor is listed at Oslo Stock Exchange under the ticker TEL.

Telenor Group's emissions of greenhouse gases in 2019 has been estimated to be a total of around 1.1 million tonnes of CO₂ when using location-based electricity emission factors for the indirect scope 2 emissions, an increase of 9 per cent compared to recalculated data from 2018. The operations in Asia account for 96 per cent of the CO₂ emissions, of which 80 per cent is related to grid electricity, while the remaining 16 per cent stems from diesel generators. Nordic operations account for 4 per cent of the Group's CO₂ emissions (including fuel from car fleet, electricity purchases and business flights). In 2019, Telenor's carbon emissions were 5.9 kg CO₂ per customer per year, an increase of 1 per cent from 2018.

Telenor Group's emissions of greenhouse gases in 2019 has been estimated to be a total of around 1.2 million tonnes of CO₂ when using marked-based electricity emission factors for the indirect scope 2 emissions. Our business operations in Asia account for 85 per cent of Group's total CO₂ emissions, of which 65 per cent of Group's total CO₂ emissions is related to use of grid electricity and 15 per cent Group's total CO₂ emissions stems from diesel generators at base stations without access to grid electricity . Our Nordic operations account for 15 per cent of the Group's CO₂ emissions (including use of grid electricity, fuel from car fleet and business flights). In 2019, Telenor's carbon emissions were only 6 kg CO₂ per mobile customer per year.

Telenor Group has signed and submitted a commitment letter to the Science Based Targets initiative (SBTi) – and publicly communicated the following targets:

- Telenor's ambition for Nordic markets is to have carbon-neutral business operations by 2030, focusing on energy efficiency measures in our network operations, purchasing renewable electricity, enabling carbon neutral transport (including our supply chain), and offsetting business flights.
- Telenor's ambitions for Asian operations is 50 per cent reduction in carbon emissions by 2030, focusing on energy efficiency measures in our network operations, substituting diesel generators with solar solutions at base stations and exploring other renewable electricity options in the region.

In the coming years, we expect to see significant growth in data traffic that will increase energy consumption as well as emissions due to limited access to renewable energy, especially in the Asian region. Reaching our target will require very close follow up and implementation of energy efficiency measure in close cooperation with our vendors and partners.

This CDP report for 2019 also includes the full year performance data for our Finnish operations; the wholly-owned mobile operator DNA.

The Finnish company DNA was consolidated on 21 August 2019. DNA has published its own sustainability report for 2019 - but Telenor has informed CDP to include all climate related performance data from DNA's operation in 2019 in Telenor's response for 2019.

This climate related report submitted to CDP contains statements regarding the future in connection with the Telenor Group's outlook, strategies and objectives. All statements regarding the future are subject to inherent risks and uncertainties and many factors can lead to developments deviating substantially from what has been expressed or implied in such statements.

For more information about Telenor Group, please visit www.telenor.com.

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1, 2019	December 31, 2019	Yes	3 years

C0.3

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

- Bangladesh
- Denmark
- Finland
- Malaysia
- Myanmar
- Norway
- Pakistan
- Sweden
- Thailand

C0.4

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

- NOK

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.

Financial control

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Board-level committee	Climate-related issues are a material concern for Telenor. Reflecting this relevance, oversight is with the Sustainability and Compliance Committee of the Board of Directors. The Committee supports the Board of Directors in fulfilling the Board's responsibilities with respect to sustainability and compliance issues; specifically it addresses issues related to climate and environment, human rights, labour standards and anti-corruption. As an example, the Sustainability and Compliance Committee supported in 2019 to establish long term climate targets towards 2030.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies	Group Chief Corporate Affairs Officer receives regular updates from the Group Sustainability team which include any climate-related issues of relevance to the company. Important issues are aligned with the Group Executive Management and further reported to the Board of Directors. The BoD's Sustainability and Compliance Committee - on an annual basis - reviews climate-related status and strategies for the company. Climate-related status and progress are also reported annually through the publication of the company's Sustainability Report which is signed off by the Board of Directors.

C1.2

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

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

C1.2a

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

The Chief People and Sustainability Officer (CPSO) is a member of the Group Executive Management (GEM) which is an advisory body to the Group's CEO. The CPSO has the overall responsibility for Telenor's people strategy, remuneration & systems, learning & development, talent management, organisational development, Health, Safety and the Environment, Sustainability and Compliance and Privacy.

The CPSO has the overall policy responsibility for climate-related issues in Telenor Group including climate ambitions, strategy, overall measures/initiatives and climate reporting. The CPSO shall safeguard climate expertise and secure support to the business units in Southeast Asia and the Nordics where the climate-related issues and challenges are quite different.

The CPSO is regularly briefed by Group HSE & Sustainability on major climate issues and internal processes . The CPSO regularly briefs Sustainability and Compliance Committee at Board level on major climate issues and annual status on climate ambitions, strategy and overall measures/initiatives.

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	<p>Telenor's business strategy is based on the company's purpose - "Connecting you to what matters most. Empowering societies." The business strategy has three main components and where the third main component is: Reinforce our strong foundation of responsible business through the way we operate and manage business environment risk, in how we treat our customers' data, and in our role as a global citizen working towards our climate ambitions."</p> <p>Telenor Group's executive compensation set-up is designed to support the prevailing business strategy and the short-term and long-term priorities of the company. In accordance with its group-wide strategy process, Telenor develops a yearly strategy action plan, as well as a longer term strategic outlook that guides the</p>

		overall direction of the company towards a five-year horizon. Performance measures for incentive plans are developed as part of this process.
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C1.3a

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

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Corporate executive team	Monetary reward	Emissions reduction target	<p>Telenor Group's executive compensation policy contributes to the sustainability of the company, as the incentive plans are tied to key financial and operational metrics, and payments vary in accordance with the overall performance of the company.</p> <p>Telenor Group's executive compensation set-up is based on a combination of company performance and individual impact as evaluated against objective and transparent criteria.</p> <p>Telenor puts significant emphasis on company results so as to foster collaboration and joint ownership of strategic priorities. The executive compensation system shall support holistic thinking reflected in financial results, operational performance and sustainable results, including to achieve Telenor's climate goals towards 2030 for both the Nordic and the Asia region.</p>

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	2	Telenor Group's climate risk horizons are aligned with the time horizons for other key business processes, e.g. strategy, financial planning and Group risk review processes.
Medium-term	2	3	Climate risk management is a continuous process and an integrated part of the business throughout all Telenor Group entities. Telenor Group's climate medium-term risk horizon is aligned to other key business processes, e.g. strategy, financial planning and Group risk review processes.
Long-term	3	10	Telenor's climate risk management requires a very long-term horizon due to expected global climate ambitions and complex regional risk pictures. This will also require

			long-term perspective for other key business processes, e.g. strategy, financial planning and Group risk review processes.
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C2.1b

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

Telenor's Enterprise Risk Management is set up to have a cross-functional and multi-disciplinary focus and recognises that risks may cut across business activities or organizational boundaries. The ERM processes shall be a continuous and iterative process. From the annual strategy process, Telenor's ambitions are translated into strategic goals for all business units. Each business unit shall identify risks that may influence these goals and ambitions.

The top local risks of each business unit delivers input to Telenor's group-wide risk picture which again is linked to Telenor Group's strategic ambitions. The financial impact scale for risk assessment ranges from less than 2% in revenue loss/cost increase (low impact) to more than 10 % in revenue loss/cost increase (very high impact).

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

Annually

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

Telenor's risk management process is broadly based on ISO 31000:2018 . The process is continuous and iterative and shall be used throughout Telenor Group. Telenor's Enterprise Risk Management (ERM) is set up to have a cross-functional and multi-disciplinary focus that recognises that risks may cut across business activities or organizational boundaries.

How climate-related risks are identified and assessed at a company level:

- The Board of Director assesses risk thoroughly in connection with new investments, and on an ongoing basis in relation to ongoing business operations. The Group Executive Management has implemented a systematic group-wide enterprise risk management process.
- A dedicated climate organisation – as a part of our sustainability organisation - focuses on the climate change risks and opportunities, both at group level and business unit level. The identification process is

performed at regular intervals assessing potential new climate change risks and opportunities. These assessments include regulatory, physical and reputation risks and opportunities arising from climate change. In the same process, known and existing risks and opportunities are reassessed and updated.

How climate-related risks are managed at an asset level:

- Telenor assesses climate risks at each individual country of operation. Climate change related risks and opportunities are integrated part of this business management framework and is part of all the annual business strategy update.
- The negative impacts on the company’s physical assets, i.e. the telecommunication infrastructure of each country are rated against the climate risks identified. Besides the physical telecommunication infrastructure, negative impacts on service delivery to customers, negative impacts to operation and management of our company and negative impacts to company finances are assessed. Each business unit shall make all reasonable efforts to minimize use of resources including energy, water and each business unit shall perform regular risk assessments for its operations focusing on extreme weather events related to climate change and use the results in planning of network expansion and protection of existing infrastructure.
- To manage transitional risks (such as changes in climate and energy policies, shift to low-carbon technologies and liability issues), each business unit shall make all reasonable efforts to minimize greenhouse gas (GHG) emissions from all parts of the operations – including the use of energy efficiency measures, purchasing renewable electricity, substituting diesel generators with solar solutions and other low carbon alternatives, enabling carbon neutral transport and minimizing business travel. Further, all business units shall explore potential business initiatives and partnerships offering eco-efficient solutions.

The process in place for assessing the potential size and scope of identified risks:

- Risk management is a continuous process and an integrated part of business throughout all entities’ in Telenor Group. All managers are required to assume responsibility for risk management within their areas of responsibility and ensure that risk management is embedded in day to day business processes.
- Telenor has implemented a group-wide enterprise risk management process to secure regular and standardized assessment of potential size and scope of identified risks.

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	<p>Relevance to Telenor: Telenor’s operations are subject to requirements through sector specific laws, regulations and national licenses. Regulatory developments and regulatory uncertainty could affect the company’s results and business prospects.</p> <p>Example of a specific risk considered: The current EU 2030 Framework for climate and energy contains a binding target to cut emissions in EU territory by at least 40% below 1990 levels by 2030. This will require renewing an EU’s ageing energy systems including increased use of renewable energy sources as well as energy efficiency initiatives which could have an financial impact to Telenor though increased capex and/or opex.</p>
Emerging regulation	Relevant, always included	<p>Relevance to Telenor: Telenor’s operations are subject to requirements through sector specific laws, regulations and national licenses. Regulatory developments and</p>

		<p>regulatory uncertainty especially in Telenor's Asian operations (Pakistan, Bangladesh, Thailand, Malaysia and Myanmar) could affect the company's results and business prospects.</p> <p>Example of a specific risk considered: Climate-related regulatory risks can imply increased compliance costs related to company operations (capex and opex) , payment of fines/ tariffs and for example involvement in carbon trading schemes.</p>
Technology	Relevant, always included	<p>Relevance to Telenor:</p> <p>Telenor's revenue growth is partly dependent on the commercially successful development and deployment of new products, services and technologies. Climate-related technology risks can imply increased capex and opex costs related to cost efficient energy initiatives such as renewable energy sourcing, network swaps, sourcing of energy-efficient technologies, infrastructure-sharing and energy efficient data centres and buildings.</p> <p>Example of a specific risk considered:</p> <p>The mobile industry risks continued growth in its total energy consumption and carbon footprint as mobile operators continue to increase their coverage, acquire more customers and develop more mobile broadband services due to market needs. The mobile services require significant amounts of electricity for network operations, and most power is supplied on-grid by national power generation companies. In Telenor's Asian operations, the company also relies heavily on diesel used in its on-site generators to power infrastructure offgrid in remote locations or areas of unreliable on-grid power.</p> <p>Network operations represents around 90 per cent of Telenor's total CO2 emissions and Telenor's key climate measure has the last ten years been to stabilise the energy consumption in its networks while increasing market share. Telenor's Asian markets are very different from its European markets, both in the company's carbon footprint and the type of energy that Telenor uses for its network operations. In general, developing countries will have the opportunity to leapfrog into the renewable age, and Telenor has already, in several of its Asian operations, started to replace traditional diesel-based on-site generators with cost-efficient solar/battery renewable energy technology. Going forward, Telenor will plan for a scale-up of renewable energy combined with continued focus on energy efficiency initiatives in all of its network operations, resulting in both potential savings in operating expenses and reduced CO2 emissions.</p>
Legal	Not relevant, explanation provided	<p>Relevance to Telenor:</p> <p>Risk of climate-related litigation claims are considered unlikely. Climate change is one of the most complex challenges facing people, businesses and governments – but the mobile industry's technology and smart services through the Internet of Things (IoT) is regarded as instrumental to cut global carbon emissions, reduce resource intensity, stimulate economic growth and deliver substantial social benefits.</p>
Market	Relevant, always included	<p>Relevance to Telenor:</p> <p>Telenor is a substantial purchaser of network and ICT technology and we have large power purchase agreements (grid based electricity). In parts of our Asian operations we also depend on substantial diesel consumption for our onsite energy production at the mobile network base stations .</p>

		<p>Example of a specific risk considered:</p> <p>The technology we use does not reflect risks related to climate change directly, but technological developments are continually improving our network energy efficiency. Carbon pricing and additional costs for energy purchasing are included in our long term risks and opportunities. Telenor's Supplier Conduct Principles ask suppliers to take a precautionary approach towards environmental challenges, undertake initiatives to promote greater environmental responsibility, and to encourage the development and diffusion of environmentally friendly technologies. Furthermore, the company expects suppliers to act in accordance with incumbent laws, and continuously improve its performance.</p> <p>Telenor reports that in 2019, environmental criteria was used in 22% of Telenor's procurement on contracts worth USD 250,000 or more.</p>
Reputation	Relevant, sometimes included	<p>Relevance to Telenor:</p> <p>Telenor faces the risks that climate concerned customers or community perceptions will impact our company's commercial development. Consumers and communities are increasingly expecting companies to actively engage with regards to climate change.</p> <p>Example of a specific risk considered:</p> <p>Telenor faces the risk that our consumers are increasingly aware of climate change and its negative consequences. Telenor has over the years engaged with mobile industry organisations – such as GSMA – and business partners to embrace climate-related business opportunities.</p>
Acute physical	Relevant, always included	<p>Relevance to Telenor:</p> <p>Telenor's operations face risk to infrastructure due to increased frequency of extreme weather events.</p> <p>Example of a specific risk considered:</p> <p>In Denmark, there is likelihood of more than once every 10 years with damage to transmission towers and antennas caused by heavy wind and storms due to climate change to 1-5% of Telenor's assets in Denmark and long-term disruptions of the service delivery.</p>
Chronic physical	Relevant, always included	<p>Relevance to Telenor:</p> <p>Telenor's operations and infrastructure are exposed to flooding risks and rising sea levels. The rising sea level poses a risk to all countries at very low altitudes, in particular to Bangladesh which is highly threatened by the rising sea level.</p> <p>Example of a specific risk considered:</p> <p>Flooding has the potential to damage Telenor's buildings and network infrastructure; at the same time it could also interrupt our business operations indirectly if energy supply is disrupted. In Bangladesh, there is a risk of significant damage to our electrical equipment in switches, base stations and other site buildings caused by flooding. If critical network infrastructure is damaged by flooding we will face the risk of interruption of business operations. Likewise, the flooding could also damage infrastructure for electricity in Bangladesh. As Telenor is dependent of electricity supply, this could also lead to business interruptions.</p>

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Technology

Transitioning to lower emissions technology

Primary potential financial impact

Increased direct costs

Company-specific description

Telenor risks continued growth in its total energy consumption and carbon footprint as we continue to increase our coverage, acquire more customers and develop more mobile broadband services. Telenor's network operations require significant amounts of energy, and most power is supplied on-grid by power generation companies. In Telenor's Asian operations, the company also relies heavily on diesel used in its on-site generators to power infrastructure offgrid in remote locations or areas of unreliable on-grid power. Climate-related technology risks can imply increased costs related to renewable energy sourcing, network swaps, sourcing of energy-efficient technologies, infrastructure-sharing and energy efficient data centres and buildings.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

500,000,000

Potential financial impact figure – maximum (currency)

1,000,000,000

Explanation of financial impact figure

Telenor's Asian markets are very different from its European markets, both in its carbon footprint and the type of energy used for network operations. Telenor has in several of its Asian operations, started to replace traditional diesel-based on-site generators with cost-efficient solar/battery renewable energy technology. Telenor has already invested in more than 3,000 solar-based base stations in its Asian network operations. Potential cumulative capex towards 2030 for Telenor to continue to move from diesel generators to solar based energy production related to its network operations in Asia is estimated to be less than 1 billion NOK.

Cost of response to risk

1,000,000

Description of response and explanation of cost calculation

Three methods help us managing the risk of tightening international agreements on climate change: 1) Risk avoidance: Telenor's key method for reducing our exposure to climate related financial impacts has been to improving the energy efficiency in all our business units - such as network modernisation and integration of energy requirements in procurement processes. 2) Risk monitoring: Telenor is closely monitoring the policy debate concerning regulatory frameworks – and the different markets/countries commitment to the Paris Agreement - and where each country will need a roadmap towards 2030 for emissions reduction initiatives 3) Risk reduction: To mitigate additional risks arising from increasing emission regulations, Telenor is scaling-up of renewable energy combined with continued focus on energy efficiency initiatives in all of its network operations, resulting in both potential savings in operating expenses and reduced CO2 emissions. One example: Telenor has already invested in more than 3,000 solar-based base stations in its Asian network operations (Pakistan, Bangladesh, Malaysia and Myanmar).

Comment

We estimate total management costs (including risk monitoring and technology development) associated with climate change related technology risks to be annually less than 1 million NOK in the years towards 2030.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation

Carbon pricing mechanisms

Primary potential financial impact

Increased indirect (operating) costs

Company-specific description

Telenor may face future tax on direct and indirect emissions. Telenor is heavily dependent on electricity in its network operations; higher electricity prices as a result of increased climate change regulations in the energy sector therefore present an indirect risk to Telenor. In terms of climate-related regulatory

risks, Telenor may face higher operational cost due to increasing carbon taxes and energy/ fuel taxes as well as higher capital cost due to a required shift towards more energy efficient technology and renewable energy solutions. However, the risk for Telenor in short to medium term is moderate due to low direct carbon emissions per customer from our operations.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

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

100,000,000

Potential financial impact figure – maximum (currency)

600,000,000

Explanation of financial impact figure

Regulatory risks can imply increased compliance costs related to company operations, payment of fines/ tariffs and for example involvement in carbon trading schemes. We have evaluated possible carbon costs exposure in relation to increased climate change regulations from 2020 onwards under different carbon price scenarios. Telenor has assessed different scenarios with carbon prices from 100 NOK to 500 NOK per tonne CO₂ across the different markets. With our current carbon emissions of 1.2 million tons CO₂, Telenor could risk annual carbon pricing mechanisms costs up to 600 million NOK.

Cost of response to risk

1,000,000

Description of response and explanation of cost calculation

Three methods help us managing the risk of tightening international agreements on climate change:

1) Risk avoidance: Telenor's target for Nordic markets is to have carbon-neutral business operations by 2030, focusing on energy efficiency measures in network operations, purchasing renewable electricity, enabling carbon neutral transport (including its supply chain), and offsetting business flights. Telenor's ambitions for Asian operations is 50 per cent reduction in carbon emissions by 2030, focusing on substituting diesel generators with solar solutions at base stations and exploring other renewable electricity options in the region.

2) Risk monitoring: Telenor is closely monitoring the policy debate concerning regulatory frameworks. One example: Telenor is monitoring the policy debate concerning the wider EU 2030 commitment to reduce CO₂ emissions by 40% as part of EU's commitment to the Paris Agreement - and where each EU member state will have to follow an emissions reduction pathway.

3) Risk reduction: To mitigate additional risks arising from increasing emission regulations, Telenor is actively engaged in dialogue with policymakers in EU as well as in other parts of the world. For example;

Telenor has engaged with the Nordic Council of Ministers through the Nordic CEO's for a Sustainable Future initiative. Telenor supports to incentivize and de-risk sustainable solutions while pursuing policy that promotes the phase-out of carbon intensive solutions over time; such as cap and trade systems or carbon taxes.

Comment

We estimate total management costs (including risk monitoring and active engagement) associated with following up climate change related risks to be annually less than 1 million NOK in the years towards 2030.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical

Increased severity and frequency of extreme weather events such as cyclones and floods

Primary potential financial impact

Increased capital expenditures

Company-specific description

Telenor's operations and infrastructure in Asia are exposed to flooding risks caused by rising sea levels. Climate research predicts the sea level to rise because of melting ice and the expansion of water. The rising sea level poses a risk to all countries at very low altitudes, in particular to Bangladesh which is highly threatened by the rising sea level. Extreme weather events such as cyclones and floods represent significant risks as they have the potential to damage buildings, infrastructure and to threaten energy security.

How the risk is affecting Telenor: Cyclones and floods have the potential to damage our buildings and network infrastructure; at the same time it could also interrupt our business operations indirectly if energy supply is disrupted. In Bangladesh, there is a risk of high damage of our electrical equipment in switches, base stations and other site buildings caused by cyclones and floods. If critical network infrastructure is damaged, we will face the risk of interruption of business operations. Likewise, the cyclones and floods could also demolish the infrastructure for electricity in Bangladesh. As Telenor is dependent of electricity supply, this could also lead to business interruptions. The risk exposure is estimated to be more than 50% of our assets in Bangladesh.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

100,000,000

Potential financial impact figure – minimum (currency)**Potential financial impact figure – maximum (currency)****Explanation of financial impact figure**

In Bangladesh, there is a risk of high damage of electrical equipment in switches, base stations and other site buildings caused by cyclones and floods - calculated that more than 50% of our infrastructure will need early renewal with a likelihood of more than once every 10 years. The financial impacts is estimated to be approx. 100 million NOK.

Cost of response to risk

1,000,000

Description of response and explanation of cost calculation

All business units in Telenor shall perform regular risk assessments for its operations focusing on extreme weather events related to climate change and use the results in planning of network expansion and protection of existing infrastructure;

At Telenor, we have also previously conducted a group-wide climate impact risk analysis for our network operations. The aim of this analysis was to identify the risks of extreme weather events such as cyclones and floods to Telenor's network operations. The results from this analysis have been used in planning of network expansion as well as reactively with regard to protecting existing infrastructure. The risk analysis conducted showed increased exposure to flooding as a consequence to rising sea levels in countries close to sea level such as Bangladesh. Telenor therefore reactively made its existing assets in these countries more flooding resilient wherever possible.

For example in Bangladesh, Telenor (Grameenphone) operates thousands of base stations where almost 50% being located between 1m and 5m above sea level. Most of the equipment rooms in these base stations have been built above the local highest flood level. All the antenna towers are designed to withstand wind speeds above 118 km/h at maximum loading. Further, most base stations have installed battery capacity as backup and also additional diesel generators are installed. With these measures already taken, we have reduced the risk significantly. The residual risk of interruptions to our business activities due to flooding risk over the next 10 years is fairly small.

Comment

We estimate total management costs (including risk monitoring and active engagement) associated with following up climate change related risks to be annually less than 1 million NOK in the years towards 2020.

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?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

The world needs to halve emissions by 2030 to limit global overheating to 1.5°C. Mobile network enabled technologies form an important part of the decarbonisation solution, enabling rapid emission reductions while improving quality of life and supporting economic growth.

The GSMA report (“The Enablement Effect”), produced in collaboration with the Carbon Trust, an independent sustainability specialist, was presented at the United Nations Climate Change Conference (COP25) held in Madrid in December 2019. The report found that the majority of avoided emissions from IoT technologies are primarily in buildings, transport, manufacturing and the energy sector – sectors that make up a large portion of global GHG emissions. For example, savings in buildings are a result of technologies that improve energy efficiency such as building management systems and smart meters. In the transport sector, the use of telematics can improve route optimisation and vehicle fuel efficiency.

According to Berg Insights in 2019, Telenor’s IoT market position is no 1 the Nordics, no 3 in Europe and no 10 in the world. Telenor’s IoT ambition towards 2025 is to be an IoT Leader in Nordics, IoT market-maker in our Asian markets and to take strong elected vertical industry positions.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

5,000,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Berg Insight reported in 2019 that the global number of cellular IoT subscribers increased by 70 percent during 2018 to reach 1.2 billion at the end of the year – corresponding to around 13 percent of all mobile subscribers. Further, Berg Insight forecasted that until 2023, the number of cellular IoT subscribers would grow at a compound annual growth rate (CAGR) of around 50 percent to reach 9 billion at the end of the period. During the same period, cellular IoT network revenues are forecasted to grow at a compound annual growth rate (CAGR) of 34 percent from € 6.7 billion in 2018 to approximately € 29 billion in 2023. Berg Insights estimated that the monthly ARPU expected to drop to € 0.27 towards 2023.

In 2019, Telenor Group passed 15 million connected devices globally on its IoT platforms - and had total revenues more than 1.3 billion NOK related to network connectivity services (including IoT based services). Based on global industry forecasts for future IoT network revenues, we have estimated Telenor's IoT annual revenue potential to 5 billion NOK by 2025.

Cost to realize opportunity

5,000,000

Strategy to realize opportunity and explanation of cost calculation

Telenor has significant competence and experience within IoT, primarily through our global vehicle, Telenor Connexion. Our early and continuing interest in IoT is indicative of Telenor's ambition to create a faster, smarter, and ultimately more useful internet for the benefit for our customers and global networks. We aim to strengthen our IoT business through organic build or business partnerships. We will be sustaining a world-leading position within connectivity, while also taking on new exciting vertical industry positions, where new business models will emerge based on sensor data and analytics.

During 2019, Telenor's research unit continued to provide new knowledge and build deep competences in areas such as digital customer behaviour, new network and Internet technologies, artificial intelligence (AI), advanced analytics, business models, organizational solutions, competition and business environment.

Telenor has continued to build relationships with leading research institutions in Norway and internationally. Transformation, digital innovation and artificial intelligence (AI) are at the top of decision-makers' minds and agendas. Telenor has contributed several studies to prepare for tomorrow's communications market, including how to further empower societies. Scientists worked on how to realise the full benefit of the technological revolutions within artificial intelligence (AI) and the Internet of Things (IoT), how 5G can create new revenue growth by serving industry verticals and deliver mass-market connectivity, and how to differentiate and stay relevant to our customers. In 2019, Telenor spent a total of NOK 280 million on research and development (R&D).

Estimated management cost for relevant industrial partnerships is estimated to around 5 million NOK.

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Upstream

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient production and distribution processes

Primary potential financial impact

Reduced direct costs

Company-specific description

In Asia, Telenor's energy cost has been on the rise, increasing by 8% from 2017 to 2018, and 16% from 2018 to 2019. Telenor has initiated a group-wide energy efficiency project named Thunderbolt – already launched in Asia. Total energy cost saving potential from the Thunderbolt project is indicated in the range of 10-15% in the long run – representing a potential 250 million NOK in reduced annual operational costs.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

250,000,000

Potential financial impact figure – minimum (currency)**Potential financial impact figure – maximum (currency)****Explanation of financial impact figure**

In Asia, Telenor's energy cost has been on the rise, increasing by 8% from 2017 to 2018, and 16% from 2018 to 2019. Telenor has initiated a group-wide energy efficiency project already launched in Asia. Total energy cost saving potential from this project is indicated to be in the range of 10-15% in the long run – representing an potential 250 million NOK in reduced annual operational costs.

Cost to realize opportunity

1,000,000

Strategy to realize opportunity and explanation of cost calculation

Telenor's energy efficiency project focuses on energy efficiency in network equipment modernization, stronger governance in minimizing generator run hour through cyclic use of batteries, renewable energy

adoption, new technologies like machine learning and AI based radio network shutdown dynamically while radio resources are not utilized to avoid unnecessary power consumption, collaborate with the equipment manufacturers and partners to develop energy efficient features, minimizing non-value adding electric loads, and the impact of 5G technology and joint innovation with relevant equipment vendors.

Estimated relevant project management cost is 1 million NOK.

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

Telenor Group's total GHG emissions in 2019 was 1.2 million tonnes of CO2 when using market-based electricity emission factors for indirect scope 2 emissions – an increase of 1 per cent compared to 2018. The operations in Asia account for 86 per cent of Group's total scope 1+2 emissions when using market-based method for scope 2, of which 69 per cent is related to grid electricity (scope 2) and remaining close to 17 per cent stems from use of diesel generators in Asia (scope 1).

By year-end 2019, Telenor has installed solar energy solutions for close to 3,000 of its base stations in Asia, an increase from 2,500 solar-based sites by year end 2018. The distribution of solar-based sites by year end 2019; Bangladesh 1200 sites , Pakistan 943 sites, Myanmar 839 sites, Thailand 14 sites and Malaysia 10 sites.

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)

100,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Our network operations in Emerging Asia already have around 3,000 solar-powered base stations in operation. There are opportunities for a roll-out of additional 2,500 base stations over the next 5 years resulting in a total emissions reduction potential of 10-15 %. Preliminary analysis suggests accumulated need in CAPEX of around NOK 300 mill and with resulting estimated OPEX savings from a reduction in on-site diesel consumption and grid electricity that indicates annual cost savings of NOK 100 mill.

However there are potential challenges related to on-site space constraints and a lack of support/contractual obligation from tower companies. For 2020, there are currently plans for 250 solar-based sites to be added in Pakistan and 400 solar-based sites to be added in Myanmar.

Cost to realize opportunity

300,000,000

Strategy to realize opportunity and explanation of cost calculation

Our network operations in Emerging Asia already have around 3,000 solar-powered base stations in operation. There are opportunities for a roll-out of additional 2,500 base stations over the next 5 years resulting in a total emissions reduction potential of 10-15 %. Preliminary analysis suggests accumulated need in CAPEX of around NOK 300 mill and with resulting estimated OPEX savings from a reduction in on-site diesel consumption and grid electricity that indicates annual cost savings of NOK 100 mill.

However there are potential challenges related to on-site space constraints and a lack of support/contractual obligation from tower companies.

Comment

C3. Business Strategy

C3.1

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

Yes, and we have developed a low-carbon transition plan

C3.1a

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

No, but we anticipate using qualitative and/or quantitative analysis in the next two years

C3.1c

(C3.1c) Why does your organization not use climate-related scenario analysis to inform its strategy?

i. Why climate-related scenario analysis is not used to inform your business strategy:

Telenor has been for the last ten years committed to minimising its environmental impact. Telenor's business units operate with the policy of making all reasonable efforts to minimise use of natural resources including energy, water and raw materials. Since 2008, Telenor Group has established documented processes which consider climate change related risks and opportunities as part of our total business environment. All Telenor Group's business units shall adhere to local and internationally recognized environmental and energy efficiency standards, as adhered to by Telenor Group. The business units shall have an updated risk assessment for its operations focusing on extreme weather events related to climate change. All business units shall investigate potential business initiatives and partnerships for offering such eco-efficient solutions.

At Telenor, we have conducted a Climate Impact Risk Analysis for countries of Telenor's operations. The aim of this analysis was to identify the risks of climate induced damage such as flooding to Telenor's networks in all countries where we have large infrastructure operations. The results from this analysis have been used proactively in planning of network expansion as well as reactively to protecting existing infrastructure.

The ICT industry's technology and smart services through the Internet of Things (IoT) have the potential to cut global carbon emissions, reduce resource intensity, stimulate economic growth and deliver substantial social benefits. Telenor has over recent years been engaged with the industry organisations – such as GSMA and GeSI – and also leading research institutions to embrace these opportunities.

The use of scenarios in assessing climate-related issues and their potential financial implications is relatively new and hopefully practices will evolve over time. Telenor believes such analysis is important for improving the disclosure of climate-related financial information. In the next few years, Telenor sees the need to update its risk and opportunity assessment in a more systematic way. Telenor will assess resilience of our corporate strategy, taking into consideration different climate-related scenarios. Telenor will disclose how our strategy might need to change to address potential climate-related risks and opportunities.

Telenor has formulated new strategic climate ambitions for Telenor Group and needs for develop local climate roadmaps towards 2030 that are aligned with the overall Paris Climate Agreement. Telenor will develop climate roadmaps across its business units which can be aligned with the future business strategy processes. These climate roadmap should drive renewable energy ambitions and related priorities at group level and on specific business unit levels. There is a need to have a clear understanding of bottom-up and top-down perspectives in each market in order to drive decision making. A unified approach and templates are needed to collect and structure the right data and insights across each business unit. Relevant conditions for business unit include current energy performance, climate legislations, the nationally determined contributions to the Paris Agreement (NDCs), future infrastructure developments etc.

ii. Whether you expect it to be in the future

Telenor believes that global sustainability issues are solved through joint efforts and collaboration – within industry sectors, across the value chain or not at least through public-private partnerships. Telenor is currently working together with the world's largest mobile operators with a common ambition so sign up to an industry-wide plan to achieve net-zero greenhouse gas (GHG) emissions by 2050 in line with the Paris climate agreement. This industry commitment will reflect the urgent need for the world to accelerate action to limit global warming to 1.5°C by 2050, demonstrating how the private sector can show leadership and responsibility in addressing the potentially devastating effects of climate change on our planet.

Telenor will over the next few years update its risk and opportunity assessment in a more systematic way. Telenor will look into the resilience of our corporate strategy, taking into consideration different climate-related scenarios. Telenor will disclose how its strategy might need to change to address potential climate-related risks and opportunities.

C3.1d

(C3.1d) 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	<ul style="list-style-type: none"> • How is the strategy influenced : The world needs to halve emissions by 2030 to limit global warming to 1.5°C. Mobile network enabled technologies form an important part of the decarbonisation solution, enabling rapid emission reductions while improving quality of life and supporting economic growth. The GSMA report in 2019 (“The Enablement Effect”), produced in collaboration with the Carbon Trust, an independent sustainability specialist, found that the majority of avoided emissions from IoT technologies are primarily in buildings, transport, manufacturing and the energy sector – sectors that make up a large portion of global GHG emissions. For example, savings in buildings are a result of technologies that improve energy efficiency such as building management systems and smart meters. In the transport sector, the use of telematics can improve route optimisation and vehicle fuel efficiency. • What is the time horizon : Ongoing IoT-related business activities with potential increased IoT focused partnerships and business growth towards 2025. • Substantial strategic decision: Telenor has over the years established significant competence and experience within IoT, primarily through our global vehicle, Telenor Connexion. According to Berg Insights in 2019, Telenor’s IoT market position is no 1 the Nordics, no 3 in Europe and no 10 in the world. Telenor’s strategic ambition towards 2025 is to be an IoT Leader in Nordics, IoT market-maker in our Asian markets and to take strong vertical industry positions.
Supply chain and/or value chain	Yes	<ul style="list-style-type: none"> • How strategy has been influenced : Telenor is a substantial purchaser of network and ICT technology and we have large power purchase agreements (grid based electricity) throughout our business footprint. In parts of Asian operations we also depend on substantial diesel consumption for our onsite energy production at the mobile network base stations . • What is the time horizon : Ongoing climate related supply chain focus with potential long term

		<p>impacts towards 2025.</p> <ul style="list-style-type: none"> • Substantial strategic decision: Telenor's long term climate ambitions will impact all business operations, and will require group-wide decisions at all levels. This will require energy efficiency measures in network operations, replacing diesel generators with solar solutions at the base stations in Asia and sourcing renewable energy through partnerships with energy producers.
Investment in R&D	Yes	<ul style="list-style-type: none"> • How strategy has been influenced : Telenor has over the years built relationships with leading research institutions in Norway and internationally. Transformation, digital innovation and artificial intelligence (AI) are at the top of decision-makers' minds and agendas. Telenor has contributed to several studies to prepare for tomorrow's communications market. <p>Scientists worked on how to realise the full benefit of the technological revolutions within artificial intelligence (AI) and the Internet of Things (IoT), how 5G can create new revenue growth by serving industry verticals and deliver mass-market connectivity, and how to differentiate and stay relevant to our customers.</p> <ul style="list-style-type: none"> • What is the time horizon : Ongoing R&D activities with potential long-term business opportunity impacts towards 2030. • Substantial strategic decision: During 2019, Telenor's research unit continued to provide new knowledge and build deep competences in areas such as digital customer behaviour, new network and Internet technologies, artificial intelligence (AI), advanced analytics, business models, organizational solutions, competition and business environment. In 2019, Telenor spent a total of NOK 280 million on research and development (R&D).
Operations	Yes	<ul style="list-style-type: none"> • How strategy has been influenced: Telenor is a substantial energy consumer with large grid based electricity purchase agreements throughout our business footprint. In parts of our Asian operations we also depend on substantial diesel consumption for onsite energy production. In Asia, Telenor's energy cost has been on the rise, increasing by 8% from 2017 to 2018, and 16% from 2018 to 2019. • What is the time horizon : Ongoing strategic project - with long-term operational impacts towards 2030. • Substantial strategic decision: In 2019, Telenor has initiated a group-wide energy efficiency project already launched in Asia. The energy efficiency project focuses on energy efficiency in network equipment modernization, stronger governance in minimizing generator run hour through cyclic use of batteries, renewable energy adoption, new technologies like machine

		learning and AI based radio network shutdown dynamically while radio resources are not utilized to avoid unnecessary power consumption, collaborate with the equipment manufacturers and partners to develop energy efficient features, minimizing non-value adding electric loads, and the impact of 5G technology and joint innovation with relevant equipment vendors.
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C3.1e

(C3.1e) 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 Indirect costs Capital expenditures	<p>Telenor is a substantial energy consumer with large grid based electricity purchase agreements throughout our business footprint. In parts of our Asian operations we also depend on substantial diesel consumption for onsite energy production. In Asia, Telenor's energy cost has been on the rise, increasing by 8% from 2017 to 2018, and 16% from 2018 to 2019.</p> <p>Towards 2030 , Telenor's financial planning will incorporate climate-related regulatory risks. These include potential higher operational costs due to increasing carbon taxes and energy/fuel taxes, as well as risks of higher capital costs due to a required transition towards the use of renewable energy solutions.</p> <p>Telenor's ambition for Nordic markets is to have carbon-neutral business operations by 2030, focusing on energy efficiency measures in network operations, purchasing renewable electricity, enabling carbon neutral transport (including its supply chain), and offsetting business flights. Telenor's ambitions for Asian operations is 50 per cent reduction in carbon emissions by 2030, focusing on substituting diesel generators with solar solutions at base stations and exploring other renewable electricity options in the region.</p>

C3.1f

(C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

Telenor's strategic direction has three main components:

- Delivering growth through focused customer offerings that fuel the persistent need for connectivity and related services
- Continuing to innovate on our core business and be a leader in modernisation, from how we run our networks to the way we engage with customers across touchpoints
- Reinforcing our strong foundation of responsible business through the way we operate and manage business environment risk, in how we treat our customers' data and through our role as a global citizen working to achieve our climate goals

On February 26, 2020 Telenor ASA signed and submitted a commitment letter to the Science Based Targets initiative (SBTi). At the Capital Markets Day on March 3, Telenor Group communicated the following targets;

Carbon neutral business operations in Nordics by 2030 and 50 % reduction in tonnes CO2 equivalent emissions in Asia by 2030. These climate targets will influence all our business units and their business strategy and financial planning, and will require group-wide decisions that will affect both operational cost and capital spending.

C4. Targets and performance

C4.1

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

Absolute target

C4.1a

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

Target reference number

Abs 1

Year target was set

2019

Target coverage

Country/region

Scope(s) (or Scope 3 category)

Scope 1+2 (market-based)

Base year

2019

Covered emissions in base year (metric tons CO2e)

169,050

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

14

Target year

2030

Targeted reduction from base year (%)

100

Covered emissions in target year (metric tons CO2e) [auto-calculated]

0

Covered emissions in reporting year (metric tons CO2e)

169,050

% of target achieved [auto-calculated]

0

Target status in reporting year

New

Is this a science-based target?

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science-Based Targets initiative

Please explain (including target coverage)

Telenor Group's total GHG emissions in 2019 was 1.2 million tonnes of CO₂. Nordic operations accounted for 14% of Telenor Group's total scope 1+2 emissions, equal to 169.050 tonnes of CO₂. All Scope 2 figures are calculated using the market-based method.

Telenor Group has signed and submitted a commitment letter to the Science Based Targets initiative (SBTi). At the Capital Markets Day on March 3 2020, Telenor Group communicated the following target for the Nordic Region: Carbon neutral (Scope 1+2) business operations in the Nordics by 2030. To reach our target of carbon neutral business operations in the Nordics by 2030, we must address the following:

- Scope 1 emissions: These emissions are mainly from fuel consumption from company car fleet. To eliminate these, we must get 100% electric car fleet by 2030.
- Scope 2 emissions: These emissions are from our electricity consumption. To eliminate these, we must either purchase certified green electricity or enter into long-term power purchase agreements directly with renewable energy companies.

Target reference number

Abs 2

Year target was set

2019

Target coverage

Country/region

Scope(s) (or Scope 3 category)

Scope 1+2 (market-based)

Base year

2019

Covered emissions in base year (metric tons CO₂e)

1,039,343

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

86

Target year

2030

Targeted reduction from base year (%)

50

Covered emissions in target year (metric tons CO2e) [auto-calculated]

519,671.5

Covered emissions in reporting year (metric tons CO2e)

1,039,343

% of target achieved [auto-calculated]

0

Target status in reporting year

New

Is this a science-based target?

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science-Based Targets initiative

Please explain (including target coverage)

The Asia operations accounted for 86% of Telenor Group's total scope 1+2 emissions, equal to 1.039.343 tonnes of CO2. All Scope 2 figures are calculated using the market-based method.

Telenor Group has signed and submitted a commitment letter to the Science Based Targets initiative (SBTi). At the Capital Markets Day on March 3 2020, Telenor Group communicated the following target for the Nordic Region: 50 % reduction in tonnes CO2 equivalent emissions (Scope 1+2) in Asia by 2030 compared to a baseline year 2019. To reach our Asian target by 2030, we must address the following climate actions :

- Energy efficiency measures in network operations
- Replace diesel generators with solar solutions at the base stations
- Exploring sourcing of renewable electricity options in the region.

C4.2

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

Target(s) to increase low-carbon energy consumption or production

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number

Low 1

Year target was set

2019

Target coverage

Country/region

Target type: absolute or intensity

Absolute

Target type: energy carrier

Electricity

Target type: activity

Production

Target type: energy source

Renewable energy source(s) only

Metric (target numerator if reporting an intensity target)

Percentage

Target denominator (intensity targets only)**Base year**

2018

Figure or percentage in base year

2,500

Target year

2025

Figure or percentage in target year

5,000

Figure or percentage in reporting year

3,000

% of target achieved [auto-calculated]

20

Target status in reporting year

Underway

Is this target part of an emissions target?

Yes, replacing diesel generators with solar solutions at the base stations is a part of region-wide action plan to achieve a 50 % reduction in tonnes CO2 equivalent emissions (Scope 1+2) in Asia by 2030 compared to a baseline year 2019.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

By year end 2019, Telenor has installed solar energy solutions for close to 3,000 of its base stations in Asia, an increase from 2,500 solar-based sites by year end 2018. The distribution of solar-based sites by year end 2019; Bangladesh 1200 sites , Pakistan 943 sites, Myanmar 839 sites, Thailand 14 sites and Malaysia 10 sites.

For 2020, there are currently plans for 250 solar-based sites to be added in Pakistan and 400 solar-based sites to be added in Myanmar. Over the next few years, Telenor is planning to increase the number solar-based sites to approximately 5,000 base stations from solar-based sites 2,500 in 2018.

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	1	500,000
To be implemented*	1	170,000
Implementation commenced*	1	5,000
Implemented*	1	5,000
Not to be implemented	0	500,000

C4.3b

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

Initiative category & Initiative type

Low-carbon energy generation
Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)

5,000

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

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

14,000,000

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

75,000,000

Payback period

4-10 years

Estimated lifetime of the initiative

16-20 years

Comment

In 2019, we have installed approx 500 new solar energy solutions for base stations in Pakistan and in Myanmar. This has resulted in a reduction of approx 2 mill liters of diesel and an estimated reduction in Scope 1 emissions of 5,000 tonnes CO2.

By year end 2019, Telenor has installed solar energy solutions for close to 3,000 of its base stations in Asia, an increase from 2,500 solar-based sites by year end 2018. The distribution of solar-based sites by year end 2019; Bangladesh 1200 sites, Pakistan 943 sites, Myanmar 839 sites, Thailand 14 sites and Malaysia 10 sites.

For 2020, there are currently plans for 250 solar-based sites to be added in Pakistan and 400 solar-based sites to be added in Myanmar. Over the next few years, Telenor is planning to increase the number solar-based sites to approximately 5,000 base stations from solar-based sites 2,500 in 2018.

C4.3c

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

Method	Comment
Dedicated budget for energy efficiency	All Telenor's business units are mandated to choose cost-efficient energy-efficiency initiatives: network swaps, the sourcing of energy-efficient technologies, infrastructure-sharing and more energy-efficient data centres and buildings.
Dedicated budget for other emissions reduction activities	Several of Telenor's Asian operations has for a few years started to replace traditional diesel-based on-site generators with cost-efficient solar/battery renewable energy technology.
Dedicated budget for low-carbon product R&D	The ICT industry's technology and smart services through the Internet of Things (IoT) have the potential to cut global carbon emissions, reduce resource intensity, stimulate economic growth and deliver substantial social benefits. Telenor continues to engage with the industry organisations – such as GSMA and GeSI – and industry partners to embrace these opportunities. During 2019, Telenor's research unit continued to provide new knowledge and build deep competences in areas such as digital customer behaviour, new network and Internet technologies, artificial intelligence, advanced analytics, business models, organisational solutions, competition and business environment.

C4.5

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

Yes

C4.5a

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

Level of aggregation

Group of products

Description of product/Group of products

The world needs to halve emissions by 2030 to limit global overheating to 1.5°C. Mobile network enabled technologies form an important part of the decarbonisation solution, enabling rapid emission reductions while improving quality of life and supporting economic growth.

The GSMA report (“The Enablement Effect”), produced in collaboration with the Carbon Trust, an independent sustainability specialist, was presented at the United Nations Climate Change Conference (COP25) held in Madrid in December 2019. The report found that the majority of avoided emissions from IoT technologies are primarily in buildings, transport, manufacturing and the energy sector – sectors that make up a large portion of global GHG emissions.

For example, savings in buildings are a result of technologies that improve energy efficiency such as building management systems and smart meters. In the transport sector, the use of telematics can improve route optimisation and vehicle fuel efficiency.

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

Avoided emissions

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

Evaluating the carbon-reducing impacts of ICT

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

1

Comment

According to Berg Insights in 2019, Telenor’s IoT market position is no 1 the Nordics, no 3 in Europe and no 10 in the world. Telenor’s IoT ambition towards 2025 is to be an IoT Leader in Nordics, IoT market-maker in our Asian markets and to take strong elected vertical industry positions.

Berg Insight reported in 2019 that the global number of cellular IoT subscribers increased by 70 percent during 2018 to reach 1.2 billion at the end of the year – corresponding to around 13 percent of all mobile subscribers. Further, Berg Insight forecasted that until 2023, the number of cellular IoT subscribers would grow at a compound annual growth rate (CAGR) of around 50 percent to reach 9 billion at the end of the period. During the same period, cellular IoT network revenues are forecasted to grow at a compound annual growth rate (CAGR) of 34 percent from € 6.7 billion in 2018 to approximately € 29 billion in 2023. Berg Insights estimated that the monthly ARPU expected to drop to € 0.27 towards 2023.

In 2019, Telenor Group passed 15 million connected devices globally on its IoT platforms - and had total revenues more than 1.3 billion NOK related to network connectivity services (including IoT based services). Based on global industry forecasts for future IoT network revenues, we have estimated Telenor’s IoT annual revenue potential to 5 billion NOK by 2025.

C5. Emissions methodology

C5.1

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

Scope 1

Base year start

January 1, 2008

Base year end

December 31, 2008

Base year emissions (metric tons CO₂e)

160,000

Comment**Scope 2 (location-based)**

Base year start

January 1, 2008

Base year end

December 31, 2008

Base year emissions (metric tons CO₂e)

572,000

Comment**Scope 2 (market-based)**

Base year start

January 1, 2008

Base year end

December 31, 2008

Base year emissions (metric tons CO₂e)

572,000

Comment

C5.2

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

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

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

203,386

Start date

January 1, 2019

End date

December 31, 2019

Comment

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)

219,105

Start date

January 1, 2018

End date

December 31, 2018

Comment

Past year 2

Gross global Scope 1 emissions (metric tons CO2e)

224,906

Start date

January 1, 2017

End date

December 31, 2017

Comment

Past year 3

Gross global Scope 1 emissions (metric tons CO2e)

378,231

Start date

January 1, 2016

End date

December 31, 2016

Comment

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

881,781

Scope 2, market-based (if applicable)

1,005,005

Start date

January 1, 2019

End date

December 31, 2019

Comment

Past year 1

Scope 2, location-based

891,598

Scope 2, market-based (if applicable)

1,084,604

Start date

January 1, 2018

End date

December 31, 2018

Comment

Past year 2

Scope 2, location-based

818,899

Scope 2, market-based (if applicable)

1,008,203

Start date

January 1, 2017

End date

December 31, 2017

Comment

Past year 3

Scope 2, location-based

952,338

Scope 2, market-based (if applicable)

1,161,833

Start date

January 1, 2016

End date

December 31, 2016

Comment

C6.4

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

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, not yet calculated

Please explain

Capital goods

Evaluation status

Relevant, not yet calculated

Please explain

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

Evaluation status

Relevant, not yet calculated

Please explain

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

Emissions calculation methodology

Includes downstream transportation and distribution. Road transportation; mainly involving vehicles used for maintenance and support services. Fuel-based method; which involves fuels consumed by these vehicles owned or long-term leased by Telenor and applying the appropriate fuel emission factors for different kinds of fuel used; motor gasoline, diesel, LPG etc.

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

100

Please explain

Waste generated in operations

Evaluation status

Relevant, not yet calculated

Please explain

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

Emissions calculation methodology

Scope: Only business flights were accounted for. Methodology: Distance-based-method, using the following conversion factors for CO2 emissions: 0.12 kg CO2e per passenger kilometer

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

100

Please explain

Employee commuting

Evaluation status

Relevant, not yet calculated

Please explain

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

Upstream leased assets are already included in our scope 1 or scope 2 Inventory.

Downstream transportation and distribution

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

0

Emissions calculation methodology

Road transportation; mainly involving vehicles used for support and marketing services. Fuel-based method; which involves fuels consumed by these vehicles owned or long-term leased by Telenor and applying the appropriate fuel emission factors for different kinds of fuel used; motor gasoline, diesel, LPG etc.

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

100

Please explain

Emissions from downstream transportation and distribution are included in upstream transportation and distribution.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Please explain

It does not contribute significantly to Telenor's anticipated scope 3 emissions, since Telenor in general has limited processing of sold intermediate products by manufacturers subsequent to sale.

Use of sold products

Evaluation status

Not relevant, explanation provided

Please explain

It does not contribute significantly to Telenor's anticipated scope 3 emissions, since Telenor in general has limited processing of sold intermediate products by manufacturers subsequent to sale.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Please explain

It does not contribute significantly to Telenor's anticipated scope 3 emissions, since Telenor in general has limited market activities related to end-of-life-treatment of sold products.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

It does not contribute significantly to Telenor's anticipated scope 3 emissions, since Telenor in general has limited operation of assets that are leased to other business entities.

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

Franchises are already included in our scope 1 or scope 2 inventory .

Investments

Evaluation status

Not relevant, explanation provided

Please explain

It does not contribute significantly to Telenor's anticipated scope 3 emissions since equity investments in subsidiaries (more than 50 percent ownership) are included in Telenor's scope 1 or scope 2 inventory.

Other (upstream)

Evaluation status

Not evaluated

Please explain**Other (downstream)**

Evaluation status

Not evaluated

Please explain

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

0.0000105

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

1,208,391

Metric denominator

unit total revenue

Metric denominator: Unit total

114,000,000,000

Scope 2 figure used

Market-based

% change from previous year

5

Direction of change

Decreased

Reason for change

The intensity figure for Scope 1 and 2 emissions per total revenue decreased with 5 % from 2018 to 2019 due to the combined fact that total revenues increased by 4 % (from 110 billion NOK in 2018 to 114 billion NOK in 2019) while the total scope 1 and 2 emissions decreased by 2 % from 1.227 million tonnes CO₂ in 2018 to 1.208 million tonnes CO₂ in 2019. This is due to following combined reasons; New investments (the Finnish company DNA was consolidated on 21 August 2019), change in output (50 % increase in data traffic volume compared to 2018) as well as energy efficiency measures, (sourcing of energy-efficient technologies) and increased use of infrastructure-sharing).

C7. Emissions breakdowns

C7.1

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

No

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Norway	862.9
Sweden	339.4
Denmark	678.9
Finland	500
Thailand	8,618.5
Malaysia	9,737.7
Myanmar	92,437
Bangladesh	21,487.7
Pakistan	68,723.9

C7.3

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

By activity

C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Network operations	173,530.5
Building operations	8,525
Transportation	21,330.5

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Norway	4,834.3	124,124.2	451,200	0
Sweden	514.4	1,135.5	135,300	109,900
Denmark	8,595.6	28,008.4	57,600	0
Finland	29,500	13,400	156,200	87,000
Thailand	343,700.7	343,700.7	726,700	0
Malaysia	166,003.5	166,003.5	255,400	0
Myanmar	37,694.7	37,694.7	104,700	0
Bangladesh	166,624.3	166,624.3	330,700	0

Pakistan	124,313.3	124,313.3	298,900	0
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C7.6

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

By activity

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)
Network operations	864,097.2	875,552.5
Building operations	17,684.4	29,452.1
Transportation	0	0

C7.9

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

Decreased

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	5,000	Decreased	0.4	We have during 2019 completed renewable energy projects involving installation of more than 500 new solar powered base stations in Pakistan and Myanmar. This has resulted in a reduction in consumption of approximately 2 million liters of diesel with an estimated reduction in carbon emissions of approx 5,000 tonnes CO2.
Other emissions reduction activities	49,000	Decreased	3.8	Net effect of less energy consumption in Asia region due to energy efficiency actions. Calculations is mainly based on approximately 100 GWh less network energy consumption in Thailand, which has a grid factor of 473 tonnes CO2e per GWh.
Divestment	0		0	
Acquisitions	14,000	Increased	1.1	Telenor's CDP report for 2019 also includes the full year performance data for our Finnish operations by the wholly-owned mobile operator DNA.
Mergers	0	No change	0	

Change in output	0	No change	0	
Change in methodology	55,000	Decreased	4.2	Changes in residual conversion factors for Scope 2 emissions in Norway.
Change in boundary	0	No change	0	
Change in physical operating conditions	0	No change	0	
Unidentified	0	No change	0	
Other	0	No change	0	

C7.9b

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

Market-based

C8. Energy

C8.1

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

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

C8.2

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

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

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	868,000	868,000
Consumption of purchased or acquired electricity		109,900	2,444,200	2,554,200
Consumption of purchased or acquired heat		0	5,000	5,000
Consumption of purchased or acquired cooling		0	1,020	1,020
Consumption of self-generated non-fuel renewable energy		19,760		19,760
Total energy consumption		129,660	3,318,220	3,447,880

C8.2b

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

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

C8.2c

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

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

762,900

MWh fuel consumed for self-generation of electricity

700,450

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of cooling

0

Emission factor

2.5894

Unit

kg CO2 per liter

Emissions factor source

UK Department for Environment, Food and Rural Affairs (Defra)

Comment

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

48,190

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

39,170

MWh fuel consumed for self-generation of cooling

0

Emission factor

2.0428

Unit

kg CO2 per m3

Emissions factor source

UK Department for Environment, Food and Rural Affairs (Defra)

Comment

Fuels (excluding feedstocks)

Motor Gasoline

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

56,780

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of cooling

0

Emission factor

2.1894

Unit

kg CO2e per liter

Emissions factor source

UK Department for Environment, Food and Rural Affairs (Defra)

Comment

Fuels (excluding feedstocks)

Biodiesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

130

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of cooling

0

Emission factor

1.43

Unit

kg CO2e per liter

Emissions factor source

Malaysia / UK Department for Environment, Food and Rural Affairs (Defra)

Comment

C8.2d

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	733,640	733,640	19,760	19,760
Heat	43,430	43,430	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C8.2e

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

Sourcing method

Unbundled energy attribute certificates, Guarantees of Origin

Low-carbon technology type

Hydropower

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

Sweden

MWh consumed accounted for at a zero emission factor

109,900

Comment

Guarantees of Origin contracts with Affärsverken and Kinect Energy Group

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

 CDP-Telenor _verification statement_2020_Final.pdf

Page/ section reference

Limited assurance of Telenor Group by DNV GL Business Assurance Norway AS - using verification standard ISO 14064-3.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

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

 CDP-verification-template 2019 Telenor_DNA Final.pdf

Page/ section reference

Limited assurance of Telenor's subsidiary DNA in Finland fby Mitopro Oy Sustainability Assurance - using verification standard AA1000 Assurance Standard (2008) with 2018 addendum.

Relevant standard

AA1000AS

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**Page/ section reference**

Limited assurance by DNV GL Business Assurance Norway AS - using verification standard ISO 14064-3.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

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**Page/ section reference**

Limited assurance of Telenor's subsidiary DNA in Finland fby Mitopro Oy Sustainability Assurance - using verification standard AA1000 Assurance Standard (2008) with 2018 addendum.

Relevant standard

AA1000AS

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

Page/ section reference

Limited assurance of Telenor Group by DNV GL Business Assurance Norway AS - using verification standard ISO 14064-3.

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

Page/ section reference

Limited assurance of Telenor's subsidiary DNA in Finland fby Mitopro Oy Sustainability Assurance - using verification standard AA1000 Assurance Standard (2008) with 2018 addendum.

Relevant standard

AA1000AS

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: 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**Page/section reference**

Limited assurance of Telenor Group by DNV GL Business Assurance Norway AS - using verification standard ISO 14064-3.

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**Page/section reference**

Limited assurance of Telenor's subsidiary DNA in Finland fby Mitopro Oy Sustainability Assurance - using verification standard AA1000 Assurance Standard (2008) with 2018 addendum.

Relevant standard

AA1000AS

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Business travel

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Page/section reference

Limited assurance of Telenor Group by DNV GL Business Assurance Norway AS - using verification standard ISO 14064-3.

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Business travel

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Page/section reference

Limited assurance of Telenor's subsidiary DNA in Finland fby Mitopro Oy Sustainability Assurance - using verification standard AA1000 Assurance Standard (2008) with 2018 addendum.

Relevant standard

AA1000AS

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	Limited assurance of Telenor Group by DNV GL Business Assurance Norway AS - using verification standard ISO 14064-3. Limited assurance of Telenor's subsidiary DNA in Finland fby Mitopro Oy Sustainability Assurance - using verification standard AA1000 Assurance Standard (2008) with 2018 addendum.	Verification standard ISO 14064-3 and AA1000 Assurance Standard.

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)?

No, and we do not anticipate being regulated in the next three years

C11.2

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

Yes

C11.2a

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

Credit origination or credit purchase

Credit purchase

Project type

Biomass energy

Project identification

In 2019, Telenor Sweden has climate compensated through Fairtrade Climate Standard. The Fairtrade Climate Standard was developed in collaboration with the Gold Standard, an internationally recognized organization with expertise in climate and development projects. The Fairtrade Climate Standard is an add-on standard to Gold Standard certification of carbon emissions reductions and sustainable development benefits.

With this initiative, we have taken responsibility for the Swedish company's emissions while we continuously work to reduce them. For 2019, we have purchased 2430t CO2 Fairtrade Carbon Credits that promote renewable energy and climate adaptation in the Indian countryside project Bagepalli Coolie Sangha.

The credits are created by replacing inefficient heating and cooking with wood and kerosene, with small-scale biogas plants that generate renewable biogas for household use. The project is owned and managed by a local cooperative consisting of nearly 40,000 farm worker families located in over 900 villages in India.

For each credit sold, a so-called Fairtrade Premium is also generated, which goes directly back to the local communities and enables further measures to strengthen resilience to climate change.

Verified to which standard

Other, please specify

Fairtrade Climate Standard.

Number of credits (metric tonnes CO2e)

2,430

Number of credits (metric tonnes CO2e): Risk adjusted volume

2,430

Credits cancelled

Yes

Purpose, e.g. compliance

Voluntary Offsetting

C11.3

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

No, and we do not currently 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, other partners in the value chain

C12.1a

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

Type of engagement

Compliance & onboarding

Details of engagement

Included climate change in supplier selection / management mechanism

% of suppliers by number

2

% total procurement spend (direct and indirect)

80

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

Rationale for the coverage of your engagement

Our sourcing processes uses sustainability criteria to reduce our supply chain carbon footprint through selection of suppliers with more energy efficient products.

Impact of engagement, including measures of success

In 2019, more than 72 per cent of Telenor's procurement processes with a contract value greater than 250,000 USD used a specified set of environmental criteria such as hazardous substance handling and energy efficiency. This scale of engagement reflects about 80 % of our total spend - including global telecom equipment suppliers as well as local service providers covering operations and maintenance in the Nordics and Asia.

Comment

Our sustainability criteria checklist (with a main focus on energy efficiency) requests the sourcing team to consider involving local environment experts in the procurement process as well as to check out possible suppliers for issues relating to their sustainability, such as their environmental management system, energy efficiency, waste management and hazardous substances. suppliers for issues relating to their sustainability, such as their environmental management system, energy efficiency, waste management and hazardous substances.

C12.1d

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

Telenor Group has for many years been an active members of the Joint Audit Cooperation (JAC) and Telenor representatives have participated in working groups as well as influenced the long term strategic processes in JAC's including long term vision and which climate change related issues should be prioritized.

The Joint Audit Cooperation (JAC) was founded in 2010 and has grown significantly since then. JAC aims to verify, assess and develop the sustainability / responsible business implementation across the manufacturing centres of important multinational suppliers of the ICT industry. JAC members share resources and best practices to develop long term sustainability / responsible business implementation in the different layers of the

ICT Supply Chain at international level. Since its foundation JAC has significantly increased the number of audits worldwide, and by doing so ensuring and driving higher sustainability/ responsible business standards across the ICT supply chain. Currently, the association encompasses a total of 17 Telecom Operators (in alphabetical order): AT&T, Deutsche Telekom, Elisa, KPN, MTC, Orange, Proximus, Rogers, Swisscom, Telecom Italia, Telefónica, Telenor, Telia Company, Telstra, VEON, Verizon and Vodafone.

JAC is working to reduce GHG emissions of all its members' supply chain (Scope 3). JAC is collaborating with mobile industry organization GSMA and supporting their industry commitment to accelerate climate actions to limit global warming to 1.5°C. JAC's main focus areas are best practice sharing among JAC members related to their supply chain as well as influence and engage their strategic suppliers. JAC will require that all common strategic suppliers to eventually set science based targets (SBT). JAC has already GHG emission related questions embedded in their common factory audit checklist and will use carbon monitoring tools through the EcoVadis Platform.

C12.3

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

- Direct engagement with policy makers
- Trade associations
- Funding research organizations

C12.3a

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Carbon tax	Support	Engaged with the Nordic Council of Ministers through the Nordic CEO's for a Sustainable Future initiative.	We support to incentivize and de-risk sustainable solutions while pursuing policy that promotes the phase-out of carbon intensive solutions over time; such as cap and trade systems or carbon taxes.
Cap and trade	Support	Engaged with the Nordic Council of Ministers through the Nordic CEO's for a Sustainable Future initiative.	We support to incentivize and de-risk sustainable solutions while pursuing policy that promotes the phase-out of carbon intensive solutions over time; such as cap and trade systems or carbon taxes.
Climate finance	Support with minor exceptions	Engaged with the Nordic Council of Ministers through the Nordic CEO's for a Sustainable Future initiative.	We support that public sector investment and procurement is an impactful lever for stimulating the development of low carbon and resource efficient solutions.
Mandatory carbon reporting	Support	Engaged with the Nordic Council of Ministers through the Nordic CEO's for a Sustainable Future initiative.	We support to incentivize and encourage businesses to evaluate, report and act on climate related risks and opportunities.

C12.3b

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

Yes

C12.3c

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

Trade association

The GSMA represents the interests of mobile operators worldwide, uniting more than 750 operators with almost 400 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and internet companies, as well as organisations in adjacent industry sectors. The GSMA also produces the industry-leading Mobile World Congress events held annually in Barcelona, Los Angeles and Shanghai, as well as the Mobile 360 Series of regional conferences.

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The GSMA is working with participating mobile operators and will be partnering with the international community, climate experts and third-party organisations to advance mobile industry progress, establish best practices, and support disclosure and carbon target setting through CDP. This industry commitment has in February 2020 taken an unprecedented step forward in tackling climate change with the release of the first-ever science-based pathway to reduce Greenhouse Gas (GHG) emissions across the telecoms sector. This supports the GSMA's commitment to helping the mobile industry achieve Net Zero carbon emissions by 2050.

The new Science-Based Target (SBT) is the result of a collaboration between the GSMA, ITU, GeSI and SBTi to develop a sector-specific decarbonisation pathway that allows ICT companies to set targets in line with the latest climate science. It includes emissions reductions trajectories for mobile, fixed and data centre operators to meet the ambitious Paris Agreement goal of limiting global warming to 1.5°C, designed to substantially reduce the risks and effects of climate change.

Twenty nine operators and members of GSMA - representing 30 per cent of global mobile connections - are already committed to SBTs. These include America Movil, AT&T, BT, Bharti Airtel, Deutsche Telekom, Elisa, Far Eastone, KPN, Magyar Telekom, NTT DOCOMO, Orange, Proximus, Reliance Jio Infocomm, Safaricom, Singtel, SK Telecom, STC, Swisscom, T Mobile USA, Taiwan Mobile, TDC, Tele2, Telefónica, Telekom Austria, Telenor, Telia, Telstra, Verizon, and Vodafone.

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

Mr. Sigve Brekke is a board member of the GSMA. He has been President and CEO of Telenor Group since August 2015. Telenor representatives are participating in different committees and working groups in GSMA. Through these individuals, Telenor actively engages in the climate change action processes of the GSMA.

C12.3d

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

Yes

C12.3f

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

- Direct and indirect activities across Telenor Group that influence policy on climate change are centrally coordinated and managed at group level and anchored with the Group Executive Management.
- The Group's Climate Change director is responsible for coordinating engagement activities around climate change across business units and geographies to ensure that we have a common approach that is consistent with Telenor Group's strategy on climate change.

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

 Telenor Group Annual Report 2019.pdf

Page/Section reference

Telenor Group Annual Report 2019. Pages: 24 & 50-51

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

Comment

Publication

In voluntary sustainability report

Status

Complete

Attach the document

 Telenor Group -Sustainability-Report-2019.pdf

Page/Section reference

Telenor Group Sustainability Report 2019. Pages: 12-13

Content elements

Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

Publication

In voluntary communications

Status

Complete

Attach the document

 Telenor Group - UN Global COP 2019 .pdf

Page/Section reference

Telenor Group UN Global COP 2019. Page: 3.

Content elements

Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

References to Telenor Group Annual Report 2019

Publication

In voluntary communications

Status

Complete

Attach the document

 Telenor Group GRI Index Report 2019.pdf

Page/Section reference

Telenor Group GRI Index Report 2019. Pages: 6-8 & 14

Content elements

Risks & opportunities
Emissions figures
Other metrics

Comment

Publication

In voluntary communications

Status

Complete

Attach the document

 Telenor Group -SDG-Impact-Assessment-Report-2019.pdf

Page/Section reference

Telenor Group SDG Impact Assessment Report 2019. Pages: 1-3.

Content elements

Strategy
Risks & opportunities
Emission targets

Comment

C15. Signoff

C-FI

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

Telenor Group is a leading telecommunications company across the Nordics and Asia with 186 million customers and annual sales of around USD 12 billion (2019). We hold #1 or #2 positions in most of our markets. We are committed to responsible business conduct and driven by the ambition of empowering societies. Connectivity has been Telenor's domain for more than 160 years, and our purpose is to connect our customers to what matters most. Telenor is listed at Oslo Stock Exchange under the ticker TEL.

This CDP report for 2019 also includes the full year performance data for our Finnish operations; the wholly-owned mobile operator DNA.

The Finnish company DNA was consolidated on 21 August 2019. DNA has published its own sustainability report for 2019 - but Telenor has informed CDP to include all climate related performance data from DNA's operation in 2019 in Telenor's response for 2019.

This climate related report submitted to CDP contains statements regarding the future in connection with the Telenor Group’s outlook, strategies and objectives. All statements regarding the future are subject to inherent risks and uncertainties and many factors can lead to developments deviating substantially from what has been expressed or implied in such statements.

For more information about Telenor Group, please visit www.telenor.com.

C15.1

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

	Job title	Corresponding job category
Row 1	Senior Vice President, Head of Group Health, Safety, Environment and Sustainability	Chief Sustainability Officer (CSO)

SC. Supply chain module

SC0.0

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

Climate change is one of the greatest challenges facing people, businesses and governments.

The mobile industry’s technology and smart services through Internet of Things (IoT) have the potential to cut global carbon emissions, reduce resource intensity, stimulate economic growth, and deliver substantial social benefits. Telenor has over the years followed up potential business initiatives and partnerships offering eco efficient solutions.

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Telenor Group’s emissions of greenhouse gases in 2019 has been estimated to be a total of around 1.2 million tonnes of CO2 when using marked-based electricity emission factors for the indirect scope 2 emissions. Our business operations in Asia account for 85 per cent of Group’s total CO2 emissions, of which 65 per cent of Group’s total CO2 emissions is related to use of grid electricity and 15 per cent Group’s total CO2 emissions stems from diesel generators at base stations without access to grid electricity . Our Nordic operations account for 15 per cent of the Group’s CO2 emissions (including use of grid electricity, fuel from car fleet and business flights). In 2019, Telenor’s carbon emissions were only 6 kg CO2 per mobile customer per year.

Telenor Group has signed and submitted a commitment letter to the Science Based Targets initiative (SBTi) – and publicly communicated the following targets:

- Telenor’s ambition for Nordic markets is to have carbon-neutral business operations by 2030, focusing on energy efficiency measures in our network operations, purchasing renewable electricity, enabling carbon neutral transport (including our supply chain), and offsetting business flights.

· Telenor’s ambitions for Asian operations is 50 per cent reduction in carbon emissions by 2030, focusing on energy efficiency measures in our network operations, substituting diesel generators with solar solutions at base stations and exploring other renewable electricity options in the region.

In the coming years, we expect to see significant growth in data traffic that will increase energy consumption as well as emissions due to limited access to renewable energy, especially in the Asian region. Reaching our target will require very close follow up and implementation of energy efficiency measure in close cooperation with our vendors and partners.

For more information about Telenor Group, please visit www.telenor.com.

SC0.1

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

	Annual Revenue
Row 1	144,000,000,000

SC0.2

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

Yes

SC0.2a

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

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1	NO	0010063308

SC1.1

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

Requesting member

Accenture

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

Nordic business region of the requesting member.

Emissions in metric tonnes of CO₂e

0.2

Uncertainty (±%)

10

Major sources of emissions

Ground transportation.

Verified

No

Allocation method

Allocation based on the market value of products purchased

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

The reported CO2 emissions are based on GHG emissions reported from relevant business units that Telenor Group has financial control over.

Requesting member

Accenture

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

Nordic business region of the requesting member.

Emissions in metric tonnes of CO2e

1.3

Uncertainty (±%)

10

Major sources of emissions

Grid electricity for network operations.

Verified

No

Allocation method

Allocation based on the market value of products purchased

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

The reported CO2 emissions are based on GHG emissions reported from relevant business units that Telenor Group has financial control over.

Requesting member

Accenture

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

Nordic business region of the requesting member.

Emissions in metric tonnes of CO₂e

2.5

Uncertainty (±%)

10

Major sources of emissions

Business travel / flights.

Verified

No

Allocation method

Allocation based on the market value of products purchased

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

The reported CO₂ emissions are based on GHG emissions reported from relevant business units that Telenor Group has financial control over.

Requesting member

BT Group

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

Nordic business region of the requesting member.

Emissions in metric tonnes of CO₂e

0.1

Uncertainty (±%)

10

Major sources of emissions

Ground transportation.

Verified

Allocation method

Allocation based on the market value of products purchased

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

The reported CO2 emissions are based on GHG emissions reported from relevant business units that Telenor Group has financial control over.

Requesting member

BT Group

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

Nordic business region of the requesting member.

Emissions in metric tonnes of CO2e

0.4

Uncertainty ($\pm\%$)

10

Major sources of emissions

Grid electricity for network operations.

Verified

No

Allocation method

Allocation based on the market value of products purchased

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

The reported CO2 emissions are based on GHG emissions reported from relevant business units that Telenor Group has financial control over.

Requesting member

BT Group

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

Nordic business region of the requesting member.

Emissions in metric tonnes of CO2e

0.3

Uncertainty (±%)

10

Major sources of emissions

Business travel / flights.

Verified

No

Allocation method

Allocation based on the market value of products purchased

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

The reported CO2 emissions are based on GHG emissions reported from relevant business units that Telenor Group has financial control over.

Requesting member

Microsoft Corporation

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail**Emissions in metric tonnes of CO2e**

0

Uncertainty (±%)

0

Major sources of emissions

Ground transportation in Nordics / diesel generators at base stations in Asia.

Verified

No

Allocation method

Allocation not necessary due to type of primary data available

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

We have not received any relevant supply data from the CDP Supply Chain team in Microsoft. We have therefore not been able to quantify what type of contracted services the requesting member has received from Telenor as a telecom supplier in the reporting year.

Requesting member

Microsoft Corporation

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO₂e

0

Uncertainty (±%)

0

Major sources of emissions

Grid electricity for network operations.

Verified

No

Allocation method

Allocation not necessary due to type of primary data available

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

We have not received any relevant supply data from the CDP Supply Chain team in Microsoft. We have therefore not been able to quantify what type of contracted services the requesting member has received from Telenor as a telecom supplier in the reporting year.

Requesting member

Microsoft Corporation

Scope of emissions

Scope 3

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

0

Uncertainty (±%)

0

Major sources of emissions

Business travel / flights & upstream transportation.

Verified

No

Allocation method

Allocation not necessary due to type of primary data available

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

We have not received any relevant supply data from the CDP Supply Chain team in Microsoft. We have therefore not been able to quantify what type of contracted services the requesting member has received from Telenor as a telecom supplier in the reporting year.

Requesting member

GSMA

Scope of emissions

Scope 1

Allocation level

Company wide

Allocation level detail**Emissions in metric tonnes of CO2e**

0

Uncertainty (±%)

0

Major sources of emissions

Ground transportation in Nordics / diesel generators at base stations in Asia.

Verified

No

Allocation method

Allocation based on the market value of products purchased

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

Telenor is a member company of the requesting member's organisation and being involved in workstreams during the reporting year . The requesting member do not receive any contracted services from Telenor as a telecom supplier.

Requesting member

GSMA

Scope of emissions

Scope 2

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

0

Uncertainty (±%)

0

Major sources of emissions

Grid electricity for network operations.

Verified

No

Allocation method

Allocation not necessary due to type of primary data available

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

Telenor is a member company of the requesting member's organisation and being involved in workstreams during the reporting year . The requesting member do not receive any contracted services from Telenor as a telecom supplier.

Requesting member

GSMA

Scope of emissions

Scope 3

Allocation level

Company wide

Allocation level detail

Emissions in metric tonnes of CO2e

0

Uncertainty (±%)

0

Major sources of emissions

Business travel / flights & upstream transportation.

Verified

No

Allocation method

Allocation not necessary due to type of primary data available

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

Telenor is a member company of the requesting member's organisation and being involved in workstreams during the reporting year . The requesting member do not receive any contracted services from Telenor as a telecom supplier.

Requesting member

S Group

Scope of emissions

Scope 1

Allocation level

Business unit (subsidiary company)

Allocation level detail

Finnish business region of the requesting member.

Emissions in metric tonnes of CO2e

0.7

Uncertainty (±%)

10

Major sources of emissions

Ground transportation.

Verified

No

Allocation method

Allocation based on the market value of products purchased

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

The reported CO2 emissions are based on GHG emissions reported from relevant business units that Telenor Group has financial control over.

Requesting member

S Group

Scope of emissions

Scope 2

Allocation level

Business unit (subsidiary company)

Allocation level detail

Finnish business region of the requesting member.

Emissions in metric tonnes of CO2e

17.4

Uncertainty (±%)

10

Major sources of emissions

Grid electricity for network operations.

Verified

No

Allocation method

Allocation based on the market value of products purchased

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

The reported CO2 emissions are based on GHG emissions reported from relevant business units that Telenor Group has financial control over.

Requesting member

S Group

Scope of emissions

Scope 3

Allocation level

Business unit (subsidiary company)

Allocation level detail

Finnish business region of the requesting member.

Emissions in metric tonnes of CO2e

0.6

Uncertainty (±%)

10

Major sources of emissions

Business travel / flights.

Verified

No

Allocation method

Allocation based on the market value of products purchased

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

The reported CO2 emissions are based on GHG emissions reported from relevant business units that Telenor Group has financial control over.

SC1.2**(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).**

None published information has been used in completing SC1.1.

SC1.3**(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?**

Allocation challenges	Please explain what would help you overcome these challenges
Customer base is too large and diverse to accurately track emissions to the customer level	
Diversity of product lines makes accurately accounting for each product/product line cost ineffective	

SC1.4**(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?**

No

SC1.4b**(SC1.4b) Explain why you do not plan to develop capabilities to allocate emissions to your customers.**

A part from a couple of large business customers - there has so far been limited interest to allocate GHG emissions to specific customers. On a macro level / customer sector level we are using impact assessments

such as the GSMA report in 2019 (“The Enablement Effect”), produced in collaboration with the Carbon Trust, an independent sustainability specialist.

The GSMA report found that the majority of avoided emissions from IoT technologies are primarily in buildings, transport, manufacturing and the energy sector – sectors that make up a large portion of global GHG emissions. For example, savings in buildings are a result of technologies that improve energy efficiency such as building management systems and smart meters. In the transport sector, the use of telematics can improve route optimisation and vehicle fuel efficiency.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

SC3.1

(SC3.1) Do you want to enroll in the 2020-2021 CDP Action Exchange initiative?

No

SC3.2

(SC3.2) Is your company a participating supplier in CDP’s 2019-2020 Action Exchange initiative?

No

SC4.1

(SC4.1) Are you providing product level data for your organization’s goods or services?

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission	Are you ready to submit the additional Supply Chain Questions?
I am submitting my response	Investors Customers	Public	

Please confirm below