Nos SGPS - Climate Change 2022

C0. Introduction

C0.1

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

NOS, SPGS, S.A. (“NOS”, “NOS Group” or “company”) is a publicly listed company, headquartered in Portugal, created in 2014 after the merger of two of the biggest communications companies in the country - ZON and Optimus.

Our business portfolio includes two segments: i) Telecommunications (95% of consolidated sales FY2021), where we provide fixed and mobile solutions for television, internet, voice, and data for all market segments – Residential, Private, Corporate and Wholesale. In the corporate segment, we complement our offer with ICT, IoT and Cloud services; and ii) Media & Entertainment (5% of consolidated sales FY2021), where we provide cinema exhibition and distribution, video production and sale, production of channels and advertising for Pay TV.

NOS operates in Portugal, being the largest communications and entertainment group in the country. In 2021, consolidated revenues amounted to 1430 million EUR, we recorded an EBITDA of 618 million EUR and ended the year with a total of 1829 employees and a market capitalization of 1757 million EUR on Euronext Lisbon. By 2021 year-end we had 5.4 million mobile customers, 1.8 million fixed voice customers, 1.6 million Pay TV customers, 1.5 million broadband internet customers and had sold 5.5 million cinema tickets in our 208 venues. Our telecommunications network passes 5.1 million homes and our 4G network covers 99% of the Portuguese territory. At the auction to allocate 5G frequencies, NOS acquired more spectrum than any other participant, thus fulfilling the company’s objective to guarantee the best 5G network in Portugal, while accelerating digital transformation and contributing to the sustainable development of the Portuguese society. NOS’ commitment is to make 5G available to everyone, an invaluable opportunity to address the social, economic and environmental challenges we are facing. NOS embraced an accelerated 5G deployment strategy and has already achieved 80% population coverage by the end of 1H22, having been recognized as the leading 5G operator in Portugal and thus having the best mobile internet by independent agent and consumer association (Speedtest by Ookla© and Deco Proteste).

NOS climate strategy is built around five key commitments and associated targets, that encompass both our assets and operations, and the products and services we provide to our customers: 1) Increase the energy efficiency of our operation; 2) Use renewables to meet our energy needs; 3) Reduce the carbon footprint of our value chain in line with climate science; 4) Maintain a telecommunications network resilient to physical climate change impacts; 5) Provide solutions that enable a low carbon economy. Our new carbon reduction targets were approved by the Science Based Targets initiative (SBTi) and bring our decarbonization trajectory in line with the Paris Agreement target of limiting global temperature rise to 1.5ºC. Since January 2022, 100% of our electricity consumption is of certified renewable origin.

Information disclosed in this response refers to 100% of our operations and, whenever applicable, to our entire value chain.

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 2021	December 31 2021	Yes	2 years

C0.3

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

Portugal

C0.4

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

EUR

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

C0.8

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

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	PTZON0AM0006

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
Chief Financial Officer (CFO)	The Executive Committee – comprised of members of the Board of Directors upon which the day-to-day management of the company has been delegated - is responsible for approving the company's Corporate Sustainability Strategy, including related targets, action plans and budgets. The CFO is the Executive Committee and Board member with specific responsibilities to oversee and coordinate all issues related to corporate sustainability. He is in charge of submitting relevant proposals to the Executive Committee for approval and of overseeing the implementation of the Committee's decisions in this domain. Climate change is one of the top priorities of NOS Corporate Sustainability Strategy and a special focus of attention of the Executive Committee. After the integration, in 2020, of energy and climate goals into NOS Next Generation 2021-2025 business strategy, in 2021 several relevant climate-related decisions were approved by the Executive Committee and the Board, upon CFO's proposal: i) adoption of a more ambitious company-wide 1.5ºC emissions reduction target, approved by the Science Based Targets initiative (SBTi); ii) signing of a long-term bilateral agreement (PPA – Power Purchase Agreement) for the purchase, from 2023, of electricity produced in a new wind farm; iii) anticipation and expansion of our 2030 renewable electricity consumption target (80%) to 100% from January 2022; iv) establishment of a Sustainability-Linked Financing Framework, aligned with the Sustainability Linked Loan Principles (SLLP) and based on climate KPIs (combined scope 1 and 2 emissions and scope 3 emissions) and associated performance targets. Recently, NOS also created a Corporate Governance and Sustainability Committee, a Board Committee tasked with assisting the Board of Directors in supervising business activities in matters of corporate governance, rules of conduct and environmental and social sustainability, including the supervision of environmental risks, where climate risks are included.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Monitoring and overseeing progress against goals and targets for addressing climate-related issues	<Not Applicable>	Climate-related themes are scheduled for Executive Committee meetings upon proposal by the CFO. Examples of climate-related issues on the agenda include: investments in energy efficiency, with a particular focus on main telecommunications network sites and Data Centres; options for sourcing renewable electricity; changes to the company Business Continuity Plan to ensure increased resilience of critical sites to extreme weather events and forest fires; debt issuance with conditions indexed to the company's climate performance; development of new low carbon P&S portfolio; or progress against corporate energy and emission targets. The CFO is briefed on climate-related issues by the Head of the Investor Relations and Sustainability Department (CSO), which is the corporate-level department responsible for managing and coordinating the implementation of NOS climate strategy, company-wide. Information on the implementation of specific action plans, risk management policies or budgets in different areas of the company (e.g. product development or technical infrastructure operation and supervision) is reported by the respective Heads of business to the Executive Committee member in charge of the area. Examples of business decisions by the Executive Committee in 2021 include: adoption of a 1.5ºC Science-Based Target, approved by the SBTi; entering a Power Purchase Agreement for the supply of renewable electricity from 2023; purchase of 100% certified renewable electricity from January 2022; and establishment of a Sustainability-Linked Financing Framework based on climate KPIs and performance targets. Following the integration, in 2020, of energy and GHG goals into NOS Next Generation 2021-2025 business strategy, climate-related targets are monitored regularly by the Executive Committee, alongside other strategic objectives of the company. An ESG Scorecard was implemented, with specific metrics aligned with each strategic axis of our strategy, including climate-change (e.g. Scope 1, scope 3 and scope 3 emissions KPIs; % of renewable electricity consumption). The ESG Scorecard is presented to the Executive Committee and the Board on a quarterly basis and is an important tool underlying all oversight mechanisms. In 2021, NOS also created a Sustainability Forum, consisting of quarterly meetings of all Executive Committee Directors with top-level managers of the operational areas of the company, thus ensuring alignment of company's operation with its Sustainability Strategy.

C1.1d

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

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	One of NOS' non-executive members of the Board of Directors (since 2013) and current Chairwoman of the Corporate Governance and Sustainability Committee, has extensive experience in executive leadership of sustainability issues – most notability climate-related, including the setting of ambitious reduction targets – in one of the largest Portuguese companies. Said Board member is also a member of several leading European and international climate-related industry initiatives, namely the European Commission CEO Action Group for the European Green Deal. This Board member is also a member of the World Economic Forum (WEF) initiative Champions for Nature, as well as co-leader of the WEF Working Group on Food, Ocean and Land Use System. Other Board members with relevant competences include the Chairman – who, as Co-CEO of a major Portuguese company, led the company in its signature of the Paris Pledge for Action Signature in 2015 – and another non-executive Director, with extensive expertise and experience in sustainable finance and climate risk management.	<Not Applicable>	<Not Applicable>

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)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Sustainability Officer (CSO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	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 CSO is the Head of the Investor Relations and Sustainability Department and reports directly to the CFO.

The Investor Relations and Sustainability Department is the corporate-level structure responsible for managing and coordinating the implementation of NOS climate strategy, company-wide. Its responsibilities include: defining corporate targets and commitments to be proposed for Executive Committee approval (e.g. new Science-Based Targets for scope 1, 2 and 3 - approved in 2021 and validated by the Science-Based Targets initiative); monitoring and reporting to the CFO on progress against commitments (e.g. quarterly updated of the company-wide ESG Scorecard, including specific KPIs in GHG emissions, renewable energy and energy efficiency); preparing the company non-financial statements, including climate-related information, that are part of the company's Annual Management Report & Accounts; monitoring national and international climate-related trends and best practice relevant to the telecommunications sector.

The CSO reports regularly to the CFO on the implementation of the company's climate strategy and related issues. The position of the CSO-led department in the company's structure ensures the connection between the strategy and commitment setting responsibilities of the Executive Committee and the implementation responsibilities of the operational structures of the different business areas. CSO is also responsible for coordinating the activities of NOS Sustainability Forum, consisting of quarterly meetings of all Executive Committee Directors with top-level managers of the operational areas of the company.

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	Financial incentives associated with climate-related KPIs are factored into NOS performance evaluation model for employees with responsibilities for climate-related decision-making or action implementation, across different functional groups.

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
Chief Procurement Officer (CPO)	Monetary reward	Environmental criteria included in purchases	Under NOS performance evaluation model, all employees have their variable remuneration linked to the achievement of both company objectives (strategic corporate goals defined by the Executive Committee, equal for all employees) and individual objectives (specific for each position and responsibilities). Our targets for energy efficiency, renewable electricity consumption and emissions reduction are integrated into one of the company's current strategic goals and are thus indirectly reflected into the above-mentioned company objectives. The weight of the company objectives in the calculation of each employee global achievement is dependent upon the functional group, being higher for positions with a higher degree of influence in decision-making. The corporate director responsible for sourcing (CPO) also has individual objectives linked to KPIs related to progress towards the inclusion of environmental criteria in purchases (e.g. sourcing of certified renewable electricity).
Chief Sustainability Officer (CSO)	Monetary reward	Emissions reduction target Efficiency target Environmental criteria included in purchases Company performance against a climate-related sustainability index	Under NOS performance evaluation model, all employees have their variable remuneration linked to the achievement of both company objectives (strategic corporate goals defined by the Executive Committee, equal for all employees) and individual objectives (specific for each position and responsibilities). Our targets for energy efficiency, renewable electricity consumption and emissions reduction are integrated into one of the company's current strategic goals and are thus indirectly reflected into the above-mentioned company objectives. The weight of the company objectives in the calculation of each employee global achievement is dependent upon the functional group, being higher for positions with a higher degree of influence in decision-making. The corporate director responsible for sustainability (CSO) also has individual objectives linked to KPIs related to the progress towards the company's energy and emissions goals (e.g. coordinating, monitoring and reporting to the CFO on the implementation of each energy and emissions target), as well as to the company performance in climate-related sustainability indexes (e.g. CDP Climate).
Environment/Sustainability manager	Monetary reward	Emissions reduction target Efficiency target Environmental criteria included in purchases Company performance against a climate-related sustainability index	Under NOS performance evaluation model, all employees have their variable remuneration linked to the achievement of both company objectives (strategic corporate goals defined by the Executive Committee, equal for all employees) and individual objectives (specific for each position and responsibilities). Our targets for energy efficiency, renewable electricity consumption and emissions reduction are integrated into one of the company's current strategic goals and are thus reflected into the above-mentioned company objectives. The weight of the company objectives in the calculation of each employee global achievement is dependent upon the functional group, being higher for positions with a higher degree of influence in decision-making. The manager responsible for company-wide sustainability coordination also has individual objectives linked to KPIs related to progress towards the company's energy and emissions goals (e.g. energy and emissions monitoring and reporting, preparation of renewable electricity sourcing procedures, expansion of scope 3 emissions accounting), as well as to the company performance in climate-related sustainability indexes (e.g. CDP Climate).
Energy manager	Monetary reward	Efficiency project Efficiency target	Under NOS performance evaluation model, all employees have their variable remuneration linked to the achievement of both company objectives (strategic corporate goals defined by the Executive Committee, equal for all employees) and individual objectives (specific for each position and responsibilities). Our targets for energy efficiency, renewable electricity consumption and emissions reduction are integrated into one of the company's current strategic goals and are thus reflected into the above-mentioned company objectives. The weight of the company objectives in the calculation of each employee global achievement is dependent upon the functional group, being higher for positions with a higher degree of influence in decision-making. The company managers responsible for business unit energy management also have individual objectives linked to KPIs related to the implementation of energy efficiency projects in their respective business areas (e.g. reduction in global energy consumption per service output).
Facilities manager	Monetary reward	Energy reduction project Energy reduction target Efficiency project Efficiency target	Under NOS performance evaluation model, all employees have their variable remuneration linked to the achievement of both company objectives (strategic corporate goals defined by the Executive Committee, equal for all employees) and individual objectives (specific for each position and responsibilities). Our targets for energy efficiency, renewable electricity consumption and emissions reduction are integrated into one of the company's current strategic goals and are thus reflected into the above-mentioned company objectives. The weight of the company objectives in the calculation of each employee global achievement is dependent upon the functional group, being higher for positions with a higher degree of influence in decision-making. Facility mangers – in particular those responsible for premises with high electricity consumption - also have individual objectives linked to KPIs related to the implementation of specific energy efficiency projects and the achievement of pre-defined energy reduction targets at facility level (e.g. reduction in PUE – Power Usage Effectiveness index in Data Centres and main network sites).

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	1	Time horizon for company budget cycles and associated action and resources plans. We use this time frame to assess climate-related risks and opportunities that can materialize in the near term, e.g. changes to existing regulation or acute physical climate risks that are already materializing in the geography where we operate (currently only Portugal), such as increased frequency and severity of forest fires.
Medium-term	1	5	Time horizon for company strategic cycles and associated strategic corporate-wide goals. We use this time frame to assess climate-related risks and opportunities that can materialize in the medium term, e.g. emerging regulation or shifts in client preferences towards products and services that reduce emissions.
Long-term	5		Time horizon for company thinking or planning exercise beyond the next strategic cycle. This is an open-end interval. We use this time frame to assess climate-related risks and opportunities that can materialize in the long term and impact long-lived technical assets, e.g. chronical physical climate risks that might materialize in the long term in the geography where we operate (currently only Portugal), such as the progressive increase in mean Summer temperatures.

C2.1b

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

We assess each risk based on three pre-defined criteria for probability (timing of occurrence, detection ability and vulnerability level) and impact (financial impact, impact on reputation and scope of impact). Each criterion is assessed using a uniform scale of 0 to 10, with the probability and impact levels being determined by a combination of the three criteria. We assign quantitative thresholds to the financial impact criteria only: any impact over 250 thousand € (in either turnover, costs or revenues) is considered relevant (between 1000 and 2000 thousand € financial impact is classified as high; between 2000 and 5000 thousand € as very high; and above 5000 thousand € as catastrophic). As a risk with a relatively small potential financial impact can have a much higher impact on other dimensions, we have identified risks that can have a substantive impact on our business even if their potential financial impact is below the 250 thousand € threshold (e.g. collapse of a network infrastructure with damage to physical integrity of a third party may be fully covered by insurance and thus have a limited financial impact. However, impact on reputation would qualify has very high, thus making risk very relevant).

The inherent risk level is the combination of the values obtained for probability and impact. All risks with an inherent risk value above the level of risk acceptance (as a default set to ≥25), are subject to special mitigation initiatives or actions. Nevertheless, NOS manages all risks identified within its risk assessment process, investing risk drivers and implementing adequate mitigation measures in line with its Internal Control Manual.

C2.2

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

Value chain stage(s) covered
Direct operations
Upstream
Downstream

Risk management process
Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment
More than once a year

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
Our approach to Enterprise Risk Management (ERM) is to incorporate risk management into strategic planning. NOS Risk Management Policy establishes methodologies and identifies responsibilities in all stages of the risk management process. It takes into account international reference standards (e.g. ERM - Integrated Framework, issued by the Committee of Sponsoring Organisations of the Treadway Commission), applicable legal and regulatory requirements, and sector specific frameworks such as COBIT (Control Objectives for Information and related Technology). NOS classifies and groups risk types using a Business Risk Model (BRM). The model incorporates a risk dictionary with detailed description of each risk and its classification into the BRM (risk taxonomy), to support the identification of potential causes (risk drivers). Climate-related transition and physical risks are integrated into the multi-disciplinary company-wide NOS Business Risk Model through two specifics risks ("Climate Change" and "Environmental Impacts"), under the "Operational" risk category. The description of the risk drivers associated with these two risks explicitly acknowledges both the mitigation (own operations and value chain GHG emissions) and adaptation dimensions (resilience of our telecommunications infrastructure to acute and chronic physical impacts) of climate change. Climate-related issues are also recognized in risk drivers in the "Business Environment risk" category (e.g. "Legal & Regulatory" risks) and in the "Security and Continuity" subcategory (e.g. physical risks like and "Resiliency" and "Catastrophic Losses"). Climate-related opportunities are also closely linked to risk types included in the model, namely market opportunities that might arise from the company's response to risk types identified in the "Business Environment" risk category under the "Sector and Market for Products and & Services" risk subcategory. The consideration of climate-related issues in risk drivers for different sections of our BRM ensures the analysis encompasses all value chain stages (e.g. embedded emissions of network and client equipment; physical risks in own operation; downstream market opportunities). Depending on the nature of the risk, the analysis uses a short-term (e.g. increased risk of network infrastructure damage from forest fires, already materializing in Portugal), medium-term (e.g. increase in electricity prices driven by changes in emerging climate regulation) or a long-term perspective (e.g. increase in energy consumption and equipment underperformance from rising average temperatures). Periodic risk assessments involve different areas of the company and review and prioritize key corporate risks, including climate-related risks. Assessments are conducted, as a rule, on a yearly basis, but subject to more frequent updates whenever significant context changes take place which often is the case in the Telecommunications sector, thus making the frequency of risk assessment more often than once a year. The assessment uses three pre-defined criteria for both probability and impact, with a uniform assessment scale attached to each. Assessment is carried out by Business Unit Directors and/or area focal points. From the range of risks assessed, those that are given an inherent risk value above the risk acceptance level (as a default equal or above 25) are subject to appropriate response processes, initiatives and/or actions. These actions must be integrated into the annual Action and Resources Plans, prepared by each business areas, in line with the company's Strategic Business Plan, and approved by the Executive Committee. Examples include specific measure to mitigate wildfire risk for network infrastructures located in area classified as high fire risk by the Portuguese Forestry and Nature Conservancy Institute. Example of physical risk management: NOS Business Continuity Management (BCM) supports our response to emergency situations, including those caused by extreme weather events (e.g. floods and very strong winds) and by their consequences (e.g. forest fires caused by more intense and longer heat waves). In 2018 – in the aftermath of the devastating forest fires that hit Mainland Portugal in 2017, killing more than 100 people and seriously affecting our telecommunications infrastructure – we strengthened our processes for identifying, assessing and mitigating this particular risk. We conduct a risk assessment that ranked all our technical sites according to fire risk. For those classified as "high risk" we implemented site-specific maintenance plans, such as additional clearing of vegetation in the surrounding areas or clearing of the undergrowth. We also identified the most critical sites for service continuity and rolled out alternative radio relay solutions and leased satellite redundancy capacity, which is now also part of our business continuity response to other emergency situations. Satellite capacity was used successfully in August that same year, in the great Monchique fire in Southern Portugal, and has since been extend to the autonomous regions of Azores and Madeira islands. Later, in 2020, we undertook an assessment of various resilience scenarios to ensure that in the event of failure, disruption or external event (including wildfire), the network, platform or system has the ability to continue to provide services with the desired levels of availability and quality. These procedures are now integrated into our BCM programme and have increased the climate-resilience of our technical network. Example of climate transition opportunity management: The market potential for carbon reduction enabling ICT solutions is huge. Projections for the IoT (Internet of Things - connected devices such as smart meters or car tracker solutions) market alone point to a 3 to 4-fold growth in the next 5 years, with a global market worth over 1100 trillion USD in 2025 (GMSA, 2020; Cisco, 2020; Absolute Reports, 2020). This is especially relevant for the B2B business segment, where clients are increasing looking for solutions to reduce their own energy and carbon footprint. To tap into this market potential, we conduct targeted research of market trends and develop specific solutions, namely IoT projects, in close cooperation with clients, that later became commercial portfolio solutions. One example is NOS Consumption Monitoring and Control, a technological solution that, through sensors, monitors real time consumption of water, electricity, gas, and compressed air in industrial facilities. This allows for the timely identification of deviations from optimal consumption and for rapid corrective measures that can deliver up to 30% in savings. The solution also detects changes in the performance of industrial equipment, identifying preventive maintenance needs, thus avoiding downtime. By the end of the year, the solution was implemented in nine large industrial clients, in different industries.

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	Although NOS is not directly covered by current legislation limiting carbon emissions (e.g. EU ETS - Emissions Trading Scheme), our operational costs are impacted by climate-related regulation that influence energy prices (e.g. direct influence of the Portuguese Carbon Tax on the price of diesel and gasoline consumed in our fleet). Current climate-related regulation is therefore a relevant risk for our business and is always included in our risk assessment. Climate-related regulation is classified in our Business Risk Model in the "Business Environment" risk category, under the "Legal & Regulatory" subcategory. It is subject to periodic review under our Enterprise Risk Model process. An example of a current regulation risk is the increase in company fleet fuel costs, that can be driven by an increase in the value of the Portuguese Carbon Tax applicable to road diesel and gasoline. In 2021, NOS spent 1.3M€ in own fleet fuel costs.
Emerging regulation	Relevant, always included	Emerging climate-related regulation (e.g. new European Union energy and climate regulation revising the EU ETS) is a relevant risk type for NOS given its potential impact on energy prices, namely the effect of carbon prices on electricity prices. NOS spends c. 23 million €/year in energy costs (2021 data), almost 95% of which in electricity, mainly used in its technical infrastructure (telecommunications network and Data Centres). Emerging climate-related regulation that could impact these costs is therefore a relevant risk for our business and always included in our risk assessment. Climate-related regulation is classified in our Business Risk Model in the "Business Environment" risk category, under the"Legal & Regulatory" subcategory. It is subject to periodic review under our Enterprise Risk Model process. An example of an emerging regulation risk is the increase in our electricity costs that might be brought upon by higher electricity prices. Electricity prices are forecast to rise due to the impact on the power sector of the regulatory package that will support the delivery of the new European Union GHG emission targets for 2030: the "Fit for 55" energy and climate package, proposed by the European Commission in July 2021 and currently under discussion. The Commission's proposal includes a review of the EU-Emissions Trading Scheme that is forecast to significantly increase the price of CO2 allowances and that electricity generators will have to transfer to electricity prices.
Technology	Relevant, always included	Rapid technological change (e.g. refurbishing of mobile telecommunications networks to support the rollout of 5G technology) is a key characteristic of the Telecommunications sector. Technological upgrades are crucial to maintaining company competitiveness and efficiency. Technological changes are therefore a relevant risk for our business and are always included in our risk assessment. The risk of "Technologic Innovation" (technology change) is classified under our Business Risk Model in the "Business Environment" risk category, under the "Sector and Market for Products & Services" subcategory, and subject to periodic review under our Enterprise Risk Model process. Failure to keep up or even anticipate technology trends would undermine our capacity to implement adequate energy efficiency measures in our operation (e.g. by not selecting IT and backup equipment with the highest energy efficiency performance or by not exploring new tools such as intelligent network energy management) and to develop low carbon products and services that answer new customer demand (e.g. IoT and cloud solutions).
Legal	Not relevant, included	Climate-related legal risks, including the risk of litigation, are not relevant to our activity, given that NOS is not directly covered by current climate regulations, namely legislation limiting carbon emissions. Nevertheless, they are included in our risk assessment. Such risks are classified under our Business Risk Model in the "Business Environment" risk category, under the "Legal & Regulatory" subcategory, and subject to periodic review under our Enterprise Risk Model process. An example of such risk is the emergence of climate-litigation (e.g. civil society groups, individuals and NGOs filling court cases against companies for failing to reduce GHG emissions). NOS exposure to such litigation patterns is considered very low.
Market	Relevant, always included	Telecommunications is a highly dynamic and competitive market that calls for the continuous monitor of customer preferences and/or needs. Demand for ICT (Information and Communications Technology) solutions that reduce the client's energy consumption and carbon emissions is currently a fundamental trend, especially in the business client segment. Failure to respond to this trend can expose the company to client loss and reduced revenues. Change in market trends and patterns brought upon by climate-related issues is therefore a relevant risk for our business and always include in our risk assessment. Climate-related market risk is addressed by our Business Risk Model under the "Business Environment" risk category ("Sector and Market for Products & Services" risk subcategory) and the Operational risk category ("Products & Services Development and Client Satisfaction" risks subcategory). It is subject to periodic review under our Enterprise Risk Model process. In assessing this risk type, we have, for example, identified a clear market opportunity for the reinforcement of our low carbon P&S portfolio; it now includes Communications and Collaboration, Cloud and Data Centre, IoT (Internet of Things), and Analytics solutions that avoid traveling, improve energy and water management or provide energy efficient cloud IT infrastructure that reduce client emissions. In 2021, NOS revenues from low carbon P&S in the corporate market segment accounted for 7% of consolidated revenues.
Reputation	Relevant, always included	Climate change is currently a high-profile theme in the government, finance and societal agenda. Negative public perceptions on our positioning and performance on climate change (e.g. poor energy and emissions reduction targets, inexistence of a portfolio of low carbon P&S) can have a negative impact on the company's reputation, exposing us to market loss, reduced investor interest or deterioration of brand value. Climate-related reputational issues are therefore a relevant risk for our business and are always included in our risk assessment. Climate-related reputational risk is classified in our Business Risk Model in the "Business Strategy" risk category, under the "Reputational" risk subcategory. It is subject to periodic review under our Enterprise Risk Model process. The company is exposed to a climate-related reputational risk, for example, if it fails to properly answer the growing investor and financial analyst requests of information on the company's climate strategy, targets and performance. Around 27% of our capital is currently held by institutional investors, 20% of which integrate Environmental, Social and Governance considerations into their investment decisions.
Acute physical	Relevant, always included	Increased frequency and intensity of extreme weather events (e.g. storms and floods), as well its consequences (e.g. increased risk of wildfires caused by extended heat waves) is one of the most relevant climate-related risk faced by NOS, given the potential to damage our telecommunications network infrastructure, disrupt service provision and induce high rebuilding and reparation capital costs. Acute physical impacts of climate change are therefore a relevant risk for our business and are always included in our risk assessment. Climate-related acute physical risks are classified in our Business Risk Model in the "Operational" risk category, under the "Security" subcategory. These are subject to periodic review under our Enterprise Risk Model process. An example of such risk is the potential damage to our telecommunications network infrastructure from increasingly likely and severe wildfires in Portugal, one the most exposed countries to such risk in Europe.
Chronic physical	Relevant, always included	Long-term changes in climate patterns, namely changes in mean temperatures, can increase the risks associated with the operating conditions of our telecommunications and IT equipment and raise energy costs as a result of increased cooling needs. Chronic physical impacts of climate change are therefore a relevant risk for our business and are always included in our risk assessment. Climate-related chronic physical risks are classified in our Business Risk Model in the Operational risk category, under the Technical and Operational Resources subcategory. These are subject to periodic review under our Enterprise Risk Model process. An example of such risk is increase in energy costs and possible equipment failure from the impact on equipment's cooling needs of rising mean temperatures in the Southern Europe. Cooling technologies account for c. 30% of our network electricity consumption.

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

Emerging regulation	Carbon pricing mechanisms

Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description
NOS spends c. 22 million €/year in energy (2021 data) to power its operations in Portugal: c. 95% of the cost is electricity, mostly used in our technical infrastructure (3 800 mobile sites, 71 000 fixed sites, 200 main technical sites and 4 large Data Centres). The remaining 5% are fuel costs, mostly road diesel and gasoline used in our own fleet (981 passenger and light duty cars). New European Union and Portuguese regulations increasing or extending the reach of carbon prices can thus have an either direct (fuel prices) or indirect (electricity prices) impact on NOS energy costs. In July 2021, the European Commission put forward a legislative package proposal ("Fit for 55"), to support implementation of UE's new climate targets (-55% GHG emissions by 2030 from 1990 levels and climate neutrality by 2050). Proposals include the revision of the European Union Emissions Trading Scheme (EU-ETS) involving a reduced global emissions cap and inclusion of new sectors. This will increase CO2 allowance scarcity and drive CO2 prices up. NOS operates in Portugal and, although no plans were announced to include the telecommunications sector in the EU-ETS, it will still be impacted by rise in EU-ETS CO2 prices through: i) direct increase in fleet fuel costs (fossil fuels are subject to the Portuguese Carbon Tax, linked to the price of CO2 in EU-ETS) ; ii) increase in electricity costs (electricity prices will reflect the increase in CO2 prices, as the Portuguese power sector is subject to EU-ETS). In the last 18 months, CO2 prices in EU-ETS more than doubled (from 32€/t CO2 in December 2020 to 86€/t CO2 in June 2022). Market analysts continue to increase the price forecast, with recent analysis (Refinitiv, ICIS and Bloomberg NEF, 2021) pointing to a range of 56-108 €/t CO2 by 2030. The European Commission's updated analysis (Impact Assessment of the 2030 Climate Target Plan, September 2020) estimates that the proposed changes could lead to a 20% increase in average electricity prices for European final users by 2030, from a 2015 reference. A carbon price of 85€/tCO2 (mid-point of analyst forecasts) and a 20% increase in electricity price (European Commission forecast) in 2030, would increase NOS energy costs (fuel and electricity) by around 20% from current values. This could add between 3 to 5 million €/year to our operating costs. Risks related to energy prices became even more relevant with the recent price spike driven by the consequences of war in Ukraine.

Time horizon
Medium-term

Likelihood
More likely than not

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
3300000

Potential financial impact figure – maximum (currency)
4900000

Explanation of financial impact figure
In 2021, NOS spent almost 22 million € on energy (95% on electricity; 5% on fuels, mainly diesel and gasoline for own fleet). NOS fuel costs are subject to the Portuguese Carbon Tax, whose value is linked to the price of CO2 in EU-ETS. An increase from 24€/tCO2 (allowance price factored into de tax value for 2021) to 85€/tCO2 (mid-point of analyst forecasts up to 2030) would, applying the tax calculation formula, translate into an additional fuel cost of 210€/1000 L. This would add 173 thousand €/year to NOS fuel costs, assuming fuel consumption and all other price components remain constant. A 20% increase in electricity prices (European Commission forecast for increase in average electricity prices, driven by changes to climate regulation, up to 2030), would add around 3.9 million €/year to NOS electricity costs (current electricity costs being 20 million €), assuming consumption remains at present levels. Total increase in energy costs (fuel + electricity) would therefore amount to 3.9 million €/year. We present a range of +/- 20% from the estimated figure to account for uncertainty around the exact timing and impact of the emerging regulations on fuel and electricity prices. Values are expressed as additional annual operating costs (€/year).

Cost of response to risk
400000

Description of response and explanation of cost calculation
NOS has in place an extensive programme for improving the energy efficiency of its operations, thus limiting electricity consumption. This reduces exposure to the risk by reducing the magnitude of the potential financial impact of rising electricity prices on our operating costs. Energy efficiency measures are implemented, on an on-going basis, across all our operations: telecommunications network infrastructures (base stations, MSCs, Head Ends), Data Centres, and backoffice buildings (offices and stores). In 2021, the programme delivered approximately 1 GWh/year in energy savings (117000 €) and avoided the emission of 235 tCO2e. From 2023 onwards, the Power Purchase Agreement (PPA) signed in 2021 for the supply of 62 GWh/year of renewable electricity will help to further mitigate this risk. Case study: Provision of Data Centre services is a rapidly expanding area, with increasing importance both to our revenues and to our electricity costs. Dedicated Data Centres currently account for almost 20% of our technical infrastructure electricity consumption and are therefore a priority of our energy efficiency plan. In 2018, we opened a new Data Centre (Imopólis II) in which we adopted state-of-the art energy efficiency measures. Technical corridors were fitted with curtain systems that contain cold, thus reducing cooling needs, and variable speed motors and LED lighting were installed. The implementation of these measures in the design and construction phase gave the new site an efficiency level 15% above those of existing similar installations. The new Data Centre also allows for the discontinuing of legacy equipment in other, less efficient, sites and a more extensive implementation of server consolidation and virtualization solutions, which continue to further reduce our energy consumption. In 2021, the decision was also made to install solar photovoltaic panels in this Data Centre, which will come into full operation in 2022, generating renewable electricity for self-consumption and further reducing exposure of this asset to increasing electricity prices. Cost of response corresponds to total investment in energy efficiency measures in 2021, as reported in question C4.3a (400 thousand €). €). Value is expressed as CAPEX per year(€/year).

Comment
All financial values are best currently available estimates.

Identifier
Risk 2

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

Risk type & Primary climate-related risk driver

Acute physical	Cyclone, hurricane, typhoon

Primary potential financial impact
Increased capital expenditures

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

Company-specific description
NOS operates an extensive telecommunications network throughout Portugal (3800 mobile telecommunication sites, over 71 thousand fixed telecommunication sites, 2.6 million km of fibre network). Climate model projections by the European Environmental Agency (2017) and the EC Joint Research Centre (2020) point to an increased risk of flash floods and extremely strong winds in most parts of Europe. Projected changes are particularly severe for Southern Europe, including a 25% increase in heavy rain and a 17% increase in wind extremes by the end of the century. The severity of climate change impacts in the Mediterranean region, including the Iberian Peninsula, were further stressed by the regional analysis of the first instalment of the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (August 2021). Increased frequency and severity extreme winds events, as well as floods, in Portugal, increases the exposure of our network assets to physical damage, causing reduction or even disruption in service provision. This would impact both our capital costs (increased costs from infrastructure repair and replacement) and our revenues (lost revenues from reduction in service provision). A proxy for the potential impact of such risk in our operation is hurricane Leslie, which hit mainland Portugal in October 2018, causing damage to around 4% of our mobile and 2% of fixed networks assets and affecting service delivery to over 100 thousand clients.

Time horizon
Long-term

Likelihood
About as likely as not

Magnitude of impact
Low

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
25000

Potential financial impact figure – maximum (currency)
35000

Explanation of financial impact figure
Figures are based on capital costs incurred by NOS with the damage repair in our mobile and fixed network in Portugal, in the aftermath of hurricane Leslie (2018). This event is considered an adequate proxy for the impact of this risk type. Values refer to total repair costs directly supported by NOS as a consequence of the mentioned event (hurricane Leslie, 2018). Total financial impact is likely to be higher as part of the repair costs are assumed by maintenance business partners under the terms of the respective contracts. In addition to CAPEX associated with damage repair (considered the primary potential financial impact), this risk also entails loss of revenue from temporary service disruption (not factored into the financial impact figures calculation). We present a range of +/- 20% from the 2018 repair cost figure, to account for uncertainty around the exact extent of damage under similar extreme weather events. Values are expressed as additional capital costs incurred in a single year (€/year)

Cost of response to risk
233000

Description of response and explanation of cost calculation
NOS Business Continuity Management (BCM) programme supports our response to emergency situations, including those caused by extreme weather events. In recent years, a special focus as been put on specific measures targeted at increasing the resilience of critical network sites to extreme events such as hurricanes and floods (e.g. permanent monitoring of the Portuguese Meteorological Office alerts; contingency plans that allow automatic switching of transmission links to alternative configurations). Our BCM procedures reduce the risk of service disruption in the event of extreme weather events, thus reducing exposure to the risk by reducing the magnitude of the potential financial impact of infrastructure reparation on our capital costs as well as the potential financial impact of reduced revenues from service disruption. Case Study - In October 2018, hurricane Leslie hit mainland Portugal, causing damage to around 4% of our mobile and 2% of fixed networks assets, and affecting service delivery to over 100 thousand of our clients. With climate scenarios forecasting increase severity and frequency of such events in Southern Europe, the need for increased climate resilience of telecommunications network was made even more clear. In 2019 and 2020 we implemented additional measure to further ensure service continuity under extreme weather events. These included the adoption of alternative radio relay solutions to protect the most vulnerable communications, the strengthening of battery systems of critical stations to respond to power supply failure and leased capacity in the satellite segment and a set of satellite transmission kits for a faster restoration of communications in affected areas. This set of measures already led to an enhanced response level of our telecom network to extreme weather events. Cost of response corresponds to the annual cost (233 thousand € in 2021) of maintaining the measures implemented to increase network resilience to this type of event (support service and spectrum frequency cost for alternative relay solutions and redundancies; maintenance of additional energy backup systems). Value is expressed as expenses incurred per year (€/year). It does not factor the initial investment cost of such measures.

Comment
All financial values are best currently available estimates.

Identifier
Risk 3

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

Risk type & Primary climate-related risk driver

Acute physical	Wildfire

Primary potential financial impact
Increased capital expenditures

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

Company-specific description
NOS operates an extensive telecommunications network throughout Portugal (3800 mobile telecommunications sites, over 71 thousand fixed telecommunications sites, 2.6 million km of fibre network). Projections for the Mediterranean region, including Portugal, by the European Environmental Agency (2017) and the EC Joint Research Center (2018) show that climate change will reduce forest biomass fuel moisture levels, increasing the weather-driven danger of forest fires. Fire danger intensity and number of days with high-fire potential amplify with the projected level of warming, which is particularly high for this region (40% increase in weather-driven fire danger by the end of the century). The severity of climate change impacts in the Mediterranean region, including the Iberian Peninsula, were further stressed by the regional analysis of the first instalment of the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (August 2021), which projects an increase in aridity and fire weather

conditions for the region, at global warming of 2°C and above (high confidence). Increase in frequency and severity of wildfires increases the exposure of our network assets to physical damage, causing reduction or even disruption in service provision. This would impact our capital costs (increased costs from infrastructure repair and replacement) and our revenues (reduced revenues from reduced service delivery capacity). Portugal is one of the most exposed countries to this particular climate change impact in Europe, with effects already being felt: in 2017, devastating forest fires burned over 500 thousand hectares of forest area, destroyed houses and killed more than 100 people. The extensive damage caused to our telecommunication infrastructure by this event (around 4% of our mobile and 1% of fixed networks assets were affected and over 100 thousand clients experienced service delivery problems) is used as proxy for the potential impact of this risk in our operation.

Time horizon
Short-term

Likelihood
Likely

Magnitude of impact
Low

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
150000

Potential financial impact figure – maximum (currency)
250000

Explanation of financial impact figure
Figures are based on capital costs incurred by NOS with the damage repair in our mobile and fixed network in Portugal, in the aftermath of the forest fires that hit the country in 2017. This event is considered an adequate proxy for the impact of this risk type. Values refer to total repair costs directly supported by NOS as a consequence of the mentioned event (forest fires in Portugal, 2017). Total financial impact is likely to be higher as part of the repair costs are assumed by maintenance business partners under the terms of the respective contracts. In addition to CAPEX associated with damage repair (considered the primary potential financial impact), this risk also entails loss of revenue from temporary service disruption (not factored into the financial impact figures calculation). We present a range of +/- 20% from the 2017 repair cost figure, to account for uncertainty around the exact extent of damage under similar events. Values are expressed as additional capital costs incurred in a single year (€)

Cost of response to risk
240000

Description of response and explanation of cost calculation
Resilience to forest fires is a key point in NOS Business Continuity Management (BCM) programme, as we operate an extensive telecommunications network (3800 mobile telecommunications sites, over 71 thousand fixed telecommunications sites, 2.6 million km of fibre network) spread throughout Portugal and the country is one of the most exposed in Europe to this particular climate change impact, with effects already being felt. Integration into our BCM of specific measures to prevent or reduce service disruption in the event of wildfires, reduces our exposure by reducing the magnitude of the potential financial impacts both from infrastructure reparation (CAPEX costs) from reduced revenues caused by service disruption. Case study: In 2017, devastating forest fires burned over 500 thousand hectares of forest area in Mainland Portugal, destroyed houses and killed more than 100 people. Our telecommunications infrastructure was also affected, with damage to around 4% of our mobile and 1% of fixed networks assets and over 100 thousand clients experiencing service delivery problems. This event further demonstrated the crucial need to maintain communications capacity in emergency situations. In 2018, we begun implementing a comprehensive set of new measures to increase network resilience. First we identified all fire high-risk sites and implemented site-specific maintenance plans for those (additional cleaning of vegetation in surrounding areas, clearing of undergrowth and cutting of trees, whenever necessary). We also started rolling out alternative radio relay solutions and leasing satellite redundancy capacity, which is now also part of our business continuity response to other emergency situations. Satellite capacity was used successfully in August that same year, in the great Monchique fire in Southern Portugal, and has since been extend to the autonomous regions of Azores and Madeira. Implementation of such measures continued in 2019 to 2021, having increased the resilience of our telecom network to forest fires. Cost of response corresponds to the annual cost (240 thousand € in 2021) of maintaining the measures implemented to increase network resilience to this type of event (support service and spectrum frequency cost for alternative relay solutions and redundancies; maintenance of additional energy backup systems; vegetation control). Value is expressed as expenses incurred per year (€/year). It does not factor the initial investment cost of such measures.

Comment
All financial values are best currently available estimates.

Identifier
Risk 4

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

Risk type & Primary climate-related risk driver

Chronic physical	Heat stress

Primary potential financial impact
Increased indirect (operating) costs

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

Company-specific description
NOS operates an extensive technical infrastructure located throughout Portugal (c. 75 thousand mobile and fixed telecommunications sites, 200 main technical sites and 4 Data Centres) that consumes c. 133 GWh of electricity/year and entails c. 20 million €/year in operating costs (FY 2021 data). The European Environmental Agency (2017) projects a significant average warming of about 1.5 °C in winter and about 2 °C in summer in the Mediterranean region, including Portugal, for the 2021–2050 period, compared with 1961–1990. More frequent temperature extremes and heat waves are projected. The severity of climate change impacts in the Mediterranean region, including the Iberian Peninsula, were further stressed by the regional analysis of the first instalment of the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (August 2021), which projects for the region a combination of climatic impact-driver changes, including warming and temperature extremes, by mid-century and at global warming of at least 2°C and above (high confidence). The Portuguese Meteorological Office has announced that the two warmest months of May recorded in the country for last 89 years occurred in 2011 and 2020. Around 30% of NOS network electricity use is for cooling telecommunications and IT equipment. A 2ºC increase in ambient temperature for Iberia would increase the cooling needs of our critical network and IT equipment in Portugal, leading to changes in HVAC systems

functioning patterns and increasing our energy consumption and associated operating costs. It could also cause equipment failure, undermining our service delivery capacity and reducing revenues. We estimated that for every 1ºC increase in ambient temperature in the Summer, our telecom and IT equipment cooling energy needs also increase by 1%. The forecasted 2ºC increase in temperature in Portugal would thus increase our energy consumption by 0.8 GWh/year, with additional operational costs of 73 to 110 thousand €/year.

Time horizon
Long-term

Likelihood
More likely than not

Magnitude of impact
Low

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
73000

Potential financial impact figure – maximum (currency)
110000

Explanation of financial impact figure
Estimated increase in electricity costs is based on the current electricity consumption of NOS technical infrastructure, located in Portugal, (c. 133 GWh/year) and on the following assumptions: i) average 30% from AVAC systems in total consumption; ii) 1% increase in energy consumption of AVAC systems per each 1ºC increase in room temperature; iii) projected 2ºC increase in average Summer temperatures in the Iberian Peninsula (EEA projections, 2017) This would mean an increase in electricity consumption of around 800 MWh/year, that would translate into an additional cost of 90 thousand €/year, assuming current electricity price (0.1€/kWh for medium voltage) and consumption level remaining constant. We present a range of +/- 20% from the estimated figure, to account for uncertainty around electricity prices and consumption levels. Values are expressed as additional annual operating costs (€/year).

Cost of response to risk
24000

Description of response and explanation of cost calculation
Specific measures targeted at energy efficiency and reduction of energy needs of HVAC systems supporting our technical infrastructure equipment are an important part of NOS on-going energy efficiency programme. The sustained rationalization of energy consumption in cooling systems reduces exposure to the risk by reducing the magnitude of the potential financial impact of rising equipment cooling needs on our operating costs. Case study: NOS operates an extensive technical infrastructure located throughout Portugal (around 75 thousand mobile and fixed telecommunications sites, 200 main technical sites and 4 Data Centres) that consumes around 133 GWh of electricity/year and entails c. 20 million €/year in operating costs. Around 30% of this energy is used for cooling telecommunications and IT equipment. The increasingly severe climate scenarios for the Iberian Peninsula point to a 2ºC increase in average Summer temperatures, which would increase our energy consumption by 0.8 GWh/year, with additional operational costs of 73 to 110 thousand €/year. To minimize this potential impact, in 2016 we started to rollout the implementation of free cooling solutions in some of our most important technical sites. The system uses the outside air to cool equipment, reducing the use of HVAC units. It is currently implemented in over 30 Mid and Main network sites and Data Centres. Total investment between 2016 and 2021 was around 120 thousand € and generated 415 MWh/year in electricity savings. Cost of response corresponds to annual cost of investment (10 thousand € in 2021) in implemented measures (improvements in cooling systems, including installation of freecooling solutions). Value is expressed as CAPEX per (€/year).

Comment
All financial values are best currently available estimates.

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?
Direct operations

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Use of more efficient production and distribution processes

Primary potential financial impact
Reduced indirect (operating) costs

Company-specific description
NOS uses more than 150 GWh of electricity per year (2021 data), almost 90% of which is consumed in our technical infrastructure (mobile and fixed telecommunications network and Data Centres). In 2021, our total energy costs amounted to 22 million € and represented around 2% of our total operating costs. The growing energy needs of our services (six-fold increase in data traffic, which induces greater consumption in the supporting equipment) and pressure on electricity prices from evolving climate change regulation (e.g. new European Union “Fit for 55” regulatory package, currently under discussion) strengthens the business case for the implementation of energy

management programmes. This creates an opportunity for increasing the energy efficiency of our operation and reducing operating costs.

Time horizon
Short-term

Likelihood
More likely than not

Magnitude of impact
Low

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
90000

Potential financial impact figure – maximum (currency)
140000

Explanation of financial impact figure
Estimated reduction in electricity costs is based on the total reduction in electricity consumption delivered by the energy efficiency measures implemented by NOS in 2021 (around 1 GWh in energy savings). This will translate into a 117 thousand €/year in electricity cost savings, assuming that current electricity prices (average 0.11 €/kWh across our operations) and investment in efficiency measures remain constant. We present a range of +/- 20% from the estimated figure, to account for uncertainty around electricity prices and consumption levels. Values are expressed as annual savings in operating costs (€/year).

Cost to realize opportunity
400000

Strategy to realize opportunity and explanation of cost calculation
NOS is actively managing the energy resources efficiency opportunity through its on-going energy efficiency programme that limits electricity consumption and delivers cost savings. Energy efficiency measures are implemented across all our operations: telecommunications network infrastructures (base stations, MSCs, Head Ends), Data Centres, and backoffice buildings (offices and stores). In 2021, the programme delivered 1 GWh in energy savings (117000 €) and avoided the emission of 235 tCO2e. Case study: Mobile data traffic is growing at a faster pace than total telecommunications data traffic. In NOS network, mobile data had a 8-fold increase between 2015 and 2021 vs a 6-fold increase in our total data traffic, in the same period. This brings about particular challenges both in terms of network capacity and of associated energy consumption, as more traffic increases the energy needs of network equipment. To address these challenges, between 2017 and 2019 we undertook the complete modernization of our mobile access network across the Portuguese territory. The project involved the migration of 2G, 3G and 4G technologies to single equipment, the strengthening of the network capacity and the installation of more efficient equipment. It generated energy savings of around 25%, for the same traffic capacity, which limited the growth in absolute consumption, despite the installation of more equipment and increased use. We also tested several functionalities of intelligent network management, which optimize the operation in periods of reduced traffic, with results that point to savings between 1.5 and 2.5%, and which will now be activated across the entire mobile network. Cost of response corresponds to total investment in energy efficiency measures in 2021, as reported in question C4.3a (400 thousand €). Value is expressed as CAPEX per year(€/year).

Comment
All financial values are best currently available estimates.

Identifier
Opp2

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
With a 1:10 ratio between the carbon emissions it induces and the emissions avoided with the adoption of the products and services it offers (GeSI, 2015), the Information and communications technology (ICT) sector is a fundamental enabler of the low carbon transition. Use of smart ICT solutions across the economy (namely in manufacturing, agriculture, buildings, mobility and logistics) could reduce about 20% of global emissions in 2030 (GeSI, 2015). The market potential associated with the carbon reduction enabling effect of ICT P&S is huge. Projections for the IoT (Internet of Things - connected devices such as smart meters or car tracker solutions) market alone point to a 3 to 4-fold growth in the next 5 years, with a global market worth over 1100 trillion USD in 2025 (GMSA, 2020; Cisco, 2020; Absolute Reports, 2020) Increased interest in carbon reduction solutions – especially in the corporate client segment – creates an opportunity to strengthen our low carbon P&S portfolio and to tap this new market potential thus increasing our revenues. We are exploring this opportunity by growing our portfolio of low carbon solutions (e.g. smart electricity and gas metering systems; additional cloud storage solutions provided by our Imopolis Data Centre; NOS Follow Pro fleet otimization tool, NOS Monitoring IoT suite for optimized control of industrial sites). In 2020, we reviewed our revenue projections for this portfolio up to 2025 and further invested in its development. In 2021, low carbon P&S for the corporate sector represented 7% of sales in this market segment and almost 2% of NOS Group consolidated revenues.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
80000000

Potential financial impact figure – maximum (currency)
120000000

Explanation of financial impact figure
Estimated increase in revenues is based on the projected revenues from our expanding low carbon Products & Services portfolio, up to 2025. The portfolio comprises our telecommunications and IT solutions that deliver client emissions reductions and includes: Communications & Collaboration; Cloud and Data Centre services; IoT (Internet of Things); and Analytics. Estimated figure corresponds to the aggregated revenue projection pf these four P&S categories (aprox. 100 million €). We present a range of +/- 20% from the estimated figure, to account for uncertainty around market conditions. Values are expressed as additional annual revenues (€/year).

Cost to realize opportunity
17000000

Strategy to realize opportunity and explanation of cost calculation
In 2020, NOS Executive Committee approved a new climate target related to the enabling effect of telecommunications activities: to market products and services that reduce NOS customers' emissions in an amount higher than the emissions from our own operation, by 2025. This new target was formally integrated - together with our targets for energy efficiency, renewable energy and carbon emissions - into NOS Next Generation, the company's 2021-2025 strategic vision, approved in 2020. The recognition of the market potential of low carbon products and services (P&S), and its full integration into the company's business strategy, means we are actively managing this climate-related opportunity. Our expanding low carbon P&S portfolio now includes Communications and Collaboration, Cloud and Data Centre, IoT (Internet of Things), and Analytics solutions that avoid traveling, improve energy and water management across economic sectors or provide digital and energy efficient cloud IT infrastructure, all of which induce significant carbon emissions reductions. These P&S for the business client segment represented around 7% of our revenues Case study: Clients, in particular in the business segment (large companies and small and medium-sized enterprises) are increasingly looking for solutions that improve their environmental performance, in particular in what relates to energy, carbon emissions and water. Machine-to-machine connectivity solutions enables this performance improvement so we identified industrial optimization of operations (e.g. energy efficiency and control of cooling systems) as one of the priorities for the development of our IoT offer. In 2020, we developed NOS Consumption Monitoring and Control, a technological solution that, through sensors, monitors in real time the consumption of water, electricity, gas, and compressed air in industrial facilities. This allows for the timely identification of deviations from optimal consumption and for rapid corrective measures that can deliver up to 30% in savings. The solution also detects changes in the performance of industrial equipment, identifying preventive maintenance needs and thus avoiding downtime. By the end of 2021, this solution was implemented in nine large industrial clients, in different industries. Cost of response is an estimate of the development cost of P&S identified as low carbon for the corporate market segment.

Comment
All financial values are best currently available estimates.

Identifier
Opp3

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Products and services

Primary climate-related opportunity driver
Shift in consumer preferences

Primary potential financial impact
Other, please specify (Increased reputation and brand value)

Company-specific description
Climate change is currently a high-profile theme in the government and societal agenda. At the same time, investor pressure for improved climate disclosure and performance of public traded companies is increasing. Our recent market research (NOS targeted survey on environmental awareness, conducted in 2020 amongst Portuguese telecom customers in the business to consumer segment) showed that customers value corporate commitment to environmental protection – with climate change considered the most outstanding environmental issue. However, they do not differentiate the environmental performance of telecom operators present in the national market. This creates a differentiation opportunity for NOS. Climate performance is also increasing important for investors. Around 27% of our capital is currently held by institutional investors, of which 20% integrate Environmental, Social and Governance considerations into their investment strategies. We have thus identified an opportunity to reinforce goodwill and brand value, to increase access to capital markets, and to grow market share, by demonstrating climate leadership. We are actively managing this opportunity by integrating quantified and time-bound climate targets into our business strategy, including a 1.5ºC GHG reduction target approved by the Science-Based Targets initiative, consumption of 100% certified renewable electricity from 2022, and the marketing of products and services that reduce our customers' emissions in an amount higher than the emissions from our own operation. In 2021, we also established a Sustainability-Linked Financing Framework, aligned with the Sustainability Linked Loan Principles (SLLP). The Increase in the financial value of NOS brand due to recognition of the company's climate commitment, is used as a proxy for the potential financial impact of this opportunity.

Time horizon
Medium-term

Likelihood
About as likely as not

Magnitude of impact
Low

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
200000

Potential financial impact figure – maximum (currency)
250000

Explanation of financial impact figure
Figures are based on the estimated increase in the financial value of NOS brand due to the reputational benefits of the public recognition of the company's climate commitments. This is used as a proxy for the potential financial impact of the opportunity. NOS brand is currently valued at 480 million € (2021 update calculation according to ISO 10668). Environmental stewardship (part of the reputational dimension of the brand value) weights c. 0.5% in the total value calculation. We assumed a 10% increase in the environmental score of the brand value to be achieved from NOS being recognized as a climate leader in the Portuguese telecommunications sector. This would translate into an increase of c. 200 thousand € in the total value of NOS brand. We present a range of +/- 10% from the calculated figure to account for uncertainty around the exact extent of climate leadership impact on the company's reputation. Values are expressed as additional value of an intangible asset (€)

Cost to realize opportunity
200000

Strategy to realize opportunity and explanation of cost calculation
NOS is actively managing the opportunity by demonstrating climate leadership and bringing climate performance to the forefront of its institutional and financial markets communication. Climate targets are included in our business strategy (NOS Next Generation 2021-2025), alongside other business goals, and our current carbon reduction target has been recognized by the Science-Based Targets initiative as aligned with a 1.5ºC trajectory (emission reduction necessary to achieve the Paris Agreement objectives) We are also increasing the disclosure of climate-related and other sustainability information, by integrating non-financial statements in our mainstream report, and by actively engaging with investors and financial analysts on such topics. Case study: Around 27% of our capital is currently held by institutional investors, of which 20% integrate Environmental, Social and Governance (ESG) considerations into their investment strategies. NOS is also evaluated by a growing number of ESG analysts. In 2021, we placed climate commitments at the heart of our dialogue with investors and raised the debt issuance associated with sustainable financing lines. The conditions of these financing lines include components explicitly indexed to the climate performance of the company (e.g. GHG emissions, renewable energy consumption). In December we established a Sustainability-Linked Financing Framework, aligned with the Sustainability Linked Loan Principles (SLLP) and the best market practices, which comprehensively frames our issuance of sustainable financing instruments. The framework includes KPIs and associated performance targets linked to the reduction of our scope 1, 2 and 3 emissions, in line with our Science-Based Target. By the end of 2021, we had issued 250 million euros in debt associated with this type of financial instruments. Cost of response is an estimate based on the approximate % of the budget of Corporate Investor Relations and Sustainability department (human resources costs and outsourced services) allocated at the management of climate-related issues. Value is expressed as expenses incurred per year (€/year).

Comment
All financial values are best currently available estimates.

C3. Business Strategy

C3.1

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

Row 1

Transition plan
Yes, we have a transition plan which aligns with a 1.5°C world

Publicly available transition plan
Yes

Mechanism by which feedback is collected from shareholders on your transition plan
Our transition plan is voted on at AGMs and we also have an additional feedback mechanism in place

Description of feedback mechanism
NOS Board of Directors includes representatives of the company's major shareholders. Since 2020, NOS formally integrates climate-related issues into its business strategy. Progress on climate targets, including our SBTi approved 1.5ºC Science-Based Target, are monitored, on a quarterly basis, by the Executive Committee and the Board of Directors, alongside other strategic objectives of the company, using the newly developed ESG Scorecard. Our current 1.5ºC aligned climate strategy (risks & opportunities, targets, low carbon initiatives along the value chain and associated financial resources) was developed under the supervision of the CFO (Board and Executive Committee member with direct responsibility for climate oversight), was approved by the Executive Committee, and is now subject to regular review by NOS Corporate Governance & Sustainability Committee, a Board Committee comprised of two non-executive and one executive Board members. These procedures ensure there is a formal mechanism by which the company collects feedback on its climate transition plan from major shareholders, through their Board representative. In addition, all relevant information regarding our current strategy to ensure the successful transition of our business to a 1.5ºC world is included in NOS Annual Integrated Report (page numbers refer to the EN version of the 2021 report): i) Strategy, Targets, GHG emissions, Low carbon initiatives (p. 86-94); ii) Governance (p. 119-120); iii) Risks and Opportunities (p. 129-139); iv) Current alignment of Revenues, CAPEX and OPEX with EU Taxonomy – climate mitigation and adaptation objectives (p. 107-108), v) Current implementation status of TCFD Recommendations (p.171-172). NOS Annual Integrated Report is a scheduled item of NOS AGM meetings, and its approval is put to vote by the shareholders, who have previous access to the report's content. This ensures there is a formal mechanism by which the company collects feedback on its climate transition plan from all shareholders with the right to vote on the company's AGM, so we currently do not plan to present our climate transition plan as a separate AGM resolution item.

Frequency of feedback collection
More frequently than annually

Attach any relevant documents which detail your transition plan (optional)
NOS Annual Integrated Report - Chapter 5.7 (p.86-94): Strategy, Targets, GHG emissions, Low carbon initiatives; Section 6.2.1 (p.119-120): Governance; Section 6.2.2 (p. 129-139): Risks and Opportunities; Section 5.7.6 (p.107-108): Current alignment of Revenues, CAPEX and OPEX with EU Taxonomy; Section 8.2 (p.171-172): Current implementation of TCFD Recommendations:
NOS_IntegratedAnnualReport2021_EN.pdf

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

Explain why climate-related risks and opportunities have not influenced your strategy
<Not Applicable>

C3.2

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

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	No, but we anticipate using qualitative and/or quantitative analysis in the next two years	Lack of internal resources	NOS is not yet using climate-related scenario planning due to the lack of internal specific expertise on the subject, in particular in what relates to the use of physical climate scenarios and models, as we aim to conduct a complete quantitative analysis, including the evaluation of potential financial impacts of associated risks and opportunities. We are currently preparing this process, namely the selection of external specialized support. We plan to conclude the first climate-related scenario analysis in 2023. We will use climate-scenarios to further detail our existing assessment of climate-related risks and opportunities. For transition risks, we plan to use the International Energy Agency (IEA) scenarios, including the Sustainable Development Scenario (SDS) and the recent Net Zero by 2050 scenario. For physical risks, we plan to use IPCC scenarios, namely SSP1 - 1.9 and SSP5 – 8.5. We will also resort to scenarios and decarbonisation pathways developed specifically for the Information and Communications Sector, in particular those developed by the UN International Telecommunication Union (ITU) in its Recommendation ITU-T L.1470 - GHG emissions trajectories for the ICT sector compatible with the UNFCCC Paris Agreement'1 and aligned to the IPCC Special Report on 1.5°C. We already used 1.5ºC decarbonisation trajectories in the design of our 1.5ºC Science Based Target, approved by SBTi in November 2021. The target was developed according to the Guidance for ICT Companies Setting Science Based Targets, published in 2020 by ITU, the Global Sustainability Initiative for ICT (GeSI), the association of worldwide mobile operators (GSMA) and the Science Based Targets Initiative (SBTi).

C3.3

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

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	The enabling effect of ICT technologies (1:10 ratio between its own carbon emissions, and the emissions avoided with the adoption of its products and services) means there is a growing marketing opportunity for low carbon Products & Services. NOS is actively pursuing this climate-related opportunity by expanding its low carbon P&S portfolio. It currently includes Communications and Collaboration, Cloud and Data Centre, IoT (Internet of Things), and Analytics and represents around 7% of sales in the corporate segment and almost 2% of our total consolidated revenues. In 2020, NOS Executive Committee approved a new climate target: to market products and services that reduce NOS customers' emissions in an amount higher than the emissions from our own operation, by 2025. This new target was formally integrated into NOS Next Generation, the company's 2021-2025 strategic vision. Time horizon for climate-relate risks and opportunities influence on our products and services strategy is therefore 5 years (2020-2025). Case study: Projections for the IoT market alone point to a 3 to 4-fold growth in sales the next 5 years, with a global market worth over 1100 trillion USD in 2025 (GMSA, 2020; Cisco, 2020; Absolute Reports, 2020). In order to tap into this market potential, since 2020 we put a special focus on the development of machine-to-machine connectivity solutions. Amongst them, we identified industrial optimization of operations (e.g. energy efficiency and control of cooling systems) as one of the priorities for the development of our IoT offer. In 2020, we developed NOS Industrial Consumption Monitoring, a technological solution that, through sensors, monitors in real time the consumption of water, electricity, gas, and compressed air in industrial facilities. This allows for the timely identification of deviations from optimal consumption and for rapid corrective measures that can deliver up to 30% in savings. The solution also detects changes in the performance of industrial equipment, identifying preventive maintenance needs and thus avoiding downtime. By the end of the year, this solution was implemented in nine large industrial clients, in different industries.
Supply chain and/or value chain	Yes	Around 98% of our value chain end-to-end GHG emissions are indirect emissions that occur either in the generation of the electricity we purchase (scope 2 emissions) or upstream/downstream from our own operations (scope 3 emissions). Integration of climate-related issues in our supply chain, namely in our procurement practices is, therefore, key to achieving our new Science-Based Target, approved by SBTi in November 2021: to reduce 90% of scope 1 and 2 emissions and 30% of scope 3 emissions by 2030, compared to 2019. In 2020, NOS Executive Committee formally integrated a renewable electricity target into NOS Next Generation, the company's 2021-2025 strategic vision. Our target then was to achieve 80% of electricity consumption from renewable sources by 2030. Time horizon for climate-relate risks and opportunities influence on our supply chain strategy is therefore 10 years (2020-2030). In 2021, we decided to anticipate and expanded on that target, and, since January 2022, we purchase 100% certified renewable electricity. Case Study: Purchased electricity accounts for around 90% of total energy consumption in our own operations, and for almost 90% of our combined scope 1 and 2 emissions (2021 FY data). In order to achieve our 90% reduction target in scope 1 and 2 emissions by 2030, we need to drastically reduce the carbon content of the electricity we purchase. Sourcing renewable energy is the solution. After exploring different sourcing options, in 2021 we signed a long-term bilateral agreement (PPA – Power Purchase Agreement) for the consumption, from 2023, of electricity produced in a new wind farm. This will supply 62 GWh per year, which corresponds to around 40% of our current consumption. Also in 2021, we decided to increase the ambition of our renewable electricity target and, as of January 2022, all electricity consumed in our operation is now 100% certified renewable.
Investment in R&D	No	Although several investments that are part of our climate strategy have a strong focus on innovation (e.g. new IoT or Analytics solutions that reduce third party emissions; new energy efficient cooling solutions for Data Centres), our global R&D investment budged is not directly influenced by the need to address climate-related risks or opportunities.
Operations	Yes	Our technical telecommunications infrastructure - network and Data Centres - is responsible for 80% of NOS total energy consumption. The weight of infrastructure in our energy consumption has been increasing steadily, in line with the continuous expansion of our operational activity and the rapid growth of data traffic, which induces greater energy consumption in telecommunications equipment. In 2020, NOS Executive Committee formally integrated an energy efficiency target into NOS Next Generation, the company's 2021-2025 strategic vision. Our target is to achieve an 85% reduction in in energy consumption per data traffic unit by 2030, with an interim target of 75% by 2025 (from 2015 baseline). Time horizon for climate-relate risks and opportunities influence on our operational strategy is therefore 10 years (2020-2030). Case study: NOS mobile data traffic had a 6-fold increase between 2015 and 2021. This brings about particular challenges both in terms of network capacity and associated energy consumption, as more traffic increases the energy needs of network equipment. To address these challenges, between 2017 and 2019 we undertook the complete modernization of our mobile access network across the Portuguese territory. The project involved the migration of 2G, 3G and 4G technologies to single equipment, the strengthening of the network capacity and the installation of more efficient equipment. It generated energy savings of around 25%, for the same traffic capacity, which limited the growth in absolute consumption, despite the installation of more equipment and increased use. The reinforced network capacity was also crucial in delivering high service levels in the face of the significant demand increase brought about by the Covid-19 pandemic in 2020 and 2021.

C3.4

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

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Indirect costs Capital expenditures Access to capital	Revenues - Increase in demand for ICT products and services that reduce user emissions is expected to occur in the next 5 to 10 years, generating increased revenues from our low carbon portfolio. Indirect costs - Rise in electricity prices driven by changes in European climate and energy policies is expected to impact our indirect costs in the next 3-5 years. Capital expenditures – We will continue to invest in energy efficiency projects that deliver significant energy and emissions savings and attractive payback periods. Planning horizon is aligned with our business plan timeframe (5 years). Access to capital – By the end of 2021, we had raised the debt issuance associated with sustainable financing lines to 250 million euros. In December 2021, we established a Sustainability-Linked Financing Framework, aligned with the Sustainability Linked Loan Principles (SLLP) and best market practices, which comprehensively frames our issuance of this type of financing instruments with conditions indexed to climate KPIs (combined scope 1 and 2 emissions and scope 3 emissions) and associated performance targets. Achievement of climate-related targets therefore positively influences our access to capital. Planning horizon is 2025 to 2030 (target observation dates for the two Sustainability Performance Targets included in our Sustainability-Linked Financing Framework). Case study for capital expenditures: NOS operates an extensive technical infrastructure located throughout Portugal that consumes around 133 GWh of electricity/year entailing c. 20 million €/year in operating costs. Around 30% of this energy is used for cooling telecommunications and IT equipment. To reduce cooling electricity costs, in 2016 we started to rollout an investment plan for the implementation of free cooling solutions in some of our most important technical sites. The system uses the outside air to cool equipment, reducing the use of HVAC units. It is currently implemented in over 30 Mid and Main network sites and Data Centres. Total investment between 2016 and 2021 was around 120 thousand € and generated 415 MWh/year in electricity savings.

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's transition to a 1.5°C world?

Yes

C3.5a

(C3.5a) Quantify the percentage share of your spending/revenue that is aligned with your organization's transition to a 1.5°C world.

Financial Metric
Revenue

Percentage share of selected financial metric aligned with a 1.5°C world in the reporting year (%)
1.9

Percentage share of selected financial metric planned to align with a 1.5°C world in 2025 (%)

Percentage share of selected financial metric planned to align with a 1.5°C world in 2030 (%)

Describe the methodology used to identify spending/revenue that is aligned with a 1.5°C world
Revenue aligned with a 1.5ºC world in 2021 was identified according to Regulation (EU) 2020/852 (EU Taxonomy for environmentally sustainable activities) and the associated European Commission Delegated Regulation (EU) 2021/2139 (Climate Delegated Act). Value was disclosed in NOS Annual Integrated Report 2021 and corresponds to eligible activities (those identified in the Delegate Regulation). Assessment of aligned activities (those that meet the Delegated Regulation technical screening criteria) will be undertaken in 2022. Aligned revenue corresponds essentially to revenues from our corporate client segment related to cloud and Data Centre services, analytics (mobility, smart cities, energy efficiency) and IoT (smart cities, mobility and management and fleet and asset optimization). These activities are included in the current EU Taxonomy list of eligible activities (itens 8.1 and 8.2). However, the current list of eligible activities for the purposes of the EU Taxonomy - being focused on the sectors with the highest carbon intensity and on the activities that enable their transformation - does not yet cover many of NOS' core activities. As the Taxonomy evolves, % of our aligned revenue is expected to increase.

Financial Metric
CAPEX

Percentage share of selected financial metric aligned with a 1.5°C world in the reporting year (%)
1.1

Percentage share of selected financial metric planned to align with a 1.5°C world in 2025 (%)

Percentage share of selected financial metric planned to align with a 1.5°C world in 2030 (%)

Describe the methodology used to identify spending/revenue that is aligned with a 1.5°C world
CAPEX aligned with a 1.5ºC world in 2021 was identified according to Regulation (EU) 2020/852 (EU Taxonomy for environmentally sustainable activities) and the associated European Commission Delegated Regulation (EU) 2021/2139 (Climate Delegated Act). Value was disclosed in NOS Annual Integrated Report 2021 and corresponds to eligible activities (those identified in the Delegate Regulation). Assessment of aligned activities (those that meet the Delegated Regulation technical screening criteria) will be undertaken in 2022. Aligned CAPEX corresponds essentially to the upgrade and replacement of cooling systems in our Telecommunications network sites, containerization of racks and installation of a new air conditioning systems and other energy efficiency investment in Data Centres (procurement of products and services to improve the energy performance of operations). As the Taxonomy evolves to include more activities in which we already invest to improve the energy and carbon performance of our operation, % of our aligned CAPEX is expected to increase.

Financial Metric
OPEX

Percentage share of selected financial metric aligned with a 1.5°C world in the reporting year (%)
7.5

Percentage share of selected financial metric planned to align with a 1.5°C world in 2025 (%)

Percentage share of selected financial metric planned to align with a 1.5°C world in 2030 (%)

Describe the methodology used to identify spending/revenue that is aligned with a 1.5°C world
OPEX aligned with a 1.5ºC world in 2021 was identified according to Regulation (EU) 2020/852 (EU Taxonomy for environmentally sustainable activities) and the associated European Commission Delegated Regulation (EU) 2021/2139 (Climate Delegated Act). Value was disclosed in NOS Annual Integrated Report 2021 and corresponds to eligible activities (those identified in the Delegate Regulation). Assessment of aligned activities (those that meet the Delegated Regulation technical screening criteria) will be undertaken in 2022. Aligned OPEX corresponds essentially to expenses with cloud and Data Centres and centralization of assets, with the management and optimization of fleets and assets, IoT expenses and procurement of products and services to improve the energy performance of our operation. As the Taxonomy evolves to include more products and services we already procure to improve the energy and carbon performance of our operation, % of our aligned OPEX is expected to increase.

C4. Targets and performance

C4.1

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

C4.1a

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

Target reference number
Abs 1

Year target was set
2019

Target coverage

Company-wide

Scope(s)
Scope 1
Scope 2

Scope 2 accounting method
Market-based

Scope 3 category(ies)
<Not Applicable>

Base year
2019

Base year Scope 1 emissions covered by target (metric tons CO2e)
7320

Base year Scope 2 emissions covered by target (metric tons CO2e)
43064

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

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
50383

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

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

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

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

Target year
2030

Targeted reduction from base year (%)
90

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
5038.3

Scope 1 emissions in reporting year covered by target (metric tons CO2e)
3514

Scope 2 emissions in reporting year covered by target (metric tons CO2e)
35630

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

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
39144

% of target achieved relative to base year [auto-calculated]
24.7856971156497

Target status in reporting year
Revised

Is this a science-based target?
Yes, and this target has been approved by the Science Based Targets initiative

Target ambition
1.5°C aligned

Please explain target coverage and identify any exclusions
This is our combined scope 1 and 2 Science-Based Target, approved by SBTi in November 2021. It is a revision of our previous scope 1 and 2 target, set in 2019. Target covers 100% of company-wide scope 1 and 2 combined emissions, including all operations within the boundary of our GHG inventory (financial control approach). It was modelled using SBTi ICT Sector Guidance and is aligned with approved 1.5ºC trajectories for the ICT sector. 2019 was chosen as base year because it is the first year for which we have a complete, robust and third-party verified emissions inventory, including a complete scope 3 inventory. We have set another SBT absolute target covering 100% of our scope 3 emissions, which was also approved by SBTi in 2021 (Abs2).

Plan for achieving target, and progress made to the end of the reporting year
Plan to achieve our scope 1 and 2 SBT is based on the continued increase in the energy efficiency of our operation (efficiency measures targeted at networks and Data Centres; company fleet electrification) and the switch to renewable electricity. Between 2019 (base year) and 2021, our combined scope 1 and 2 emissions decreased by 22%, due to the combined effect of improved energy efficiency (-53% energy consumption per Terabyte of data traffic) and reduction in the carbon content of purchased electricity (-17% gCO2e/kWh). In 2021 we signed a long-term bilateral agreement (PPA – Power Purchase Agreement) for the consumption, from 2023, of electricity produced in a new wind farm, which will supply around 40% of our current consumption. In addition, in 2021 we also decided to anticipate our renewable electricity target and, as of January 2022, all electricity consumed in our operation is 100% certified renewable. This will reduce our scope 2 emissions to residual levels, and will contribute decisively to target achievement.

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

Target reference number
Abs 2

Year target was set
2021

Target coverage
Company-wide

Scope(s)
Scope 3

Scope 2 accounting method
<Not Applicable>

Scope 3 category(ies)
Category 1: Purchased goods and services
Category 2: Capital goods
Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
Category 4: Upstream transportation and distribution
Category 5: Waste generated in operations
Category 6: Business travel
Category 7: Employee commuting
Category 8: Upstream leased assets
Category 11: Use of sold products
Category 12: End-of-life treatment of sold products
Category 14: Franchises
Category 15: Investments

Base year
2019

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

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

Base year Scope 3 emissions covered by target (metric tons CO2e)
463094

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
463094

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

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

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)
100

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

Target year
2030

Targeted reduction from base year (%)
30

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
324165.8

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

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

Scope 3 emissions in reporting year covered by target (metric tons CO2e)
448884

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
448884

% of target achieved relative to base year [auto-calculated]
10.2283049805583

Target status in reporting year
New

Is this a science-based target?
Yes, and this target has been approved by the Science Based Targets initiative

Target ambition
Well-below 2°C aligned

Please explain target coverage and identify any exclusions
This is our scope 3 Science-Based Target, approved by SBTi in November 2021. It is a new target, set in 2021, and the first target set by NOS for its value chain

emissions. Target covers 100% of company-wide scope 3 emissions in all applicable categories. It was modelled using SBTi Absolute Contraction Approach methodology, using a well-below 2ºC trajectory. 2019 was chosen as base year because it is the first year for which we have a complete, robust and third-party verified scope 3 emissions inventory. Base year and target year are the same as those of our combined scope 1 and 2 SBT. We have set another SBT absolute target covering 100% of our combined scope 1 and 2 emissions, which was also approved by SBTi in 2021 (Abs1).

Plan for achieving target, and progress made to the end of the reporting year
Plan to achieve our scope 3 SBT focuses on the most relevant emission categories: i) for purchased goods and services (categories 1 and 2), we will collect specific information on emissions associated with the production of network and customer equipment and define a procurement policy geared towards equipment with less carbon intensive production; ii) for use of sold products (category 11), we will reinforce the energy efficiency criteria of equipment we provide to customers (mobile phones, set-top boxes, routers), expand the circularity project that already guarantees the collection and reuse of more than 80% of fixed service equipment, and develop customer engagement campaigns promoting the use of the equipment's energy-saving features (e.g. stand-by mode in TV boxes). Between 2019 (base year) and 2021, our scope 3 emissions decreased by 3%, due mostly to the continued improvement in the energy efficiency of client equipment (in particular TV boxes and routers). Between 2019 and 2021, emissions from use of sold products decreased by 38%, despite +21% new units placed on the market. Reductions in category 1 and 2 emissions represent and additional challenge, as they are strongly dependent on network expansion and renovation investment cycles.

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

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?
Target(s) to increase low-carbon energy consumption or production
Net-zero target(s)
Other climate-related target(s)

C4.2a

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

Target reference number
Low 2

Year target was set
2021

Target coverage
Company-wide

Target type: energy carrier
Electricity

Target type: activity
Consumption

Target type: energy source
Renewable energy source(s) only

Base year
2019

Consumption or production of selected energy carrier in base year (MWh)
163137

% share of low-carbon or renewable energy in base year
55

Target year
2022

% share of low-carbon or renewable energy in target year
100

% share of low-carbon or renewable energy in reporting year
34

% of target achieved relative to base year [auto-calculated]
-46.6666666666667

Target status in reporting year
New

Is this target part of an emissions target?
No, it is an independent target. However, it will be crucial for the achievement of our combined scope 1 and 2 Science-Based Target (Abs1) - reduce scope 1 and 2 emissions by 90% by 2030 from 2019 level - given that emissions from purchased electricity represent 85% to 90% of our combined scope 1 and 2 emissions.

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions
This is our new target for the consumption of renewable electricity. It was set in 2021 and increases our renewable energy ambition, replacing our previous renewables target (Low1). Target covers 100% of our company-wide electricity consumption, including all operations within the boundary of our GHG inventory (financial control approach).

Plan for achieving target, and progress made to the end of the reporting year
After exploring different sourcing options, in 2021 we signed a long-term bilateral agreement (PPA – Power Purchase Agreement) for the consumption, from 2023, of electricity produced in a new wind farm. This will supply 62 GWh per year, which corresponds to around 40% of our current consumption. In addition, in 2021 we also decided to increase the ambition of our renewable electricity target and, as of January 2022, all electricity consumed in our operation is now 100% certified renewable. In 2021, as the purchase of certified renewable electricity was still not in place, the % of renewable electricity in our total consumption corresponds to the share of renewables in our electricity suppliers' generation mix (34%, disclosed according to EU electricity labelling regulations and supported by a national energy attributes tracking system), with a marginal contribution self-generated renewable energy from solar PV and wind pilot-projects installed in our access network.

List the actions which contributed most to achieving this target
<Not Applicable>

Target reference number
Low 1

Year target was set
2019

Target coverage
Company-wide

Target type: energy carrier
Electricity

Target type: activity
Consumption

Target type: energy source
Renewable energy source(s) only

Base year
2015

Consumption or production of selected energy carrier in base year (MWh)
142558

% share of low-carbon or renewable energy in base year
27

Target year
2030

% share of low-carbon or renewable energy in target year
80

% share of low-carbon or renewable energy in reporting year
34

% of target achieved relative to base year [auto-calculated]
13.2075471698113

Target status in reporting year
Replaced

Is this target part of an emissions target?
No, it was an independent target. Target has been replaced by a new, more ambitious renewable energy target (Low2).

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions
Target covered 100% of our company-wide electricity consumption, including all operations within the boundary of our GHG inventory (financial control approach). It has been replaced by a new, more ambitious renewable energy target (Low2).

Plan for achieving target, and progress made to the end of the reporting year
<Not Applicable>

List the actions which contributed most to achieving this target
<Not Applicable>

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number
Oth 1

Year target was set
2019

Target coverage
Company-wide

Target type: absolute or intensity
Intensity

Target type: category & Metric (target numerator if reporting an intensity target)

Energy consumption or efficiency	GJ

Target denominator (intensity targets only)
Other, please specify (Terabyte of data traffic (TB))

Base year
2015

Figure or percentage in base year
0.81

Target year
2030

Figure or percentage in target year
0.12

Figure or percentage in reporting year
0.13

% of target achieved relative to base year [auto-calculated]
98.5507246376812

Target status in reporting year
Underway

Is this target part of an emissions target?
No, it is an independent target. However, it will play an important role in achieving our combined scope 1 and 2 Science-Based Target (Abs1) - reduce scope 1 and 2 emissions by 90% by 2030 from 2019 level – given that energy-related emissions account for over 95% of our combined scope 1 and 2 emissions. Increasing the efficiency of our operation will enable us to deliver more and better products and services while limiting our use of energy resources and carbon emissions.

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions
This is our current target for global energy efficiency. It was set in 2019 and covers 100% of our company-wide energy consumption including all operations within the boundary of our GHG inventory (financial control approach). Target metric is the ratio between our total energy consumption (fossil fuels, electricity and thermal energy, expressed in GJ) and data traffic in our telecommunications network, expressed in Terabyte (TB). It accounts for mobile and fixed data traffic, including non-linear TV (streaming) and excluding linear TV (broadcast). 2015 was chosen as base year because it is the first year for which we have a complete and third-party verified energy consumption data.

Plan for achieving target, and progress made to the end of the reporting year
Plan for achieving the target is based on continued investment in energy efficiency of the network – both in supporting infrastructure and in transmission equipment - and electrification of our passenger vehicle fleet. This has allowed us to limit the increase in consumption, despite the rapid growth of data traffic. Between 2015 (base year) and 2021, GJ/TB ratio decreased by 85%, reaching the 2030 target nine years ahead of schedule. In 2022, we will explore new metrics that adequately express the energy efficiency of our operation, and we will set a new target that continues to challenge the organization.

List the actions which contributed most to achieving this target
<Not Applicable>

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number
NZ1

Target coverage
Company-wide

Absolute/intensity emission target(s) linked to this net-zero target
Abs1
Abs2

Target year for achieving net zero
2040

Is this a science-based target?
Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next 2 years

Please explain target coverage and identify any exclusions
Target covers 100% of our company-wide scope 1 and 2 emissions, including all operations within the boundary of our GHG inventory (financial control approach). It is part of NOS commitments as a founding member of the European Green Digital Coalition (EGDC). We have recently committed to have this target validated by SBTi as a Net-Zero Science Based Target, and are currently reviewing the target in line with the criteria set forth in SBTi's Net-Zero Standard, including the integration of scope 3 emissions.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?
Yes

Planned milestones and/or near-term investments for neutralization at target year
In 2021, we approved a plan for full electrification of our fleet by 2030. This will deliver a structural reduction in our direct emissions. Until the fleet is 100% electric, NOS will voluntarily offset the unavoidable carbon emissions via a tree planting project in forest areas affected by forest fires in the central region of Mainland Portugal (Fundão, Mangualde, Meda and Pampilhosa da Serra). CO2 removed from the atmosphere will be equivalent to the direct emissions caused by the fuel consumption of the vehicle fleet, (aprox. 3000 t CO2e/year in 2021). After the future definition, by SBTi, of detailed criteria for eligible carbon removal projects and credits, we will, if necessary, adjust our neutralization strategy and will further explore options for neutralization of scope 3 emissions at target year.

Planned actions to mitigate emissions beyond your value chain (optional)
We are currently exploring different options for beyond value chain mitigation, but no plans have been defined so far.

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	0	0
To be implemented*	3	480
Implementation commenced*	0	0
Implemented*	2	235
Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

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

Estimated annual CO2e savings (metric tonnes CO2e)
215

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

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
107000

Investment required (unit currency – as specified in C0.4)
140000

Payback period
1-3 years

Estimated lifetime of the initiative
11-15 years

Comment
Free cooling in mobile telecommunication sites - use of outside air to cool down equipment, reducing the use of HVAC units – cold containment solutions in main sites and Data Centres, space rationalization in backoffice buildings and new efficient HVAC equipment. Estimated energy savings of 935 MWh/year.

Initiative category & Initiative type

Energy efficiency in production processes	Machine/equipment replacement

Estimated annual CO2e savings (metric tonnes CO2e)
20

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

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
10000

Investment required (unit currency – as specified in C0.4)
260000

Payback period
21-25 years

Estimated lifetime of the initiative
11-15 years

Comment
New efficient energy backup systems in mobile telecommunications sites. Estimated energy savings of 90 MWh/year.

C4.3c

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

Method	Comment
Dedicated budget for energy efficiency	Energy efficiency budget is allocated to measures showing the best financial cost-benefit analysis. Additional selection criteria include the contribution of the investment to the improvement of the company's environmental performance (including contribution to the achievement of its emissions reduction target).

C4.5

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

C4.5a

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

Level of aggregation
Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon
The EU Taxonomy for environmentally sustainable economic activities

Type of product(s) or service(s)

Other	Other, please specify (Data-driven solutions for GHG emissions reduction)

Description of product(s) or service(s)
Communications and Collaboration. Includes broadband connection services, digital collaboration products and video, audio and web-conference solutions that enhance productivity and enable remote work, reducing travel needs and associated carbon emissions. Examples include: NOS Unified Communications, NOS VCaaS (video conference as a service) and Contact Center aaService. % of revenues corresponds to the share of sales from this group of products (B2B business segment only) in our total consolidated revenues FY2021. As the EU Taxonomy evolves, we expect more of our P&S in this group to be classified as low-carbon P&S. We plan to conduct a detailed estimative of emissions avoided through the use of this group of products, using specific methodologies for the ICT sector.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)
No

Methodology used to calculate avoided emissions
<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)
<Not Applicable>

Functional unit used
<Not Applicable>

Reference product/service or baseline scenario used
<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario
<Not Applicable>

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario
<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions
<Not Applicable>

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year
1.2

Level of aggregation
Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon
The EU Taxonomy for environmentally sustainable economic activities

Type of product(s) or service(s)

Other	Other, please specify (Data processing, information hosting and related activities)

Description of product(s) or service(s)
Cloud and Data Centre. Includes housing, storage, Infrastructure as a Service, virtual machines and cloud applications provided by our Data Centres, that reduce overall emissions through the use of a dedicated and highly energy efficient infrastructure (IT equipment and backup systems). Examples include: NOS IaaS, NOS Cloud Backup and Storage, MS Office 365, and Virtual Desktop. % of revenues corresponds to the share of sales from this group of products (B2B business segment only) in our total consolidated revenues FY2021. We plan to conduct a detailed estimative of emissions avoided through the use of this group of products, using specific methodologies for the ICT sector.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)
No

Methodology used to calculate avoided emissions
<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)
<Not Applicable>

Functional unit used
<Not Applicable>

Reference product/service or baseline scenario used
<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario
<Not Applicable>

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario
<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions
<Not Applicable>

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year
0.4

Level of aggregation
Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon
The EU Taxonomy for environmentally sustainable economic activities

Type of product(s) or service(s)

Other	Other, please specify (Data-driven solutions for GHG emissions reduction)

Description of product(s) or service(s)
IoT (Internet of Things). Includes remote monitoring and device control solutions, that reduce emissions by reducing energy and water consumption (early detection of malfunctioning, optimized equipment operation, better car route planning) and avoiding unnecessary travel for in loco interventions. Examples include: Smart water/electricity/gas meters, Intelligent irrigation systems, Bike tracking solution, NOS Follow Pro. % of revenues corresponds to the share of sales from this group of products (B2B business segment only) in our total consolidated revenues FY2021. We plan to conduct a detailed estimative of emissions avoided through the use of this group of products, using specific methodologies for the ICT sector.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)
No

Methodology used to calculate avoided emissions
<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)
<Not Applicable>

Functional unit used
<Not Applicable>

Reference product/service or baseline scenario used
<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario
<Not Applicable>

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario
<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions
<Not Applicable>

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year
0.3

Level of aggregation
Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon
The EU Taxonomy for environmentally sustainable economic activities

Type of product(s) or service(s)

Other	Other, please specify (Data-driven solutions for GHG emissions reduction)

Description of product(s) or service(s)
Analytics. Includes big data analysis solutions (e.g. analysis of movement patterns) that inform better decisions and resource planning, reducing overall emissions and improving local environmental conditions. Examples include: Analysis of city mobility patterns to support public transportation route optimization. % of revenues corresponds to the share of sales from this group of products (B2B business segment only) in our total consolidated revenues FY2021. We plan to conduct a detailed estimative of emissions avoided through the use of this group of products, using specific methodologies for the ICT sector.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)
No

Methodology used to calculate avoided emissions
<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)
<Not Applicable>

Functional unit used
<Not Applicable>

Reference product/service or baseline scenario used
<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario
<Not Applicable>

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario
<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions
<Not Applicable>

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year
0.02

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

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

Row 1

Has there been a structural change?

No

Name of organization(s) acquired, divested from, or merged with

<Not Applicable>

Details of structural change(s), including completion dates

<Not Applicable>

C5.1b

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

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	Yes, a change in methodology Yes, a change in boundary	Change in methodology: as of 2019, electricity consumption by NOS equipment at third-party facilities, whenever NOS does not have a direct contract with the electricity supplier, is no longer reported under scope 2 and is now reported under scope 3 - category 8. Change in boundary: i) scope 1, 2 and 3 figures now include emission estimates for NOS Açores and NOS Madeira, which are within our GHG inventory boundary but were previously excluded due to lack of data; ii) scope 3 emissions now include all GHG Protocol scope 3 categories applicable to our activity. Changes were implemented in 2021, in the context of development and approval of NOS Science-Based Target. The target was set against a 2019 base-year.

C5.1c

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

	Base year recalculation	Base year emissions recalculation policy, including significance threshold
Row 1	Yes	In 2021, in the context of development and approval of NOS Science-Based Target (SBT), we completed and reviewed our GHG inventory, to ensure alignment with The GHG Protocol and The Science-Based Targets Initiative (SBTi) requirements. 2019 was chosen as the base year for our SBT, as it is the first year for which we have complete scope 3 inventory data. We have thus recalculated and republished previously published figures for 2019 and 2020, in order to accommodate the changes introduced in our GHG accounting methodology: Scope 1: i) recalculated to include estimated emissions of NOS Açores and NOS Madeira. These subsidiaries fall within the organizational boundary of NOS GHG inventory but were previously excluded due to data limitations. Emissions were extrapolated from the rest of the Group, on the basis of the number of clients (aprox. 3.5% of NOS total). Scope 2: i) recalculated to include estimated emissions of NOS Açores and NOS Madeira (see above); ii) recalculated to exclude electricity consumption not directly contracted by NOS from electricity suppliers. This is the case of some network equipment in third-party facilities, where electricity consumption was estimated and subsequently allocated to NOS. All electricity consumption by NOS equipment in third-party facilities, where electricity is not directly contracted by NOS, is now accounted for and reported under scope 3, category 8. Scope 3: i) recalculated to include estimated emissions of NOS Açores and NOS Madeira (see above); ii) recalculated to include, in category 8, electricity consumption in network equipment in third-party facilities, where electricity is not directly contracted by NOS, and which was previously accounted for under scope 2; iii) recalculated to include scope 3 categories applicable to our activity by previously not included in our scope 3 inventory, due to lack of data (GHG Protocol categories 1, 2, 11, 12 and 15). Although we have emissions data from 2015, we have changed our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021. Our base year recalculation policy follows The GHG Protocol's guidelines for base year recalculations, and we have set a 5% threshold of change per scope to trigger recalculation.

C5.2

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

Scope 1

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
7320

Comment
Although we have emissions data for scope 1 from 2015, we have changed our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021.

Scope 2 (location-based)

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
56269

Comment
Although we have location-based emissions data for scope 2 from 2015, we have changed our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021.

Scope 2 (market-based)

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
43064

Comment
Although we have market-based emissions data for scope 2 from 2015, we have changed our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021.

Scope 3 category 1: Purchased goods and services

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
95146

Comment
This is the first year for which we have scope 3 – category 1 emissions data. We have set our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021.

Scope 3 category 2: Capital goods

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
161043

Comment
This is the first year for which we have scope 3 – category 2 emissions data. We have set our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021.

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

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
12610

Comment
This is the first year for which we have scope 3 – category 3 emissions data. We have set our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021.

Scope 3 category 4: Upstream transportation and distribution

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
365

Comment
This is the first year for which we have scope 3 – category 4 emissions data. We have set our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021.

Scope 3 category 5: Waste generated in operations

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
169

Comment
Although we have emissions data for scope 3 – category 5 from 2015, we have changed our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021.

Scope 3 category 6: Business travel

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
733

Comment
Although we have emissions data for scope 3 – category 6 from 2015, we have changed our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021.

Scope 3 category 7: Employee commuting

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
1181

Comment
Although we have emissions data for scope 3 – category 7 from 2016, we have changed our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021.

Scope 3 category 8: Upstream leased assets

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
8338

Comment
This is the first year for which we have scope 3 – category 8 emissions data. We have set our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021.

Scope 3 category 9: Downstream transportation and distribution

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)

Comment
We do not report on this scope 3 category. Emissions from downstream transportation and distribution are accounted for in category 4, as we are not able to separate physical activity data for transportation logistics into the two categories.

Scope 3 category 10: Processing of sold products

Base year start
January 1 2019

Base year end

Base year emissions (metric tons CO2e)

Comment
This scope 3 category is not applicable to NOS. We do not sell intermediate products. All our goods and services are sold to customers in its final form and do not undergo further processing.

Scope 3 category 11: Use of sold products

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
167587

Comment
This is the first year for which we have scope 3 – category 11 emissions data. We have set our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021.

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

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
137

Comment
This is the first year for which we have scope 3 – category 12 emissions data. We have set our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021.

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment
This scope 3 category is not applicable to NOS. We do not lease assets to third parties.

Scope 3 category 14: Franchises

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
452

Comment
This is the first year for which we have scope 3 – category 14 emissions data. We have set our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021.

Scope 3 category 15: Investments

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
15331

Comment
This is the first year for which we have scope 3 – category 15 emissions data. We have set our base year to 2019, to ensure full comparability of emissions across all scopes, as well as consistency with the base year of our SBT, approved SBTi in November 2021.

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment
This scope 3 category is not applicable to NOS. There are no other scope 3 upstream emissions in our value chain.

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

This scope 3 category is not applicable to NOS. There are no other scope 3 downstream emissions in our value chain.

C5.3

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

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
The Greenhouse Gas Protocol: Scope 2 Guidance

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)

3514

Start date

January 1 2021

End date

December 31 2021

Comment

Scope 1 includes emissions from mobile combustion (company fleet - light passenger and duty vehicles), stationary combustion (natural gas-powered boiler in our headquarters and emergency generators) and refrigeration fluorinated gas leakage (mostly from HAVAC equipment and fire extinguishers used in our backoffice buildings, telecommunications network, Data Centres and cinema theatres).

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)

3569

Start date

January 1 2020

End date

December 31 2020

Comment

Scope 1 includes emissions from mobile combustion (company fleet - light passenger and duty vehicles), stationary combustion (natural gas-powered boiler in our headquarters and emergency generators) and refrigeration fluorinated gas leakage (mostly from HAVAC equipment and fire extinguishers used in our backoffice buildings, telecommunications network, Data Centres and cinema theatres). 2020 emissions were recalculated in 2021, when developing and approving NOS Science-Based Target (SBT), to ensure alignment with The GHG Protocol and The Science-Based Targets Initiative (SBTi) requirements. Scope 1 was recalculated to include estimated emissions of NOS Açores and NOS Madeira., as these subsidiaries fall within the organizational boundary of NOS GHG inventory but were previously excluded due to data limitations. Revised figures were subject to independent third-party verification and re-published in our Annual Report 2021.

Past year 2

Gross global Scope 1 emissions (metric tons CO2e)

7320

Start date

January 1 2019

End date

December 31 2019

Comment

Scope 1 includes emissions from mobile combustion (company fleet - light passenger and duty vehicles), stationary combustion (natural gas-powered boiler in our headquarters and emergency generators) and refrigeration fluorinated gas leakage (mostly from HAVAC equipment and fire extinguishers used in our backoffice buildings, telecommunications network, Data Centres and cinema theatres). 2019 emissions were recalculated in 2021, when developing and approving NOS Science-Based Target (SBT), to ensure alignment with The GHG Protocol and The Science-Based Targets Initiative (SBTi) requirements. Scope 1 was recalculated to include estimated emissions of NOS Açores and NOS Madeira., as these subsidiaries fall within the organizational boundary of NOS GHG inventory but were previously excluded due to data limitations. Revised figures were subject to independent third-party verification and re-published in our Annual Report 2021.

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
In scope 2 we account for emissions from purchased electricity and thermal energy (heating and cooling consumed in two of our backoffice buildings). Electricity emissions: for location-based figures, we use national grid electricity emission factors for Portugal, published yearly by the European Environment Agency (EEA); for market-based figures, we use our electricity supplier specific yearly emission factor. Heating and cooling emissions: for both market-based and location-based figures, we use emission factors representative of one of our thermal energy suppliers. We chose this method as there are no readily available location-based emission factors for heating/cooling in Portugal, and because the generation technology (natural gas-fired co-generation) used to supply thermal energy to the two building is the same, although the supplier is different. Thermal energy represents, in average, only 2% of our scope 2 emissions. We use scope 2 market-based figures to report our combined scope 1 and 2 GHG emissions, to define our emissions reduction targets and to monitor our carbon performance, including progress against our new Science-Based Target, set in 2021.

C6.3

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

Reporting year

Scope 2, location-based
39554

Scope 2, market-based (if applicable)
35630

Start date
January 1 2021

End date
December 31 2021

Comment
Scope 2 includes emissions from the generation of purchased electricity and thermal energy (heating and cooling consumed in two of our backoffice buildings). Electricity emissions: for location-based figures, we use national grid electricity emission factors for Portugal, published yearly by the European Environment Agency (EEA); for market-based figures, we use our electricity suppliers' specific yearly emission factor. Heating and cooling emissions: for both market-based and location-based figures, we use emission factors representative of one of our thermal energy suppliers. We chose this method as there are no readily available location-based emission factors for heating/cooling in Portugal, and because the generation technology (natural gas-fired co-generation) used to supply thermal energy to the two building is the same, although the supplier is different. Thermal energy represents, in average, only 2% of our scope 2 emissions. We use scope 2 market-based figures to report our combined scope 1 and 2 GHG emissions, to define our emissions reduction target and to monitor our carbon performance, including progress against the reduction target.

Past year 1

Scope 2, location-based
47807

Scope 2, market-based (if applicable)
30929

Start date
January 1 2020

End date
December 31 2020

Comment
Scope 2 includes emissions from the generation of purchased electricity and thermal energy (heating and cooling consumed in two of our backoffice buildings). Electricity emissions: for location-based figures, we use national grid electricity emission factors for Portugal, published yearly by the European Environment Agency (EEA); for market-based figures, we use our electricity suppliers' specific yearly emission factor. Heating and cooling emissions: for both market-based and location-based figures, we use emission factors representative of one of our thermal energy suppliers. We chose this method as there are no readily available location-based emission factors for heating/cooling in Portugal, and because the generation technology (natural gas-fired co-generation) used to supply thermal energy to the two building is the same, although the supplier is different. Thermal energy represents, in average, only 2% of our scope 2 emissions. We use scope 2 market-based figures to report our combined scope 1 and 2 GHG emissions, to define our emissions reduction target and to monitor our carbon performance, including progress against the reduction target. 2020 emissions were recalculated in 2021, when developing and approving NOS Science-Based Target (SBT), to ensure alignment with The GHG Protocol and The Science-Based Targets Initiative (SBTi) requirements. Scope 2 was recalculated to: i) include estimated emissions of NOS Açores and NOS Madeira., as these subsidiaries fall within the organizational boundary of NOS GHG inventory but were previously excluded due to data limitations; ii) exclude emissions from electricity consumption not directly contracted by NOS from electricity suppliers. All electricity consumption by NOS equipment in third-party facilities, where electricity is not directly contracted by NOS, is now accounted for and reported under scope 3, category 8. Revised figures were subject to independent third-party verification and re-published in our Annual Report 2021.

Past year 2

Scope 2, location-based
56269

Scope 2, market-based (if applicable)
43064

Start date
January 1 2019

End date
December 31 2019

Comment
Scope 2 includes emissions from the generation of purchased electricity and thermal energy (heating and cooling consumed in two of our backoffice buildings). Electricity emissions: for location-based figures, we use national grid electricity emission factors for Portugal, published yearly by the European Environment Agency (EEA); for market-based figures, we use our electricity suppliers' specific yearly emission factor. Heating and cooling emissions: for both market-based and location-based figures, we use emission factors representative of one of our thermal energy suppliers. We chose this method as there are no readily available location-based emission factors for heating/cooling in Portugal, and because the generation technology (natural gas-fired co-generation) used to supply thermal energy to the two building is the same, although the supplier is different. Thermal energy represents, in average, only 2% of our scope 2 emissions. We use scope 2 market-based figures to report our combined scope 1 and 2 GHG emissions, to define our emissions reduction target and to monitor our carbon performance, including progress against the reduction target. 2019 emissions were recalculated in 2021, when developing and approving NOS Science-Based Target (SBT), to ensure alignment with The GHG Protocol and The Science-Based Targets Initiative (SBTi) requirements. Scope 2 was recalculated to: i) include estimated emissions of NOS Açores and NOS Madeira., as these subsidiaries fall within the organizational boundary of NOS GHG inventory but were previously excluded due to data limitations; ii) exclude emissions from electricity consumption not directly contracted by NOS from electricity suppliers. All electricity consumption by NOS equipment in third-party facilities, where electricity is not directly contracted by NOS, is now accounted for and reported under scope 3, category 8. Revised figures were subject to independent third-party verification and re-published in our Annual Report 2021.

C6.4

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

C6.5

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

Purchased goods and services

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
116829

Emissions calculation methodology
Supplier-specific method
Hybrid method
Average data method
Spend-based method
Average product method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
12

Please explain
Major categories of purchased goods and services include services provided by other telecom operators (network traffic and capacity), mobile business client equipment (handsets) and programming (media content and royalties). Calculation uses representative Life Cycle Analysis (LCA) data for customer equipment, industry representative data for services provided by other operators, industry proxies for media content production and Environmentally Extended Input-Output (EEIO) tables for the remaining categories of goods and services. For activity data we use number of equipment sold, traffic in other operators' networks and OPEX spending, in the reporting year. For GWP we use IPCC Fourth Assessment Report values, to ensure convergence with the latest edition of the Portuguese National GHG Emissions Report.

Capital goods

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
199909

Emissions calculation methodology
Spend-based method
Average product method

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

Please explain
Major categories of capital goods acquired or built include fixed business client equipment (TV set-top-boxes and routers), telecommunications network equipment (transmission) and network infrastructure (site construction). Calculation uses representative LCA data for capitalized customer equipment and EEIO tables for the remaining categories. For activity data we use number of equipment sold, and CAPEX spending, in the reporting year. For GWP we use IPCC Fourth Assessment Report values, to ensure convergence with the latest edition of the Portuguese National GHG Emissions Report.

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

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
13023

Emissions calculation methodology
Fuel-based method

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

Please explain
Upstream emissions (extraction, refining and transportation) from the life cycle of consumed fossil fuels, electricity and thermal energy, and from electricity losses in the transport and distribution network. Calculation uses reference upstream emission factors for fuels and electricity, and national values for T&D losses in Portugal and location-based emission factor. For activity data we use the same energy consumption data used for scope 1 and 2. For GWP we use IPCC Fourth Assessment Report values, to ensure convergence with the latest edition of the Portuguese National GHG Emissions Report.

Upstream transportation and distribution

Evaluation status
Not relevant, calculated

Emissions in reporting year (metric tons CO2e)
361

Emissions calculation methodology
Distance-based method

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

Please explain
Emissions from subcontracted logistics and distribution. Includes electricity consumption in the logistics centre and transportation of client equipment to stores and customer facilities (direct and reversed logistics). Accounts both for transportation paid for by NOS (category 4) and transportation paid for by retail clients other than own or franchised stores (category 9), as we are not able to desegregate activity data. Calculation uses specific activity data (weights carried, distances travelled and vehicle type) and specific emission factors by vehicle type. For activity data we use company information on transported quantities (weight) and distances travelled, and supplier information on the type of delivery vehicle used. For GWP we use IPCC Fourth Assessment Report values, to ensure convergence with the latest edition of the Portuguese National GHG Emissions Report.

Waste generated in operations

Evaluation status
Not relevant, calculated

Emissions in reporting year (metric tons CO2e)
81

Emissions calculation methodology
Waste-type-specific method

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

Please explain
Emissions from the disposal and treatment of waste and wastewater generated in operations. Calculation uses reference emission factors and excludes emissions from recycling and energy recovery operations, allocated to the recycling and energy sectors, respectively. For activity data we use the amount of unsorted waste generated in our facilities, as monitored through the legally required waste transportation forms. For GWP we use IPCC Fourth Assessment Report values, to ensure convergence with the latest edition of the Portuguese National GHG Emissions Report.

Business travel

Evaluation status
Not relevant, calculated

Emissions in reporting year (metric tons CO2e)
39

Emissions calculation methodology
Distance-based method

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

Please explain
Emissions from employee business-related travel in third-party vehicles (airplane, train and taxi). Calculation uses information on distances travelled and number of passengers per transportation mode and reference emission factors. Air travel emissions include Radiative Force Index. For activity data we use company records of air and train employee travel, which include distance travelled for each trip. For the use of taxi we use financial records and convert expenses to distance travelled using a representative €/km ratio. For GWP we use IPCC Fourth Assessment Report values, to ensure convergence with the latest edition of the Portuguese National GHG Emissions Report.

Employee commuting

Evaluation status
Not relevant, calculated

Emissions in reporting year (metric tons CO2e)
164

Emissions calculation methodology
Distance-based method

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

Please explain
Emissions from home-work employee travel in vehicles not owned by the company. Calculation uses specific data on the mobility patterns of NOS employees, obtained through surveys, and emission factors representative of each transport mode. For GWP we use IPCC Fourth Assessment Report values, to ensure convergence with the latest edition of the Portuguese National GHG Emissions Report.

Upstream leased assets

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
6140

Emissions calculation methodology
Asset-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
50

Please explain
Emissions from electricity consumption in company equipment at third-party facilities (shared network sites owned by other telecom operators, rented locations and housing services). Calculation uses electricity consumption estimates based on similar equipment and location-based emission factors. For GWP we use IPCC Fourth Assessment Report values, to ensure convergence with the latest edition of the Portuguese National GHG Emissions Report.

Downstream transportation and distribution

Evaluation status
Not relevant, explanation provided

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

Emissions calculation methodology
<Not Applicable>

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

Please explain
Accounted for in category 4, as we are not able to separate physical activity data for transportation logistics into the two categories.

Processing of sold products

Evaluation status
Not relevant, explanation provided

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

Emissions calculation methodology
<Not Applicable>

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

Please explain
NOS does not sell intermediate products. All our goods and services are sold to customers in its final form and do not undergo further processing.

Use of sold products

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
104065

Emissions calculation methodology
Methodology for direct use phase emissions, please specify (Energy consumption, lifetime, logistical process and usage patterns for equipment sold each year)

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

Please explain
Emissions from electricity consumption, over its expected lifetime, of mobile (handsets) and fixed client equipment (TVs, TV set-top-boxes and routers) sold or installed by the company in the reporting year. Direct use phase emissions only; does not include the use of equipment purchased by the client to third parties and used to enjoy our services. Calculation uses representative data on energy consumption, lifetime, logistical process, and usage patterns of equipment sold each year, and location-based emission factors. For activity data we use the number of client equipment sold in the reporting year. For GWP we use IPCC Fourth Assessment Report values, to ensure convergence with the latest edition of the Portuguese National GHG Emissions Report.

End of life treatment of sold products

Evaluation status
Not relevant, calculated

Emissions in reporting year (metric tons CO2e)
225

Emissions calculation methodology
Waste-type-specific method

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

Please explain
Emission from the end-of-life waste disposal and treatment of products sold or installed by the company in the reporting year, including respective packaging. Calculation considers recovery rates for electrical and electronic equipment and packaging in Portugal and reference emission factors. It excludes emissions from recycling and energy recovery operations, allocated to the recycling and energy sectors, respectively. For activity data we use the number of client equipment sold and packaging placed in the market, in the reporting year. For GWP we use IPCC Fourth Assessment Report values, to ensure convergence with the latest edition of the Portuguese National GHG Emissions Report.

Downstream leased assets

Evaluation status
Not relevant, explanation provided

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

Emissions calculation methodology
<Not Applicable>

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

Please explain
NOS does not lease assets to third parties.

Franchises

Evaluation status
Not relevant, calculated

Emissions in reporting year (metric tons CO2e)
215

Emissions calculation methodology
Franchise-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
50

Please explain
Emissions from electricity consumption in stores managed by third parties under franchising agreements. Calculation uses electricity consumption estimates – based on average consumption by area at NOS owned stores, validated against franchised stores specific ratios, and the total area of the franchised store network in the reporting year – and location-based emission factors. For GWP we use IPCC Fourth Assessment Report values, to ensure convergence with the latest edition of the Portuguese National GHG Emissions Report.

Investments

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
7833

Emissions calculation methodology
Hybrid method

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

Please explain
Scope 1 and 2 emissions of associated companies and joint-ventures not consolidated by the full consolidation method. Calculation uses estimates based on the NOS ratio of emissions per revenue for affiliates in the telecommunications sector and EEIO tables for the others. Affiliates and joint ventures in which NOS is the largest customer are excluded, since the emissions associated with the acquisition of the respective goods and services are already accounted for in categories 1 and 2. For GWP we use IPCC Fourth Assessment Report values, to ensure convergence with the latest edition of the Portuguese National GHG Emissions Report.

Other (upstream)

Evaluation status
Not relevant, explanation provided

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

Emissions calculation methodology
<Not Applicable>

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

Please explain
There are no other scope 3 upstream emissions in our value chain.

Other (downstream)

Evaluation status
Not relevant, explanation provided

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

Emissions calculation methodology
<Not Applicable>

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

Please explain
There are no other scope 3 upstream emissions in our value chain.

C6.5a

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

Past year 1

Start date
January 1 2020

End date
December 31 2020

Scope 3: Purchased goods and services (metric tons CO2e)
101260

Scope 3: Capital goods (metric tons CO2e)
177742

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)
10843

Scope 3: Upstream transportation and distribution (metric tons CO2e)
338

Scope 3: Waste generated in operations (metric tons CO2e)
109

Scope 3: Business travel (metric tons CO2e)
153

Scope 3: Employee commuting (metric tons CO2e)
429

Scope 3: Upstream leased assets (metric tons CO2e)
6869

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

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

Scope 3: Use of sold products (metric tons CO2e)
119093

Scope 3: End of life treatment of sold products (metric tons CO2e)
203

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

Scope 3: Franchises (metric tons CO2e)
284

Scope 3: Investments (metric tons CO2e)
11021

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

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

Comment
Revised figures were subject to independent third-party verification and re-published in our Annual Report 2021.

Past year 2

Start date
January 1 2019

End date
December 31 2019

Scope 3: Purchased goods and services (metric tons CO2e)
95146

Scope 3: Capital goods (metric tons CO2e)
161043

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)
12610

Scope 3: Upstream transportation and distribution (metric tons CO2e)
365

Scope 3: Waste generated in operations (metric tons CO2e)
169

Scope 3: Business travel (metric tons CO2e)
733

Scope 3: Employee commuting (metric tons CO2e)
1181

Scope 3: Upstream leased assets (metric tons CO2e)
8338

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

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

Scope 3: Use of sold products (metric tons CO2e)
167587

Scope 3: End of life treatment of sold products (metric tons CO2e)
137

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

Scope 3: Franchises (metric tons CO2e)
452

Scope 3: Investments (metric tons CO2e)
15331

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

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

Comment
Revised figures were subject to independent third-party verification and re-published in our Annual Report 2021.

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
0.000027

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
39144

Metric denominator
unit total revenue

Metric denominator: Unit total
1430000000

Scope 2 figure used
Market-based

% change from previous year
9

Direction of change
Increased

Reason for change
In 2021, our combined scope 1 and 2 emissions increased at a higher rate (+13%) than our consolidated sales (5%). This led to a 9% increase in the emissions to revenues ratio, from the previous year. Scope 1 emissions continued to decline, in line with the electrification and reduced usage of company fleet, but also with the reduction in fugitive emissions of refrigeration gases (improved leakage monitoring and replacement with lower and near-zero Global Warming Potential Alternatives). However, scope 2 emissions increased by 15%, despite the stabilization of energy consumption achieved with the energy efficiency measures implemented throughout the year (as reported in C4.3b, savings potential of aprox. 1GWh/year). This was due to changes in electricity procurement which, in a context of strong volatility in energy prices, transferred part of the consumption to higher carbon intensity supplier. New electricity procurement criteria were defined in the end of 2021, and the decision was taken to shift all our electricity consumption to renewable sources. From January 2022, 100% of purchased electricity is certified renewable.

Intensity figure
0.008

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
39144

Metric denominator
Other, please specify (Terabyte of data traffic (TB))

Metric denominator: Unit total
4744583

Scope 2 figure used
Market-based

% change from previous year
7

Direction of change
Decreased

Reason for change
In 2021, our combined scope 1 and 2 emissions continue to grow at a much lower rate (+13%) than data traffic in our telecommunications network (+22%). This led to a 7% decrease in the emissions to data traffic ratio, from the previous year. The continued investment in network energy efficiency – both in supporting infrastructure and in transmission equipment – has been essential to limit the increase in electricity consumption, despite the rapid growth of data traffic. In 2021, we continued to invest in high-efficiency backup, energy transformation and air-conditioning systems, and to implement cold containment measures in technical corridors of main sites and Data Centres (as reported in C4.3b, savings potential of aprox. 1GWh/year). The mobile network infrastructure sharing agreement with another operator, rationalized resources and brought energy efficiency gains of 30 to 40%, along with better coverage in inland areas of the country. During the year, the introduction of 5G technology also strengthened the energy efficiency of the mobile network, supported by greater equipment efficiency and new intelligent energy saving features, with reductions of around 20% in consumption for the same volume of traffic.

C7. Emissions breakdowns

C7.1

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

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	3125	IPCC Fourth Assessment Report (AR4 - 100 year) *We use IPCC's Fourth Assessment Report to align with the GWP values used by the Portuguese Environment Agency in preparing the National Inventory Report.*
HFCs	389	IPCC Fourth Assessment Report (AR4 - 100 year) *We use IPCC's Fourth Assessment Report to align with the GWP values used by the Portuguese Environment Agency in preparing the National Inventory Report.*

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Portugal	3514

C7.3

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

By business division
By activity

C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
Telecommunications	3353
Media & Entertainment	161

C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Mobile fuel consumption (company fleet)	3031
Stationary fuel consumption (fuel consumption in company buildings)	94
F-gases leaks (refrigerant gases in cooling and fire extinguishing equipment)	389

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)
Portugal	39554	35630

C7.6

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

By business division
By activity

C7.6a

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

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Telecommunications	36652	32980
Media & Entertainment	2902	2650

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)
Purchased electricity consumption	38780	34856
Purchased thermal energy consumption	774	774

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?

Increased

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	0	No change	0	No change in our combined scope 1 and 2 emissions from change in renewable energy consumption in 2021. We currently generate only small amounts of renewable energy for self-consumption (71 MWh in 2021), with immaterial year to year variations, and do not source specific low or zero carbon energy products, namely electricity, from our energy suppliers. Changes in the carbon content of purchased electricity are capture in row “Changes in methodology”, below. in 2021 NOS signed a PPA – Power Purchase Agreement for the supply of renewable electricity and also made the decision to use 100% certified renewable electricity from January 2022.
Other emissions reduction activities	235	Decreased	0.7	In 2021, we continued to roll out our energy efficiency plan. We invested in efficient HVAC systems in major sites and implemented several measures in our telecommunications infrastructure (innovative cooling technologies, improved HAVAC operation and new energy efficient backup systems). Together, these initiatives delivered c. 1 GWh/year in electricity savings and an estimated 0.7% reduction in our combined scope 1 and 2 emissions compared to 2020. Emissions reduction from energy efficiency initiatives: 235 tCO2e Combined scope 1 and 2 emissions 2020: 34499 tCO2e % change = (235/34499) x 100 = 0.7%
Divestment	0	No change	0	In 2021, there were no divestments with an impact in our combined scope 1 and 2 emissions.
Acquisitions	0	No change	0	In 2021, there were no acquisitions with an impact in our combined scope 1 and 2 emissions.
Mergers	0	No change	0	In 2021, there were no mergers with an impact in our combined scope 1 and 2 emissions.
Change in output	1564	Increased	4.5	In 2021, our consolidated sales increased by 5%. This induced a higher scope 1 and 2 emissions level, due to increase in service output, thus increasing energy needs. This would have led to a direct 4.5% increase in emissions, which was counterbalanced by the implementation of energy efficiency measures Emissions increase from sales increase: 1564 tCO2e Combined scope 1 and 2 emissions 2020: 34499 tCO2e % change = (1564 /34499) x 100 = 4.5%
Change in methodology	4596	Increased	13.3	We use market-based figures to report combined scope 1 and 2 emissions and to monitor our carbon reduction targets. In 2021, the average supplier specific electricity emission factor was 15% above that of 2020, due to changes in electricity procurement practices, forced by the strong volatility in energy prices. This resulted in higher total emissions associated with our purchased electricity consumption in 2021, leading to an estimated 13.3% reduction in combined scope 1 and 2 emissions, compared to 2020. Emissions increase from increase in supplier electricity emission factor: 4596 tCO2e Combined scope 1 and 2 emissions 2019: 34499 tCO2e % change = (4596 /34499) x 100 = 13.3%
Change in boundary	0	No change	0	In 2021, there was no change in our GHG inventory boundary with an impact in our combined scope 1 and 2 emissions.
Change in physical operating conditions	0	No change	0	In 2021, there were no changes in physical operating conditions with an impact in our combined scope 1 and 2 emissions.
Unidentified	0	No change	0	In 2021, there were no unidentified reasons for change with an impact in our combined scope 1 and 2 emissions.
Other	0	No change	0	In 2021, there were no other reasons for change with an impact in our combined scope 1 and 2 emissions.

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	11564	11564
Consumption of purchased or acquired electricity	<Not Applicable>	51074	101003	152078
Consumption of purchased or acquired heat	<Not Applicable>	0	884	884
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	0	2548	2548
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	71	<Not Applicable>	71
Total energy consumption	<Not Applicable>	51145	115999	167145

C8.2b

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

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

C8.2c

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

Sustainable biomass

Heating value
LHV

Total fuel MWh consumed by the organization
0

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

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

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

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

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

Comment
We do not consume biomass.

Other biomass

Heating value
LHV

Total fuel MWh consumed by the organization
0

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

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

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

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

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

Comment
We do not consume biomass.

Other renewable fuels (e.g. renewable hydrogen)

Heating value
LHV

Total fuel MWh consumed by the organization
0

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

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

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

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

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

Comment
We do not consume other renewable fuels.

Coal

Heating value
LHV

Total fuel MWh consumed by the organization
0

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

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

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

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

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

Comment
We do not consume coal.

Oil

Heating value
LHV

Total fuel MWh consumed by the organization
11383

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

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

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

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

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

Comment
Includes diesel and motor gasoline (petrol). We use diesel for mobile combustion in our passenger car fleet and for stationary combustion in emergency generators in our backoffice buildings and technical sites. We use gasoline for mobile combustion in our passenger car fleet. For both fuels we collect activity data in volume units (litres) and convert it to energy units using density and Lower Heating Value for each fuel from the Portuguese Energy and Geology Directorate, which are also used for compiling the National Inventory Report.

Gas

Heating value
LHV

Total fuel MWh consumed by the organization
181

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

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

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

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

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

Comment
We use natural gas to produce heat in one of our backoffice buildings. We collect natural gas activity data in volume units (m3) and convert it to energy units using Lower Heating Value for this fuel from the Portuguese Energy and Geology Directorate, which is also used for compiling the National Inventory Report.

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

Heating value
LHV

Total fuel MWh consumed by the organization
0

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

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

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

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

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

Comment
We consume no non-renewable fuels other than those disclosed above.

Total fuel

Heating value
LHV

Total fuel MWh consumed by the organization
11564

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

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

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

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

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

Comment
Breakdown of our total fuel consumption is disclosed above.

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	35	35	35	35
Heat	36	36	36	36
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 or near-zero emission factor in the market-based Scope 2 figure reported in C6.3.

Sourcing method
Default delivered electricity from the grid (e.g. standard product offering by an energy supplier), supported by energy attribute certificates

Energy carrier
Electricity

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

Country/area of low-carbon energy consumption
Portugal

Tracking instrument used
GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
51074

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

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

Comment
Electricity from renewable sources in the generation mix 2021 of our electricity suppliers in Portugal, as disclosed in the suppliers' electricity labelling information. Electricity labelling in Portugal follows the EU Energy labelling rules and takes into account the issuance and cancellation of Guarantees of Origin by the Portuguese issuing body (REN), member of the Association of Issuing Bodies. in 2021 we signed a long-term bilateral agreement (PPA – Power Purchase Agreement) for the consumption, from 2023, of electricity produced in a new wind farm. This will supply 62 GWh per year, which corresponds to around 40% of our current consumption. Also in 2021, we decided to increase the ambition of our renewable electricity target and, as of January 2022, all electricity consumed in our operation is now 100% certified renewable. No information available on commissioning year of the renewable generation facilities.

C8.2g

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

Country/area
Portugal

Consumption of electricity (MWh)
152113

Consumption of heat, steam, and cooling (MWh)
3468

Total non-fuel energy consumption (MWh) [Auto-calculated]
155581

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

C9. Additional metrics

C9.1

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

Description
Energy usage

Metric value
0.13

Metric numerator
Total energy consumption (GJ)

Metric denominator (intensity metric only)
Data traffic (TB)

% change from previous year
21

Direction of change
Decreased

Please explain
This is the metric used to monitor progress against our target for global energy efficiency. It is the ratio between our total energy consumption (fossil fuels, electricity and thermal energy, expressed in GJ) and data traffic in our telecommunications network, expressed in Terabyte (TB) - mobile and fixed data traffic, including non-linear TV (streaming) and excluding linear TV (broadcast). We committed to an 85% reduction in this ratio by 2030, from a 2015 baseline. Our strategy to achieve the target is based in the significant increase in the energy efficiency of our network and support facilities, and electrification of our passenger vehicle fleet. In 2021, the energy consumption ratio decreased 18% from 2020 level. Energy consumption stayed essentially the same (-0.1%), despite the 22% rise in data traffic. Between 2015 (base year of our energy efficiency target) and 2021, GJ/TB ratio decreased by 85%, reaching the target nine years ahead of schedule. In 2022, we will explore new metrics that adequately express the energy efficiency of our operation, and we will set a new target that continues to challenge the organization.

Description
Waste

Metric value
97

Metric numerator
Own waste recovery rate (%)

Metric denominator (intensity metric only)
Not applicable (absolute metric).

% change from previous year
9

Direction of change
Increased

Please explain
This is the most relevant metric used to monitor our performance regarding the management of waste generated in our own operations. End-of-life electrical and electronic equipment and associated packaging, as well as batteries, are the main waste of NOS ‘own operation. We implemented selective collection systems that guarantee the forwarding to material recycling or energy recovery of more than 90% of the total waste we produce. In 2021, the overall waste recovery rate increased 9%, to 97%.

Description
Other, please specify (Client equipment)

Metric value
86

Metric numerator
Collected fixed telecom client equipment (%)

Metric denominator (intensity metric only)
Not applicable (absolute metric).

% change from previous year
2

Direction of change
Increased

Please explain
This metric is used to monitor the performance of our client equipment circularity project. We implemented a reversed logistics process that ensures the equipment used by fixed service customers (TV boxes, routers and hubs) is collected, technically evaluated and, whenever possible, refurbished and reused. In 2021, 86% of this equipment was collected and 53% was put back into the market, thus avoiding additional consumption of raw materials and energy.

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
NOS_IntegratedAnnualReport2021_EN.pdf
NOS_EY_GHGVerificationDeclaration2021.pdf

Page/ section reference
EY NOS GHG Verification Declaration 2021: p.1-3. NOS Integrated Annual Report 2021 – Integrated Management Report, p.90 (Carbon Footprint - Emission figures 2021).

Relevant standard
ISAE3000

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
NOS_IntegratedAnnualReport2021_EN.pdf
NOS_EY_GHGVerificationDeclaration2021.pdf

Page/ section reference
EY NOS GHG Verification Declaration 2021: p.1-3. NOS Integrated Annual Report 2021 – Integrated Management Report, p.90 (Carbon Footprint - Emission figures 2021).

Relevant standard
ISAE3000

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
NOS_IntegratedAnnualReport2021_EN.pdf
NOS_EY_GHGVerificationDeclaration2021.pdf

Page/ section reference
EY NOS GHG Verification Declaration 2021: p.1-3. NOS Integrated Annual Report 2021 – Integrated Management Report, p.90 (Carbon Footprint - Emission figures 2021).

Relevant standard
ISAE3000

Proportion of reported emissions verified (%)
100

C10.1c

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

Scope 3 category
Scope 3: Purchased goods and services
Scope 3: Capital goods
Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
Scope 3: Upstream transportation and distribution
Scope 3: Waste generated in operations
Scope 3: Business travel
Scope 3: Employee commuting
Scope 3: Upstream leased assets
Scope 3: Investments
Scope 3: Use of sold products
Scope 3: End-of-life treatment of sold products
Scope 3: Franchises

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
NOS_IntegratedAnnualReport2021_EN.pdf
NOS_EY_GHGVerificationDeclaration2021.pdf

Page/section reference
EY NOS GHG Verification Declaration 2021: p.1-3. NOS Integrated Annual Report 2021 – Integrated Management Report, p.90 (Carbon Footprint - Emission figures 2021).

Relevant standard
ISAE3000

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
C4. Targets and performance	Emissions reduction activities	ISAE 3000. Limited assurance.	Data was verified within the third-party verification process of non-financial information included in our Integrated Annual Report 2021 – Integrated Management Report (p.177 -Independent Limited Assurance Report). Corporate-wide, annual verification. Questions: C4.3b (emissions reduction initiatives in reporting year).
C6. Emissions data	Year on year change in emissions (Scope 1)	ISAE 3000. Limited assurance.	Data was verified within the third-party verification process of non-financial information included in our Integrated Annual Report 2021 – Integrated Management Report (p.177 -Independent Limited Assurance Report). Corporate-wide, annual verification. Questions: C6.1 (scope 1 emissions).
C6. Emissions data	Year on year change in emissions (Scope 2)	ISAE 3000. Limited assurance.	Data was verified within the third-party verification process of non-financial information included in our Integrated Annual Report 2021 – Integrated Management Report (p.177 -Independent Limited Assurance Report). Corporate-wide, annual verification. Questions: C6.3 (scope 2 emissions).
C6. Emissions data	Year on year change in emissions (Scope 3)	ISAE 3000. Limited assurance.	Data was verified within the third-party verification process of non-financial information included in our Integrated Annual Report 2021 – Integrated Management Report (p.177 -Independent Limited Assurance Report). Corporate-wide, annual verification. Questions: C6.5 (scope 3 emissions).
C6. Emissions data	Year on year emissions intensity figure	ISAE 3000. Limited assurance.	Data was verified within the third-party verification process of non-financial information included in our Integrated Annual Report 2021 – Integrated Management Report (p.177 -Independent Limited Assurance Report). Corporate-wide, annual verification. Questions: C6.10 (emissions intensities).
C7. Emissions breakdown	Year on year change in emissions (Scope 1 and 2)	ISAE 3000. Limited assurance.	Data was verified within the third-party verification process of non-financial information included in our Integrated Annual Report 2021 – Integrated Management Report (p.177 -Independent Limited Assurance Report). Corporate-wide, annual verification. Questions: C7.9 (change in scope 1 and 2).
C7. Emissions breakdown	Other, please specify (Emissions (Scope 1 and 2) breakdown by activity)	ISAE 3000. Limited assurance.	Data was verified within the third-party verification process of non-financial information included in our Integrated Annual Report 2021 – Integrated Management Report (p.177 -Independent Limited Assurance Report). Corporate-wide, annual verification. Questions: C7.3c (scope 1 emissions breakdown by activity); C7.6c (scope 2 emissions breakdown by activity).
C8. Energy	Energy consumption	ISAE 3000. Limited assurance.	Data was verified within the third-party verification process of non-financial information included in our Integrated Annual Report 2021 – Integrated Management Report (p.177 -Independent Limited Assurance Report). Corporate-wide, annual verification. Questions: C8.2a (total energy consumption, broken down by energy type).
C9. Additional metrics	Other, please specify (Energy intensity)	ISAE 3000. Limited assurance.	Data was verified within the third-party verification process of non-financial information included in our Integrated Annual Report 2021 – Integrated Management Report (p.177 -Independent Limited Assurance Report). Corporate-wide, annual verification. Questions: C9.1 (additional metrics).
C9. Additional metrics	Other, please specify (Own waste recovery)	ISAE 3000. Limited assurance.	Data was verified within the third-party verification process of non-financial information included in our Integrated Annual Report 2021 – Integrated Management Report (p.177 -Independent Limited Assurance Report). Corporate-wide, annual verification. Questions: C9.1 (additional metrics).
C9. Additional metrics	Other, please specify (Client equipment collection rate)	ISAE 3000. Limited assurance.	Data was verified within the third-party verification process of non-financial information included in our Integrated Annual Report 2021 – Integrated Management Report (p.177 -Independent Limited Assurance Report). Corporate-wide, annual verification. Questions: C9.1 (additional metrics).

NOS_IntegratedAnnualReport2021_EN.pdf

C11. Carbon pricing

C11.1

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

Yes

C11.1a

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

Portugal carbon tax

C11.1c

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

Portugal carbon tax

Period start date
January 1 2021

Period end date
December 31 2021

% of total Scope 1 emissions covered by tax
89

Total cost of tax paid
68618

Comment
Tax applies to: i) diesel and gasoline consumed in company fleet; ii) to diesel used in emergency generators; iii) and to natural gas consumed to generate heat in our headquarters. Fuel consumption in company fleet accounts for 97% of total cost of tax paid. In 2021, the tax covered 89% of our total scope 1 emissions, corresponding to emissions associated with mobile and stationary fuel combustion. The remaining scope 1 emissions are HFCs from leakage of refrigerant gases used in cooling and fire extinguishing equipment. The value of the tax is defined on a yearly basis by the Portuguese Government and is indexed to the average price of CO2 emission allowances in the EU-ETS in the previous year.

C11.1d

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

Fuel-related emissions covered by the carbon tax applicable to our operations (Portugal Carbon Tax) represented 89% of our scope 1 and 9% of our combined scope 1 and 2 emissions (market-based method) in 2021. Carbon tax paid in 2021 accounted for only 5% of our fuel costs and 0.3% of our total energy costs, in the same year. 97% of the tax amount paid was associated with fuel consumption in company fleet.

Although the current value of the tax is not financially material, there is a risk that this might change in the future, given that the tax is indexed to the price of CO2 emission allowances in the EU-ETS, and that, in the last 18 months, prices more than doubled (from 32€/t CO2 in December 2020 to 86€/t CO2 in June 2022) and market analysts continue to forecast further price increases.

Our strategy not only for complying with the tax, but also for limiting the impact of its increase on our operating costs, is to progressively reduce our dependency on fossil fuels, in particular in our own fleet, as road diesel and gasoline account for over 95% of our carbon tax payment.

In 2021 we approved a plan for the full electrification of our fleet by 2030. From 2021 onwards, all replacements of vehicles for personal use will be made by electrified models: plugin hybrids and electric vehicles until 2025, and 100% electric vehicles from that date. For the vehicles that directly support our operation – passenger cars and light commercial vehicles – we are still defining a detailed replacement schedule, depending on the progressive availability of technological alternatives adapted to our usage pattern. The goal is to reach 50% electrified vehicles in 2025 and 100% in 2030.

Using 100% electric fleet shifts emissions from scope 1 (fossil fuel consumption) to scope 2 (electricity consumption) of our carbon footprint. However, the balance doubly positive: i) the efficiency of energy conversion of electric engines is significantly higher than that of internal combustion engines, inducing an emission reduction of more than 60%, considering the average carbon intensity of the electricity grid in Portugal; ii) by ensuring the consumption of 100% renewable electricity from 2022 onwards, all vehicle recharging carried out at NOS facilities will lead to no scope 2 emissions.

By the end of 2021, 11.7% of our fleet consisted of electrified vehicles – 10.2% plug-in hybrids and 1.5% electric vehicles – and in our main buildings in Lisbon and Porto there were 40 charging stations.

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
Forests

Project identification
Tree planting project in forest areas affected by forest fires in the central region of Mainland Portugal (Fundão, Mangualde, Meda and Pampilhosa da Serra). Credit generation follows criteria aligned with major voluntary carbon market standards, but credits are not certified. Forest partner is currently developing an internal credit registry system, to be audited by a third-party. CO2 removals are used to voluntarily offset the carbon emissions of company fleet in the period up to its full electrification, planned for completion by 2030.

Verified to which standard
Not yet verified

Number of credits (metric tonnes CO2e)
3031

Number of credits (metric tonnes CO2e): Risk adjusted volume
3031

Credits cancelled
Not relevant

Purpose, e.g. compliance
Voluntary Offsetting

C11.3

(C11.3) Does your organization use an internal price on carbon?
No, but we anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our customers/clients
Yes, other partners in the value chain

C12.1b

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

Type of engagement & Details of engagement

Education/information sharing	Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

% of customers by number
21

% of customer - related Scope 3 emissions as reported in C6.5
29

Please explain the rationale for selecting this group of customers and scope of engagement
In 2020/2021, we started making available a new generation of TV set-top-boxes for our TV customers. The UMA V2 box consumes 50% less energy, both in use and in stand-by mode, thus reducing electricity consumption and associated carbon emissions. We inform our clients of this feature and promote the increased use of the stand-by mode, to further reduce energy consumption. We chose to engage with our fixed-services customer basis, as emissions associated with client use of TV set-top-boxes represented 29% of client equipment use emissions (category 11), before the engagement activity. Emissions from client use of sold products (category 11) are our only customer-related scope 3 emissions. Between 2020 and 2021, we installed more than 350 thousand UMA V2 boxes for customers. This represents 21% of our pay TV customers.

Impact of engagement, including measures of success
Success of the engagement activity is measured by the number of efficient TV boxes installed and the level of electricity CO2 emission savings induced. Between 2020 and 2021, more than 350 thousand UMA V2 boxes were installed in our TV clients in Portugal, delivering more than 100 GWh and 30 thousand t CO2e savings over the entire useful life of these equipments. Estimates use specific values for our operation: equipment power (in use and stand-by mode for UMA V1 and UMA V2 models); useful life of the equipment; % of that useful life spent in logistics process (equipment collection, refurbishing and re-installation); and average grid electricity factor for Portugal.

C12.1d

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

The other partners in our value chain with whom we engage on climate-related issues are our franchisees. In addition to our 63 own stores (as of 31.12.2021), NOS retail network includes 92 stores managed by business partners, in a franchising regime, throughout Portugal.

Between 2019 and 2021, we implemented a roadmap that allowed us to complete NOS scope 3 GHG emissions inventory. One of the scope 3 emissions prioritized in the roadmap was category 14, associated with the indirect emissions from the electricity consumed in the almost 100 stores in NOS retail network that are managed by business partners under franchising agreements. The number of franchised stores (92 by 2021 year-end) actually exceeds the number of stores managed directly by NOS (63).

Given that we do not have operational control over franchised sites, we needed to engage with our franchisees to collect information on these stores' electricity consumption. The process involved direct engagement with franchisees for the collection of electricity consumption data (primary data supported by electricity supplier bills) and information on store configuration. We then calculated a representative value for the electricity to store area ratio (kWh/m2) of franchised stores and compared it with that of our own stores, having come to the conclusion that the values do not show a significant difference. To calculate scope 3 category 14 emissions, we therefore currently apply, on a yearly basis, our own store energy ratio to the total area of the franchised network. We will continue to engage with franchising partners to review their stores' consumption ratio, on a regular basis, and thus monitor its alignment with our own store value.

In addition, our retail management department also provides direct support to franchisees on the installation of energy efficient store equipment, in particular lighting systems. Starting in 2016, NOS rolled out a store revamp program that includes the replacement of all lighting equipment for LED technology, with 30% savings in store electricity consumption.

C12.2

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

Yes, climate-related requirements are included in our supplier contracts

C12.2a

(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization's purchasing process and the compliance mechanisms in place.

Climate-related requirement
Complying with regulatory requirements

Description of this climate related requirement
NOS Sustainability Requirements for Suppliers and Partners ("Requirements") are an integral part of all our request for proposals and all supplier contracts. The Requirements explicitly commit the supplier to comply with all legal requirements applicable to his activity, including climate-related and other environmental legal requirements. % of suppliers that have to comply is 100%, as the Requirements are the object of a specific clause in the General Conditions for the Supply of Goods and Services to the NOS Group, to which all suppliers must abide. % of suppliers in compliance corresponds to the % of suppliers evaluated in 2021 under our supplier evaluation process that scored above our defined 70% compliance threshold for environmental criteria. NOS supplier evaluation process in conducted in-house (i.e. NOS client departments evaluate the respective suppliers) and results in a supplier rating. Suppliers with ratings under 70% enter a process of continuous, which includes meetings with NOS key stakeholders and an intermediate evaluation process. Although we do not yet carry out dedicated environmental and social supplier audits, under our ISO 14 001 certified Environmental Management System, whenever the audited process is performed by a supplier, that supplier is subject to both internal and third-party audits. In 2021, such external audits were conducted on Logistics and Facilities Management suppliers, with zero non-conformities identified.

% suppliers by procurement spend that have to comply with this climate-related requirement
100

% suppliers by procurement spend in compliance with this climate-related requirement
98

Mechanisms for monitoring compliance with this climate-related requirement
First-party verification
On-site third-party verification
Supplier scorecard or rating

Response to supplier non-compliance with this climate-related requirement
Retain and engage

Climate-related requirement
Implementation of emissions reduction initiatives

Description of this climate related requirement
NOS Sustainability Requirements for Suppliers and Partners ("Requirements") are an integral part of all our request for proposals and all supplier contracts. The Requirements identify Energy and Emissions a relevant topic, encouraging monitoring and improvement and bounding the supplier to setting and pursuing energy and emissions targets that might be defined by NOS. % of suppliers that have to comply is 100%, as the Requirements are the object of a specific clause in the General Conditions for the Supply of Goods and Services to the NOS Group, to which all suppliers must abide. % of suppliers in compliance corresponds to % of suppliers evaluated in 2021 under our supplier evaluation process that scored above our defined 70% compliance threshold for environmental criteria. NOS supplier evaluation process in conducted in-house (i.e. NOS client departments evaluate the respective suppliers) and results in a supplier rating. Suppliers with ratings under 70% enter a process of continuous, which includes meetings with NOS key stakeholders and an intermediate evaluation process. Although we do not yet carry out dedicated environmental and social supplier audits, under our ISO 14 001 certified Environmental Management System, whenever the audited process is performed by a supplier, that supplier is subject to both internal and third-party audits. In 2021, such external audits were conducted on Logistics and Facilities Management suppliers, with zero non-conformities identified.

% suppliers by procurement spend that have to comply with this climate-related requirement
100

% suppliers by procurement spend in compliance with this climate-related requirement
98

Mechanisms for monitoring compliance with this climate-related requirement
First-party verification
On-site third-party verification
Supplier scorecard or rating

Response to supplier non-compliance with this climate-related requirement
Retain and engage

C12.3

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

Row 1

Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate

Yes, we engage indirectly through trade associations

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

Yes

Attach commitment or position statement(s)

Attachment 1 - European Green Digital Coalition Declaration on a Green and Digital Transformation of the EU - NOS is one of the founding members of the European Green Digital Coalition (EGDC), an initiative promoted by the European Commission and EU member states, bringing together the major European ICT companies. In March 2021, our CEO signed the EGDC's Declaration on A Green and Digital Transformation of the EU. By signing the Declaration, NOS publicly welcomes EU's policy commitments to align with the Paris Agreement goals (reduce GHG emissions by 55% by 2030 and to be climate neutral by 2050) and commits to actively supporting EU's green and digital transformation. Attachment 2 – NOS is a member of the Business Council for Sustainable Development Portugal (BCSD Portugal). BCSD Portugal is part of the World Business Council for Sustainable Development global network. In 2021, ahead of COP 26 and together with other BCSD Portugal member companies, NOS signed an open letter, calling on governments to adopt bolder climate policies, needed to deliver on the Paris Agreement objectives (attached "Towards COP26" Manifesto – in Portuguese only). Attachment 3 - NOS EU Climate Pact North Star Pledge
NOS_EUClimatePact_NorthStarPlegde.pdf
NOS_EuropeanGreenDigitalCoalitionDeclaration.pdf
NOS_BCSDPortugal_TowardsCOP26Manifesto.pdf

Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy

Ensuring consistency in climate-policy engagement across the company is facilitated by the fact that we currently operate in only one geography (Portugal) and that the business segment were climate-related risks and opportunities are most relevant within our operations (Telecommunications) is also our core business, accounting for 95% of consolidated revenues in 2021. Our corporate governance model further ensures coordination and consistency of the company's positions and policy engagement activities with our strategy and public commitments on climate change: maximum responsibility for the Corporate Sustainability Strategy and associated commitments lies with the Executive Committee. The CFO is the Board member with direct responsibility for all sustainability-related issues, with climate strategy playing a key role. The Corporate Investor Relations and Sustainability Department, delegated by the Executive Committee, is in charge of coordinating the implementation of the strategy, and the respective management. The position of the Corporate Investor Relations and Sustainability department within the company structure (a top-level department, whose Head reports directly to the CFO) ensures consistency in climate-policy engagement across the company.

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

C12.3b

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

Trade association
Other, please specify (GeSI – Global Enabling Sustainability Initiative)

Is your organization's position on climate change consistent with theirs?
Consistent

Has your organization influenced, or is your organization attempting to influence their position?
We publicly promote their current position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)
The Global Enabling Sustainability Initiative (GeSI) is comprised of diverse and international members and partnerships, representing around 40 of the world's leading ICT companies. It builds and disseminates knowledge, resources and best practices for achieving integrated social and environmental sustainability through ICT. The enabling potential of ICT to climate change mitigation and adaptation is currently one of the association's major focuses. NOS joined GeSI in 2021 and supports its position on climate change. NOS is also a founding member of the European Green Digital Coalition (EGDC), an initiative actively promoted by GeSI, having signed EGDC's Declaration on A Green and Digital Transformation of the EU, which publicly welcomes EU climate policy efforts. NOS joined GeSI in 2021, and is an active member of its Climate Change Working Group, where it shares knowledge and experience with other members to identify opportunities, develop effective solutions and overcome obstacles to tackle climate change and promote energy and resource efficiency. A recent example is the collaboration, within GeSI's Climate Change Working Group, on the identification of best practice and methodologies to overcome the challenges associated with accounting for value chain emissions in ICT companies.

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

Describe the aim of your organization's funding
<Not Applicable>

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Trade association
Other, please specify (APDC - Portuguese Association for the Development of Communications)

Is your organization's position on climate change consistent with theirs?
Consistent

Has your organization influenced, or is your organization attempting to influence their position?
We publicly promote their current position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)
APDC supports the transition to a low carbon economy and actively advocates the role of Information and Communication Technologies in such process. NOS is a member of APDC Board and support APDC's position in what regards the need to transition to a low carbon economy and the fundamental enabler role of the telecommunications sector. NOS is a member of APDC Board and actively participates in the association's activities. APDC is a member of the Global Enabling Sustainability Initiative (GeSI), which NOS also joined in 2021, APDC joined BCSD Portugal (member of the World Business Council for Sustainable Development global network) in creating the national manifesto "Economic Recovery - A New Paradigm for Sustainable Development". NOS is also one of the founding members of the movement.

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

Describe the aim of your organization's funding
<Not Applicable>

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

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, incorporating the TCFD recommendations

Status
Complete

Attach the document
NOS_IntegratedAnnualReport2021_EN.pdf

Page/Section reference
NOS Annual Integrated Report 2021 – Integrated Management Report – Sections 5.7.1 Climate and Energy (p.86-94), 6.2.2. Risk Management (p.129-139) and 8.2 Adoption of the Task Force on Climate-Related Financial Disclosures (TCFD) Recommendations (p.171-172).

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics
Other, please specify (Development of low carbon solutions)

Comment
NOS Annual Integrated Report 2021 includes our first implementation of the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). Reported information covers all TCFD's recommended disclosures, except for the assessment of the resilience of our business strategy in various climate scenarios, including a scenario of 2ºC or lower. We are currently preparing such analysis and plan to report on the results within the next two years. Climate change metrics included in the report are subject to independent third-party verification.

C15. Biodiversity

C15.1

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

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, both board-level oversight and executive management-level responsibility	The Executive Committee – comprised of members of the Board of Directors upon which the day-to-day management of the company has been delegated - is responsible for approving the company's Corporate Sustainability Strategy, including biodiversity-related matters. The CFO is the Executive Committee and Board member with specific responsibilities to oversee and coordinate all issues related to corporate sustainability. He is in charge of submitting relevant proposals to the Executive Committee for approval and of overseeing the implementation of the Committee's decisions in this domain. The CFO is briefed on biodiversity-related issues by the Head of the Investor Relations and Sustainability Department (CSO), which is the corporate-level department responsible for managing and coordinating the implementation of NOS sustainability strategy, company-wide. Notwithstanding being under the same Board and Management oversight as climate-related issues, materiality of biodiversity issues is significantly lower given NOS operational profile.	<Not Applicable>

C15.2

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

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments only	Commitment to respect legally designated protected areas	<Not Applicable>

C15.3

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

	Does your organization assess the impact of its value chain on biodiversity?	Portfolio
Row 1	Yes, we assess impacts on biodiversity in both our upstream and downstream value chain	<Not Applicable>

C15.4

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

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water management

C15.5

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

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	Pressure indicators

C15.6

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

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In mainstream financial reports	Content of biodiversity-related policies or commitments Impacts on biodiversity Details on biodiversity indicators	Annual Integrated Report 2021 – Integrated Management Report – 5.7.3 – Other Environmental Impacts – Protecting biodiversity and landscape (p. 97). NOS_IntegratedAnnualReport2021_EN.pdf

C16. Signoff

C-FI

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

NOS recognizes the importance of biodiversity and ecosystems services and adopts planning processes and operational options that minimize the potential landscape and habitat impacts from the telecommunication stations, in particular when they are located in protected areas.

However, for our sector, materiality of biodiversity issues is significantly lower than that of climate-related issues.

C16.1

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

	Job title	Corresponding job category
Row 1	Chief Financial Officer. Member of the Board of Directors and of the Executive Committee.	Chief Financial Officer (CFO)

Submit your response

In which language are you submitting your response?
English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

The European Climate Pact Submission

Please indicate your consent for CDP to showcase your disclosed environmental actions on the European Climate Pact website as pledges to the Pact.
No, we do not wish to pledge under the European Climate Pact at this stage

Please confirm below
I have read and accept the applicable Terms