2022 Swisscom climate report in accordance with ISO 14064

Direct and indirect climate impact of Swisscom's activities
(Scope 1, 2 and 3 emissions and savings)

Climate strategy of Swisscom

swisscom

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1 Introduction

1.1 Environment

The framework conditions to limit the consequences of climate change have changed considerably for companies in recent years and are still evolving extremely rapidly. However, one factor is becoming a clear and stable constant: policymakers and companies must pursue efforts to replace the use of fossil fuels with single-minded determination, regardless of the regulatory and legal framework.

At national level, voters approved the Energy Act (EnG) in a referendum in 2017 as one of the two pillars of Switzerland's energy and climate strategy. In June 2021, however, they rejected the revised Federal Act on the Reduction of Greenhouse Gas Emissions (CO_2 Act) – and thus the second pillar of the strategy – in a referendum vote. The energy and climate strategy is currently in limbo as a result of that referendum. To ensure continuity, Swiss policymakers have pledged to uphold current commitments. They may also enter into new commitments, but on a voluntary basis. For example, Switzerland continues to pursue the climate target set out in the Paris Agreement to reduce greenhouse gas emissions by 50% by 2030 compared to 1990 levels. As a result, its commitment to climate protection at both national and international level remains as strong as ever.

In the November 2020 federal referendum, Swiss voters approved the counter-proposal to the corporate responsibility initiative, thereby adopting reporting requirements for climate protection activities that will come into force in 2024. A new federal ordinance regulates the conditions under which large Swiss companies will in future be required to implement the TCFD recommendations as of 1 January 2024.

In addition to the national legal framework, Swisscom takes into account the special report of the Intergovernmental Panel on Climate Change (IPCC), its updated version from 2021 as well as the report published in the year under review. It also follows the Guidance for ICT Companies Setting Science Based Targets, which sets out science-based reduction targets as a guideline for the ICT industry.

To that end, Swisscom will continue to follow the reduction path of 1.5°C set by the Science Based Targets initiative (SBTi) and made a commitment during the year under review to achieve SBTi net zero as a whole Group (including Fastweb). Swisscom will submit the corresponding dossier for a net zero target year to the SBTi in 2023. Swisscom has already achieved the SBTs that it had set for the 2013–2020 period. At the same time, Swisscom Switzerland Ltd aims to fully offset all of its direct and indirect residual emissions, including emissions from its supply chains, from 2025 onwards. This means that, from 2025 onwards, Swisscom will not only be climate-neutral in its operations (which has been the case since 2020) but will be a climate-neutral company across Scopes 1-3. Swisscom will reach this goal thanks to strict reduction measures and offsets of currently unavoidable residual emissions.

Since February 2022, Swisscom has been offering climate-neutral subscriptions to all its customers. This requires a climate-neutral network and climate-neutral terminal devices. In addition to the extensive reduction measures, Swisscom revised its carbon offsetting strategy in the year under review and defined strict criteria for CO_2 certificates to ensure their integrity. In line with these criteria, Swisscom offsets not only its operational emissions, but also all of its unavoidable emissions that arise in connection with the manufacture, transport, use and disposal of the network infrastructure as well as the terminal equipment. For carbon offsets, Swisscom exclusively uses CO_2 certificates from high-quality climate protection projects that, in addition to mitigating CO_2, also contribute to numerous SDGs such as education and health. In order to achieve its target of becoming a climate-neutral company from 2025 onwards, Swisscom will additionally offset the remaining Scope 1 to Scope 3 emissions by means of high-quality CO_2 certificates, meaning that it will assume responsibility for the unavoidable emissions up to that point. The offsets do not in any way release Swisscom from its obligation to continue reducing its direct and indirect CO_2 emissions. Instead, Swisscom wants to take responsibility for currently unavoidable CO_2 emissions now instead of one day in the future and thus, make a significant contribution to achieving the Paris climate targets today. At the same time, it drives its emission reductions through targeted savings and efficiency measures and stepped up its reduction targets even further in the year under review.

Like the regulatory environment, the financial market environment is also undergoing changes. Private and institutional investors are increasingly looking for sustainable investments. Swisscom's Green Bond Framework is based on the principles of the International Capital Market Association (ICMA) and meets investors' needs. For example, Swisscom successfully issued a green bond on the national market for EUR 500 million in April 2020 and a second green bond for CHF 100 million in May 2021; this second bond was equally successful.

Climate change brings both risks and opportunities for investors. Swisscom provides information about these risks based on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). In this context, Swisscom has revised its governance, identified

climate change risks and defined its climate-related responsibilities within its business areas even more clearly.

1.2 Summary: The impact of Swisscom's activities on the climate

This report deals with the 2022 financial year and therefore comprises the period from 1 January 2022 to 31 December 2022. Figures from previous years are provided for information purposes.

The report sets out the direct and indirect impact of Swisscom's activities on the climate under Scope 1, Scope 2 and Scope 3 for the years 2019 to 2022. It also summarises the impact of the savings and offsets made on the climate.

- **Emissions:** Swisscom directly (Scope 1) and indirectly (Scope 2 and Scope 3) emitted a total of 321,403 tonnes of carbon dioxide equivalent (CO_2 eq.) in 2022 (274,964 tonnes of CO_2 eq. after purchasing guarantees of origin for renewable and CO_2-free electricity and district heating).
- **Savings:** Swisscom has achieved further savings as a result of its 'directed actions' in operations and by purchasing renewable energy (guarantees of origin). These savings are summarised in Table 6 (see 5.1). Swisscom reduced its total emissions by 15,427 tonnes of CO_2 eq. or 5% compared to the previous year.
- **Prevention:** Thanks to 'enabling effects' (also referred to as Scope 4 in this report) and specifically as a result of its ICT-service portfolio for its customers, Swisscom was able to save 1,590,772 tonnes of CO_2 eq. during the same period.
- **Savings and emissions ratio:** Customer savings (1,590,772 tonnes of CO_2 eq.) exceed emissions (274,964 tonnes of CO_2 eq.) by a factor of 5.8. The savings represent over 3.5% of the total emissions in Switzerland (according to the current 2022 report of the Federal Office for the Environment (FOEN), which lists the level at 43.4 million tonnes of CO_2 for Switzerland in 2020).

The total emissions are broken down into 3.8% Scope 1 emissions, 14.5% Scope 2 emissions («location-based») and 81.7% Scope 3 emissions.

Swisscom's 2022 greenhouse gas inventory has been verified in January 2023 by Société Générale de Surveillance (SGS) in an independent audit according to ISO 14064. Verification focuses on Scope 1, Scope 2 and Scope 3 emissions as well as carbon offsets. It also includes, in less depth, the enabling effects (savings achieved through offerings for customers and investments).

Swisscom also participates in the Carbon Disclosure Project (CDP) as part of the 'Investors' and 'Supply Chain' projects. In this context, it publishes additional information about its CO_2 emissions.

1.3 The targets of Swisscom's energy and climate strategies in Switzerland

Since it first started taking measurements in 1990, Swisscom has reduced its Scope 1 and Scope 2 emissions in Switzerland by 88%. Scope 3 emissions were first recorded in 2013 and have since been reduced by 38%. In the increasingly stark context of global warming and the current energy shortage, Swisscom has revised its two main objectives of energy efficiency and reducing greenhouse gas emissions even further. By 2025, Swisscom aims to reduce its Scope 1 and Scope 2 emissions by 90% (1990 base year) as well as its Scope 3 emissions by 50% (2013 base year). In addition to its CO_2 reduction targets, Swisscom intends to fully offset its emissions from 2025 onwards, thereby becoming a climate-neutral company. To this end, Swisscom supports new climate protection projects that avoid CO_2 or actively remove it from the atmosphere. Despite offsets, reducing emissions remains the priority. Swisscom has therefore set itself the medium-term goal of cutting 50% of its Scope 1 to Scope 3 emissions from 2020 until 2030.

Swisscom also intends to help its customers in Switzerland reduce their emissions by 1 million tonnes of CO_2 by 2025, both thanks to its ICT services and by investing in start-ups with climate-friendly technologies – an amount that significantly exceeds its own emissions, including those from the supply chain. Since this goal has already been reached, Swisscom will revise its Scope 4 ambitions in 2023. Reducing the company's own emissions is a prerequisite for making a more extensive contribution to climate protection through products and investments.

Furthermore, using 1 January 2020 as the base year, Swisscom has set itself the goal of boosting its energy efficiency

- by 20% by the end of 2025,
- by 43% by the end of 2030.

The table below provides an overview of all of Swisscom's climate protection agreements. The results are described in section 7.4.

Reference	Target agreement	Start year January 1st	Target year Dec. 31st	**Target**
	Energy and energy efficiency agreements			
Swisscom	Energy efficiency (savings measures over total energy consumption, not weighted)	2020	2025	+20%
Swisscom	Energy efficiency (savings measures over total energy consumption, not weighted)	2020	2030	+43%
EnAW	Energy efficiency (savings measures over total energy consumption, weighted)	2013	2024	+36%
VEK	Energy efficiency (savings measures over total energy consumption, not weighted)	2020	2030	+18%
	CO_2 reduction agreements			
Swisscom	CO_2 reduction Scopes 1 & 2 since measurements began	1990	2025	–90%
Swisscom	CO_2 reduction Scope 3 since measurements began	2013	2025	–50%
Swisscom	Climate-neutral company		2025	100%
Swisscom	CO_2 reduction Scopes 1 to 3 acc. to 1.5°C reduction path of sector guidance (SBT)	2020	2025	–25%
Swisscom	CO_2 reduction Scopes 1 to 3 acc. to 1.5°C reduction path of sector guidance (SBT)	2020	2030	–50%
EnAW	CO_2 intensity of heating fuels (CO_2 emissions as a proportion of total CO_2 emissions and CO_2 savings)	2013	2024	–9.5%
EnAW	CO_2 intensity of fuels (CO_2 emissions as a proportion of total CO_2 emissions and CO_2 savings)	2013	2024	–27%

1.4 The Swisscom Group on its way to net zero emissions

Swisscom also follows the Guidance for ICT Companies Setting Science Based Targets, which sets out science-based reduction targets as a guideline for the ICT industry. To that end, Swisscom will continue to follow the reduction path of 1.5°C set by the Science Based Targets initiative (SBTi). The SBTi is a joint initiative of the CDP, UNGC, WRI and WWF that develops and validates science-based targets for businesses in line with the latest climate science. Since 2013, Swisscom has been following these science-based targets (SBTs) for limiting global warming to 1.5°C.

The SBTi adjusted its guidelines at the end of 2021. Swisscom in Switzerland is holding on to the previously set reduction targets and now aims to become a climate-neutral company by 2025. To that end, it intends to reduce its operational emissions by 90% (1990 base year) and emissions from the value chain by 50% (2013 base year). The climate-neutral company status for Swisscom in Switzerland is an intermediate step on the way to achieving net zero in accordance with the new SBTi Corporate Net-Zero Standard across the entire Group (including the Italian subsidiary Fastweb). To do that, SBTi specifications require that Swisscom Ltd must use a more recent base year and reduce the Scope 1, Scope 2 and Scope 3 emissions of the entire Group by 90% compared to this new base year and neutralise the

remaining 10% of emissions. In the year under review, Swisscom Ltd committed to achieving this net zero status. The introduction of a new base year means that the long-term emission reductions achieved since 1990 cannot be fully accounted for under the SBTi targets. Taking these new framework conditions into account, Swisscom continues to make progress in the area of climate protection and will set an ambitious net zero target for 2035 in accordance with the SBTi. Swisscom will submit the corresponding dossier to the SBTi in 2023.

1.5 Swisscom's 1.5 CO_2 transition

Swisscom's emissions are 95.5% indirect, and only 4.5% are direct. That means the reduction path is largely based on contributions from suppliers and other players in the value chain. Swisscom encourages its suppliers to report their footprints transparently via the Carbon Disclosure Project (CDP) and to set themselves ambitious climate targets in accordance with the SBTi. Where Swisscom can achieve a direct and major impact, it works closely with suppliers in joint carbon reduction programmes. It also works together with its suppliers to fundamentally redevelop products, with these efforts aimed not only at incorporating the concept of the circular economy at an early stage of product development but also keeping emissions as low as possible. To this end, it relies on the support of external specialists and targeted circular economy concepts. The topic of CO_2 efficiency is systemically incorporated into Swisscom's procurement process. For example, the question of climate targets and eco-rating is included in the invitations to tender in a standardised way and flows into the decision-making process. Likewise, ESG criteria have been a fixed component of the annual supplier evaluation since the year under review.

Swisscom is also raising awareness among other players in the value chain to help reduce indirect emissions: for example, by substituting business trips and increasing the use of teleservices, reducing commuter traffic by increasing home office days, or making prudent use of equipment at customers' premises (standby, off mode).

In order to reduce direct emissions caused by occupational mobility (field service and customer service) and office heating, Swisscom has launched extensive programmes to streamline and optimise operations. In this context, it is stepping up its efforts to replace fossil fuels with efficient solutions such as heat pumps, heat recovery, district heating and electric vehicles.

Substituting fossil fuels essentially refers to the electrification of heating and mobility. On the one hand, that reduces Swisscom's absolute energy consumption, as electrification enables equivalent performance with approximately three times less energy consumption. Heat pumps, for example, have a coefficient of performance (COP) of over 3 and electric cars are 90% efficient (compared to 30% for internal combustion engines). On the other hand, the shift to electricity as an energy source leads to other sustainable measures. Energy producers, for example, are required to decarbonise the electricity they produce. Not wanting to rely solely on third-party efforts, Swisscom has already initiated comprehensive programmes. It wants to make electricity consumption in its networks more efficient and to produce more electricity on its own buildings through more solar panels.

1.6 Reference systems

1.6.1 Reference systems for the greenhouse gas inventory

Swisscom's greenhouse gas inventory and its verification are based on the following standards:

International Organization for Standardization (ISO)

- **ISO 14064-1:2006:** Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals (ISO 14064-1:2006)
- **ISO 14064-3:2006:** Specification with guidance for the validation and verification of greenhouse gas assertions (ISO 14064-3:2006)

World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD)

- **Greenhouse Gas Protocol:** GHG Protocol Corporate Accounting and Reporting Standard

The following standard provides guidance for emissions under Scope 2:

- **Greenhouse Gas Protocol:** GHG Protocol Scope 2 Guidance

The following standard provides guidance for indirect emissions under Scope 3:

- **Greenhouse Gas Protocol:** GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard
- **Greenhouse Gas Protocol:** GHG Protocol Technical Guidance for Calculating Scope 3 Emissions (Supplement to the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard)

- **World Resources Institute:** Framework for Estimating and Reporting the Comparative Emissions Impacts of Products (Scope 4)

Global e-Sustainability Initiative (GeSI)

In 2018, Swisscom adopted the following standard to calculate the savings resulting from the use of Green ICT services (Scope 4):

- **GeSI**: ICT Sector Guidance built on the GHG Protocol Product Life Cycle Accounting and Reporting Standard (2017)

1.6.2 Reference systems for target setting

Swisscom embraces the following standards for its greenhouse gas reduction targets:

SBT initiative
- Guidance for ICT Companies Setting Science Based Targets (March 2020)
- SBTi Corporate Net-Zero Standard, Version 1.0 (October 2021)

Intergovernmental Panel on Climate Change (IPCC)
- IPCC Special Report on Global Warming of 1.5°C (November 2018)

1.6.3 Reference systems for reporting and communication

Finally, Swisscom takes the following recommendations into account when reporting its climate-relevant activities:

Global Reporting Initiative (GRI)
Energy consumption and the greenhouse gas inventory are reported in accordance with GRI Standards 302 (Energy) and 305 (Emissions).

Task Force on Climate-related Financial Disclosures (TCFD)
Swisscom gradually implements the recommendations of the TCFD.

1.7 Reporting boundaries

The reporting boundaries of the greenhouse gas inventory for Scope 1 and Scope 2 are determined by the infrastructures under the operational control of Swisscom in Switzerland that consume energy and emit CO_2 both directly and indirectly as well as by the activities under the operational control of Swisscom in Switzerland. Swisscom has operational control over the following infrastructures: its networks up to the customers' premises according to the boundary defined in Art. 17 Para. 1 of the Ordinance on Telecommunications Services (OTS), its offices and buildings, and its fleet of vehicles. The activities of the companies in Switzerland that are fully consolidated (i.e. consolidated from a share of 50% or higher) are included in the inventory – in line with Swisscom's Annual Report and Sustainability Report 2022 (see Sustainability Report 2022, 'Scope of the report', and Annual Report Note 5.4 Group companies in Switzerland). With the exception of Fastweb, all Group companies domiciled abroad as well as investments in associates and joint ventures are not included in the inventory as their environmental impact is minor compared to that of Swisscom Ltd. In addition, the emissions of subsidiaries in Switzerland for Scope 3 categories 1, 2 and 4, which are collected on a spend basis, are not fully included at present. Similarly, the leasing of assets to third parties with a transfer of operational control is not included in the scope of the report. This includes certain network assets that attained this status as a result of network unbundling, as well as leased assets of blue Entertainment Ltd (cinemas).

The operational boundaries include direct greenhouse gas emissions (Scope 1) and indirect greenhouse gas emissions generated by the purchase of energy (electricity and district heating, Scope 2); also included are other indirect emissions from upstream and downstream activities (Scope 3).

The emissions of CO_2-relevant foreign subsidiaries such as Fastweb are recorded under Scope 3, Category 15 (investments).

The emission reductions result from targeted measures within the company (directed actions) and from the positive effects (enabling effects) of the use of ICT services by customers (Scope 4). The emission reductions within the company follow the operational boundaries in line with the operational control approach. See section 4 for savings and emission reductions.

The reporting organisations up to the end of 2022 remained unchanged:

Swisscom Ltd:
- Swisscom (Switzerland) Ltd and subsidiaries in Switzerland
- the other Group companies in Switzerland (such as Swisscom Broadcast Ltd)
- the foreign subsidiary Fastweb

1.8 Link to Swisscom's Sustainability Report and Annual Report 2022

Swisscom's sustainability strategy and governance for corporate responsibility are described in the 'Environment and Sustainability Strategy' section of the Sustainability Report. The section of the Sustainability Report 2022 entitled 'Responsibility for the environment' also provides information on Swisscom's responsibility for the environment, including climate and energy management, energy efficiency and climate protection, as well as energy management, energy consumption, own CO_2 emissions and the savings achieved by customers using services from the sustainable ICT portfolio. The key figures and information in this report are in line with the figures set out in the Sustainability Report.

Swisscom uses sustainable financing instruments. It issued green bonds in April 2020 and again in May 2021 based on the Green Bond Principles (GBP) of the International Capital Market Association (ICMA). Financial information about the green bonds can be found in the 'Financial liabilities' section of the Annual Report 2022.

1.9 Definition of scopes

Greenhouse gas emissions are broken down by scope.

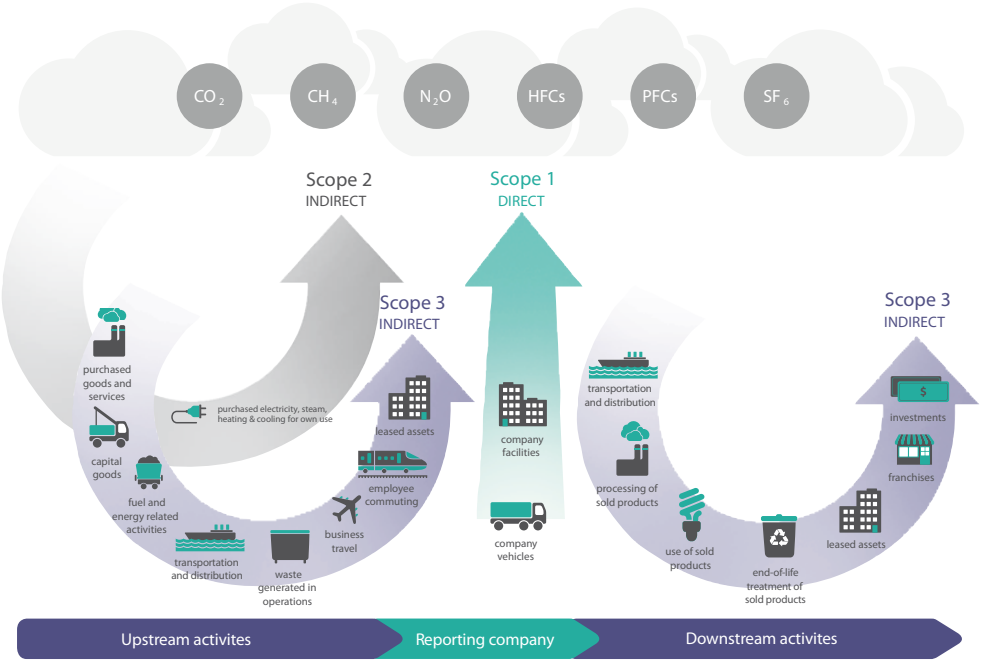


Fig. 1: Greenhouse gas emissions by scope (source: GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard).

Scope 1 and 2 emissions are generated by Swisscom's activities at various locations (multi-sites). The Scope 3 emissions are defined in the GHG Protocol.

Relevant Scope 3 greenhouse gas emissions are those from

- the supply chain (Categories 1, 2 and 4),
- the provision of energy (Category 3),
- disposal of operational waste (Category 5),
- business travel (Category 6),
- employee commuting (Category 7),
- leased assets (in this case retail space, Category 8),
- transportation from distribution centres to Swisscom Shops or to customers (Category 9),
- the use of products (electrical energy consumption, Category 11),
- the disposal of the sold products (Category 12), as well as
- investments (main Swisscom Group company abroad: Fastweb; Category 15).

The following Scope 3 categories are not relevant for Swisscom: processing of sold products (Category 10), downstream leased assets (Category 13) and franchises (Category 14).

1.10 Data quality

In terms of quality, the data collection methods can be broken down into the following categories:

- **Data quality 1:** Materials and energy flows are measured directly and the emissions calculated from them. Scope 1 emissions from refrigerants fall into this category.
- **Data quality 2:** Another materials or energy flow is measured or recognised, and the emission levels are derived from this based on assumptions. Included in this category are Scope 1 emissions from heating and vehicle fuel consumption, Scope 2 emissions from electricity and district heating and Scope 3 emissions from purchased goods (Category 1), capital goods (Category 2), provision of energy (Category 3), upstream and downstream transportation and distribution in Switzerland (Categories 4 and 9), disposal of operational waste (Category 5), disposal of terminals (Category 12) and investments (Category 15).
- **Data quality 3:** Emissions are estimated, with approximate values or empirical information used. This category includes emissions from business travel (Category 6), employee commuting (Category 7), leased assets (Category 8) and electrical energy consumption by terminals (Category 11), along with enabling effects or savings achieved using services from the sustainable ICT portfolio (Scope 4).

1.11 Financing the transition

Swisscom uses its own resources or green bonds issued on the Swiss and European capital markets to fund its transformation to a CO_2-free company. Swisscom allocates the green bond funds to a portfolio of green projects in Switzerland that fall into the following categories (eligible categories): energy efficiency, renewable energies and clean mobility (i.e. mainly CO_2-free mobility). Sustainable financing supports Swisscom in its efforts to improve its own energy efficiency, e.g. by increasing the efficiency of existing or new network equipment and cooling systems or by server virtualisation.

2 Energy management and total energy consumption

2.1 Energy management

In simple terms, Swisscom energy management includes the following process steps:

- Determining energy requirements over a specific period
- Determining the energy mix, particularly the electricity mix
- Determining and approving energy efficiency targets and measures
- Implementing energy efficiency measures
- Efficiency measures for the networks
- Generating electricity
- Using waste heat
- Monitoring, accounting and reporting
- Research and development projects
- Developing and marketing sustainable ICT products and ICT services

2.2 Governance and responsibility for climate and energy management

The Board of Directors of Swisscom is committed to pursuing a strategy geared towards ESG issues. It addresses the relevant economic, environmental and social issues in plenary sessions held twice a year. The implementation of the strategy is delegated to the CEO of Swisscom Ltd. The CEO can transfer powers and responsibilities to subordinate units and is supported in operational management by members of the Group Executive Board. The Group Communications & Responsibility (GCR) division is responsible for the implementation of the Corporate Responsibility (CR) strategy. Group Executive Board members and the Head of Group Communications & Responsibility have been named as internal sponsors for the priorities of the CR strategy. They are responsible for progress and the achievement of targets within their priority areas. The areas of responsibility are aligned to the core tasks of the respective Group Executive Board members and the Head of Group Communications & Responsibility. They are defined as follows:

- **Overall management:** Head of Group Communications & Responsibility
- **Energy efficiency and climate protection:** Head of IT, Network & Infrastructure and Head of Group Business Steering (CFO) of Swisscom Ltd.

Swisscom revised and supplemented its governance in 2021. Since then, the Audit & Corporate Responsibility Reporting Committee has advised the Board of Directors on matters related to sustainability reporting. In addition to the sponsors, newly appointed CR champions implement CR measures in the relevant Group divisions, provide implementation progress reports and propose measures to Group Communications & Responsibility. CR governance is described in detail in the 'Corporate responsibility governance' section of the Sustainability Report.

2.3 Energy consumption at Swisscom

Swisscom mainly requires electricity to operate its networks (fixed, mobile and broadcasting networks). It also requires fuel for operational mobility and combustibles for heating its offices, although to a much lesser extent. Swisscom's energy consumption (electricity, vehicle and heating fuels as well as district heating) fell in 2022 thanks to the efficiency measures implemented and the resulting savings. This meant that Swisscom increased its energy efficiency by 9.3% in the year under review compared with the 2020 reference year (source: Sustainability Report 2022).

The private usage of vehicles from the Swisscom fleet was taken into consideration and subtracted from the fuel consumption. The share of electrical energy consumption attributable to third-party tenants (proportion of third-party tenants at Swisscom sites) was also subtracted.

Table 1: Energy consumption and energy mix of Swisscom Ltd in Switzerland according to system boundaries (source: Swisscom Annual Report 2022)

Energy consumption and mix [MWh]	2019	2020	2021	**2022**
Electrical energy consumption	489,800	479,046	464,865	472,680
Vehicle fuel consumption petrol	4,738	3,796	3,854	3,381
Vehicle fuel consumption diesel	30,120	24,624	23,575	21,527
Vehicle fuel consumption natural gas	111	83	–	–
Heating oil consumption (emergency power systems)	1,299	1,193	1,154	1,343
Heating energy consumption heating oil	18,732	18,127	19,436	14,510
Heating energy consumption natural gas	7,872	7,944	7,702	5,074
Heating energy consumption district heating	9,928	10,540	12,786	9,915
Heating energy consumption biomass	341	301	365	291
Total energy consumption	**562,941**	**545,655**	**533,738**	**528,723**

Information regarding the environmental energy supplied to Swisscom by heat pumps is not included in the table. It does not incur any costs whatsoever and does not cause any CO_2 emissions within the meaning of the Scope. The electrical energy of the heat pumps, on the other hand, is recorded under 'Electrical energy consumption'.

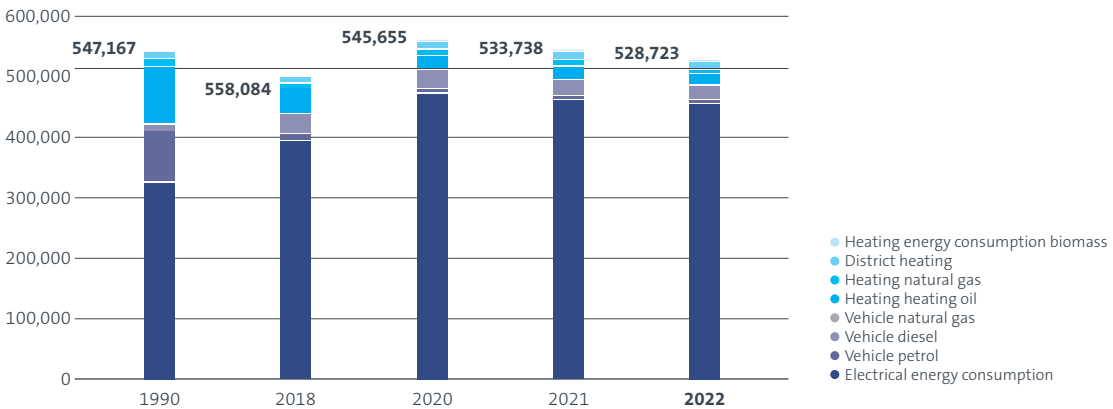
Table 1.1: Overview of energy consumption and energy mix of Swisscom Ltd

in MWh or TJ	2019	2020	2021	**2022**
Energy consumption				
Electricity	489,800	479,046	464,865	472,680
Fuels	34,969	28,504	27,429	24,908
Heating fuel + district heating	38,172	38,104	41,444	31,134
Total energy consumption [MWh]	**562,941**	**545,655**	**533,738**	**528,723**
Total energy consumption [TJ]	**2,027**	**1,964**	**1,921**	**1,903**

The table and Chart 1 show the shift in energy consumption from fossil sources to electricity. This is in line with Swisscom's strategy for the transition to fully decarbonised corporate activities.

Chart 1: Development of Swisscom Ltd's energy mix in Switzerland

in Megawatthours MWh



Swisscom's energy and climate strategies to reach the climate goals rely on comprehensive energy management as well as efficiency and reduction measures in its own operations and in the upstream and downstream supply chain; other measures include energy savings by customers thanks to improved terminal devices as well as the promotion of sustainable products and services. The reduction of emissions from the supply chain is to be achieved in partnership with suppliers, for example through the Action Exchange Program of the Carbon Disclosure Project (CDP) or through programmes directly in cooperation with suppliers. Swisscom's strategy also provides for the purchase of certificates (either guarantees of origin for energy or CO_2 certificates for CO_2 offsetting).

The 2030 Agenda for Sustainable Development adopted by the United Nations (UN) is a reference framework for Swisscom. However, Swisscom's climate strategy and its aim to reduce CO_2 emissions relate primarily to Sustainable Development Goal 13: 'Climate Action'.

2.4 Energy consumption by customers

The energy consumed by customer devices can be extrapolated to 269 GWh (2021: 281 GWh) based on the devices, the energy consumption of each device and the typical usage profiles. The number of terminal devices such as TV boxes and routers in operation in 2022 was lower than in the year before. In terms of energy consumption, Swisscom contributes by replacing older generations of equipment with new, even more efficient terminal devices that reduce customers' energy consumption. Swisscom also makes its customers aware of the many options available for saving energy, as well as offering solutions for optimising the energy consumption of terminal devices. Swisscom joined the energy-saving alliance of the Department of Environment, Transport, Energy and Communications (DETEC) in the year under review. In this context, it implemented improvement measures in its own operations and provided its customers with comprehensive information about how to save electricity when using Swisscom's own products (Internet boxes and TV boxes). At the same time, it raised customers' awareness about some basic ways of saving electricity in private households.

3 Recommendations of the TCFD

3.1 Climate change carries risks and affords opportunities

In relation to quality, Swisscom took into account the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) of the Financial Stability Board (FSB) in the year under review. It published qualitative information on its approach to risk adjustment and mitigation and on the resulting follow-up measures.

3.2 The recommendations of the TCFD

3.2.1 Governance

Environmental and climate protection is part of Swisscom's corporate responsibility. The governance of this responsibility is described in the Sustainability Report. It is broad-based and therefore includes aspects relating to climate change. The coordination and management of the corresponding areas of activity are carried out by the Corporate Responsibility team (CR team) and are subject to a clear Group directive (Communications and Corporate Responsibility Directive). Sustainable business management is part of Swisscom's corporate policy. The corresponding objectives and principles as well as the long-term sustainability strategy (ESG strategy) are approved by the Board of Directors. The sustainability strategy contains the strategic priorities and long-term sustainability goals, their scope and the corresponding governance. At the end of every year, the Board of Directors also acknowledges the goals for the following year. Every six months, it is informed in half-yearly reports, and also verbally in December, on the implementation status of the sustainability strategy and the extent to which the goals have been achieved. Reporting on the key performance indicators of the ESG strategy is provided to the Group Executive Board and the Board of Directors on a quarterly basis.

The Group Executive Board convenes twice a year to discuss the further development and implementation of the sustainability strategy. Every November, it reviews the past year and approves the goals and measures for the following year. It has approved the goals for the relevant contributions per division as part of the 2025 Sustainability Strategy. These contributions are devised as a collaboration between the divisions and Group Communications & Responsibility for the year in question, then approved by the relevant division managers and finally adopted as an overarching roadmap for the year in question. Members of the Group Executive Board as well as the Head of Group Communications & Responsibility are sponsors for the different strands of the sustainability strategy and contribute accordingly. The Audit & Corporate Responsibility Reporting Committee now performs an advisory function with regard to governance. In addition, Swisscom has created the function of CR Champions, who monitor and implement the sustainability measures in the respective business areas.

3.2.2 Strategy

Swisscom is presented with opportunities to generate revenue from climate change in the set-up and further development of a 'green'– in other words, sustainable – portfolio of products and services. The impact of the portfolio on the climate and specifically the reduction in CO_2 emissions as well as associated opportunities that arise on the customer side thanks to the use of products from the portfolio are explained in section 6 of this report. Further detailed information on the sustainable portfolio can be found under 'Responsibility for the environment' in the Sustainability Report. The revenue from this portfolio is not discussed separately; information of a financial nature can be found in the Swisscom Annual Report.

Opportunities and risks arise from the following three factors:

- **Adjustments to the legal framework:** Stricter requirements and standards for product efficiency and CO_2 emissions as well as new or more stringent energy taxation and legislation make it necessary to continuously improve operational processes (such as monitoring of energy consumption) or develop new products (such as efficient network and terminal devices). Swisscom supports its customers in this process by working with its suppliers to develop even more energy-efficient devices or devices for which a standby profile can be configured on request. See section 5 of this report for further information. However, adjustments to the legal framework can also represent a risk for Swisscom, as can the absence of such a framework. This type of situation arose in June 2021 after the referendum against the revision of the CO_2 Act was approved. As certain provisions of the CO_2 Act have not been replaced by new provisions, they are no longer in force. As a result, Swiss CO_2 legislation is in a transitional phase in which the period of validity of certain legal requirements is extended by a maximum of two years.
- **Acutely or chronically changed physical parameters:** Swisscom's operations are particularly affected by increasingly intensive precipitation, changes in average temperatures and temperature extremes. The consequences of this can be seen in increasingly more extreme and frequent events, right up to the warming of the permafrost. The Swiss Federal Office of Meteorology and Climatology (MeteoSwiss) measures the corresponding physical parameters and publishes them on its website. Bern, for example, will see a decrease in heating degree days (HDDs) by 143 HDDs per decade or an increase in the number of days with

heavy precipitation (i.e. days with precipitation above 20 cm). The resulting developments could impact the operability of Swisscom's telecoms infrastructure, particularly in view of the potential risk to base stations, transmitter stations and local exchanges.
- **Other economic or reputation-related factors:** Stakeholder groups are adapting their behaviour and expectations to the new climate situation. Providing customers with offerings that help them reduce their CO_2 emissions is an important lever for Swisscom. These offerings (enabling effects) are listed in section 6 of this report. In this context, the proactive positioning of Swisscom can create trust and enhance its reputation.

In the year under review, Swisscom endeavoured to depict even more accurately the physical risk caused by rising average and extreme temperatures. This risk may raise operating costs due to increased cooling requirements or even lead to an interruption in operations if temperatures exceed the specified temperature range of the electronic devices and systems used.

Methodological approach to determining the physical risks: In order to obtain as complete a picture of the situation as possible, Swisscom uses the relevant information 1. from the National Risk Analysis Report and 2. from the Swiss climate scenarios (climate scenarios CH2018) of the Federal Office for the Environment (FOEN) and the National Centre for Climate Services (NCCS) for 2035 and 2060.

The National Risk Analysis Report contains a list of hazards to which Switzerland, as Swisscom's main market, is currently exposed. These are broken down into three categories: nature, technology and society. The National Risk Analysis Report identifies hazards that could be further exacerbated by climate change. These hazards include heat and drought, heavy snowfall and cold snaps, as well as storms, strong winds and heavy rain. In the report they are characterised by extremes. Weeks-long heat waves with temperatures above 35°C, for example, are classified as a hazard; this currently represents a very unusual temperature scenario for Switzerland. The report breaks hazards down even further by frequency and damage. The hazards listed currently occur with low frequency (less than once in 30 years, depending on the thresholds defined in the analysis) with assumed damage claims of roughly one per cent of Swiss GDP.

The Swiss climate scenarios can be used to derive information on the development of the hazards identified in the National Risk Analysis Report. Swisscom takes into account the two CO_2 emission scenarios RCP 2.6 (consistent climate protection measures limit warming to 2°C) and RCP 8.5 (no climate protection measures are taken).

Finally, Swisscom uses its internal GIS mapping service. It maps its facilities, taking into account the development of hazards as portrayed in the CO_2 emission scenarios. That way, Swisscom can determine the number and location of sites that could potentially suffer from adverse hazard trends in the future. Swisscom has conducted an analysis of temperatures and precipitation (snow or rain) in that context.

Methodological approach to determining the climate situation: Swisscom uses the Swiss climate scenarios (climate scenarios CH2018) of the Federal Office for the Environment (FOEN) and the National Centre for Climate Services (NCCS) for 2035 and 2060. In line with the approach used to determine the physical risks, it takes into account the two CO_2 emission scenarios RCP 2.6 (consistent climate protection measures limit warming to 2°C) and RCP 8.5 (no climate protection measures are taken). In doing so, it uses its GIS mapping service and has mapped its facilities taking into account the temperature development resulting from the CO_2 emission scenarios. This allows it to determine the number and location of sites that could suffer from excessively high temperatures in the future.

Swisscom has examined the transition risks that exist in connection with Swiss and European legislation and the supply of electrical energy in greater detail. These risks could result in increased compliance costs or impair supply. Swisscom plans to source 100% of its energy consumption from electrical energy. Due to the growing importance of electricity for its activities, Swisscom must take greater account of the climate-related risks in the electricity sector.

Methodological approach to determining the relevant transition risks: Swisscom collects and analyses information from open sources (desk research). With respect to the ability to meet the demand for power, it has reliable information on European power generation scenarios (covering Switzerland). The Mid-term Adequacy Forecast (MAF) 2021 deals with the climate-related physical risks for the years 2021, 2023 and 2025 under a low-carbon scenario. For Switzerland, the MAF 2021 shows that the probability of an adequacy problem is extremely low. Similar studies conducted in Switzerland by the Swiss Federal Office of Energy or the Swiss Federal Electricity Commission (ElCom) have come to similar conclusions. They indicate that system operation will become more complex in the next three to five years due to the emergence of renewable energies. The probability of an n-1 breach (balancing energy) has increased in recent years during the summer months due to the general rise in temperature. An increased probability of n-1 breaches due to the temperature rise comes under the physical risks as classified by the TCFD.

The (n-1) criterion (i.e. N minus one criterion) or (n-1) security describes the principle that, in the event of the failure of one component, redundancies prevent the failure of the entire system. It is a principle of Swiss network

planning and it ensures a high level of network security. Thanks to the (n-1) criterion, the failure of a component such as a circuit does not lead to an interruption of supply or an extension of the fault due to alternative possibilities. The (n-1) criterion must be guaranteed at maximum load. If the network is not fully utilised, higher levels such as (n-2) can be achieved. In some networks – such as the critical infrastructure networks – an (n-2) connection is even mandatory (source: www.next-kraftwerke.de/wissen/n-1-kriterium).

Swisscom has identified the possibility of a power shortage that could affect the operation of its networks and infrastructure in the winter of 2023. A potential power shortage would not only be caused by the climate situation, however, but above all by a number of technical and political factors that mutually impact one another. In consultation with the authorities, Swisscom has taken preventive measures to save power and identified which additional measures make sense.

3.2.3 Risk management

Changes in the environment are drivers of risk. Swisscom identifies, assesses, manages and monitors its economic, social and ecological risks in an ongoing, systematic process. Using a holistic approach, it identifies environmental risks, climate change or complex supply chains and classifies them as risk factors. Its Group-wide enterprise risk management (ERM) system takes both internal and external events into account.

Swisscom complies with the established standards COSO II and ISO 31000. Swisscom's risk management therefore fulfils the various requirements of its own corporate governance as well as the requirements of Swiss law.

Risks, if they were to occur, could have an impact on operations and business. Swisscom has a business continuity management system and a resilience management system in place to prevent the occurrence of risks and their corresponding impact. Climate risks can be mitigated partly by reducing CO_2 emissions, not only in the supply chain thanks to cooperation with suppliers and directly within the company, but also indirectly by customers through the use of a sustainable portfolio of products and services (enabling effects).

3.2.4 Metrics and targets

In order to continuously improve environmental and climate protection, Swisscom has defined Key Performance Indicators (KPIs). The corresponding measures are aimed at increasing Swisscom's market opportunities (portfolio activities, sustainable portfolio) and lowering operating costs, primarily by boosting energy efficiency in operations and by consistently dispensing with energy from fossil sources. Swisscom measures its performance in absolute terms (consumption and emissions) and in relative terms (CO_2 intensity and energy efficiency).

The latest data on the indicators used by Swisscom and an inventory of greenhouse gases under Scopes 1, 2 and 3 are published in this climate report together with the reduction targets and the achievement of the targets. Sections 5 and 6 summarise the services provided by Swisscom.

For risks arising as a result of climate change, the metrics used by Swisscom do not differ from the traditional metrics for other risks. A risk's potential impact on profitability is taken into account.

3.3 Conclusions

Swisscom has the necessary methods, management systems and resources as well as a well-established governance structure. It will implement the TCFD recommendations in greater depth in the next financial year, thereby implementing the new Swiss regulations arising in connection with the adoption of the counter-proposal to the Corporate Responsibility Initiative.

The second risk analysis does not indicate any increased risk for Swisscom as a result of climate change in the near future (up to 2025) or in the medium term (up to 2030).

4 Detailed information about emissions

4.1 Development of Scope 1 emissions

In terms of direct emissions, Swisscom reports on emissions from the consumption of fossil fuels and the loss of refrigerants. Other possible sources such as emissions from fire extinguishers are negligible, non-existent (halon) or outside Swisscom's control (SF_6).

2022 saw a further year-on-year drop in emissions from vehicle fuels. This is attributable in particular to diesel-powered vehicles being substituted by hybrid or electric vehicles as well as to a decline in the number of operations-related kilometres driven. Emissions from heating fuels also decreased again year-on-year in 2022. Reasons for this include the fact that this year was warmer compared to the previous year as well as energy saving measures implemented in response to the energy shortage. As a result, this decline is not persistent in nature and may lead to rebound effects in the coming year. Nevertheless, ongoing building renovation work and an acceleration in heating system renovation projects involving heat pumps are making a major contribution towards sustainably reducing emissions from heating fuels.

Emissions from oil consumption for stationary emergency power stations and emissions from the loss of refrigerants in cooling systems are reported separately. These systems are critical for network operation and are dealt with in a separate efficiency programme. The increased emissions due to refrigerant losses in the year under review are attributable to the record warm reporting year as well as discovered leaks.

Table 2: Details of Scope 1 emissions

Scope 1 CO_2 eq. emissions [tonnes] from:	2019	2020	2021	**2022**
Vehicle fuel consumption petrol	1,313	1,052	1,068	937
Vehicle fuel consumption diesel	8,050	6,581	6,301	5,754
Vehicle fuel consumption natural gas	20	15	–	–
Heating oil consumption (emergency power systems)	347	319	308	359
Heating energy consumption heating oil	5,004	4,842	5,192	3,877
Heating energy consumption natural gas	1,561	1,575	1,527	1,006
Scope 1 CO_2 eq. emissions (from energy consumption)	16,295	14,384	14,396	11,933
Scope 1 CO_2 eq. emissions (from refrigerants)	153	36	33	372
Scope 1 CO_2 eq. emissions	**16,448**	**14,420**	**14,429**	**12,305**
CO_2 eq. emissions from biomass	–	–	–	–

Total Scope 1 emissions declined further in 2022 (-14.7% compared to 2021). Swisscom is pushing ahead with its efficiency programme for its properties by using a mix of low-CO_2 energy sources, on the one hand, and increasingly replacing oil-fired heating systems with heat pumps or wood-fired heating systems, on the other. It also reuses residual heat from IT processes wherever possible. Biomass is considered CO_2-free; the biogenic CO_2 is therefore not classified under Scope 1. Swisscom is also continuing its programme to increase the efficiency of its mobility by reducing the size of its vehicle fleet and continuing to use more fuel-efficient vehicles. It aims to cut direct CO_2 emissions from mobility in half by 2025 and to have fully electrified mobility by 2030.

4.2 Development of Scope 2 emissions

Swisscom has been pursuing a 'market-based' approach for the non-renewable portion of purchased electricity since 1 January 2010 and for district heating since 2019. In accordance with the GHG Protocol Scope 2 Guidance, this report contains the Scope 2 emissions prior to purchasing GoO (location-based approach) and the emissions after purchasing GoO (market-based approach).

Renewability of the purchased energy: Swisscom covers 100% of its electricity needs with a mix of renewable energy sources, mostly hydroelectricity and partly a blend of other renewable sources, such as wind and solar power. For district heating, it has used renewable heat since 2019. The energy purchased is CO_2-free, and Swisscom uses guarantees of origin (GoO) for it, which means that its Scope 2 emissions from district heating and electricity are reduced to zero. The use of certified electricity and district heating reduces CO_2 emissions from electricity to the indirect emissions (provision of electricity and district heating). A residual-mix calculation does not exist for guarantees of origin from hydropower and district heating.

Efficiency measures have also helped prevent Scope 2 emissions at Swisscom, reducing total electrical consumption in operations and in the buildings by 20.0 GWh in 2022 (2021: 22.0 GWh). Methods in this regard which are still effective include the virtualisation of servers, the fresh-air cooling methods (including our proven Mistral method and now the Levante method for cooling mobile telephony base stations), the optimisation of the mobile and fixed networks through the use of energy-efficient infrastructure and the increased efficiency of data centres, which is expressed in lower PUE values.

Finally, Swisscom also generates electricity from photovoltaic installations. At the end of 2022, the total installed capacity was 3,699 kWp, with the 104 installations producing 3,601 MWh of electricity (2021: 2,942 MWh), of which 3.381 GWh were used for self-consumption.

Table 3: Emission factors considered for electricity and district heating (source: myclimate, calculated according to ecoinvent)

In g CO_2 eq. / kWh	Validity	Emission factor (total)	EF Scope 2 (direct)	EF Scope 3 (indirect)
Electricity				
Supplier electricity mix Switzerland ("location-based")	from 2019	128.00	97.30	30.70
Certified electricity ("market-based")	from 2019	15.70	0	15.70
District heating				
District heating ("market-based")	2019	44.32	0	44.32
District heating ("market-based")	2020	42.26	0	42.26
District heating ("market-based")	2022	47.60	0	47.60

Swisscom updates the emission factor for district heating each year and also divides it by scope (Scope 2 and Scope 3). The division by scope is based on a calculation performed by myclimate specifically for Swisscom, using a weighted average courtesy of the district heating calculator from the company treeze Ltd. Swisscom has been using guarantees of origin (GoO) for district heating since 2019.

Table 4: Details of Scope 2 emissions

Scope 2 emissions are converted using the factors from Table 3.

Scope 2 CO_2 eq. emissions [tonnes] from:	2019	2020	2021	**2022**
Electricity consumption supplier electricity mix Switzerland ("location-based")	47,639	46,593	45,214	45,974
Heating energy consumption district heating ("location-based")	1,011	511	600	465
Scope 2 CO_2 eq. emissions ("location-based")	**48,650**	**47,104**	**45,814**	**46,439**
Electricity consumption certified electricity ("market-based")	–	–	–	–
Heating energy consumption district heating ("market-based")	–	–	–	–
Scope 2 CO_2 eq. emissions ("market-based")	**–**	**–**	**–**	**–**

4.3 Development of Scope 3 emissions

Reducing Scope 3 emissions is one of Swisscom's main concerns. In the year under review, more than 95% of Swisscom's emissions were attributable to indirect emissions (Scope 3), whereby most of them were incurred in the upstream supply chain. In this context, Swisscom has drawn up a model for calculating supply chain emissions along with the eco-balance specialists from treeze Ltd until 2020 and now, from 2021 onwards, with EBP. Other emissions are derived from materials (Category 5) and energy flows (Category 3) or are calculated using approximate values or empirical information (Categories 6, 7 and 9 as well as Categories 11 and 12).

Table 5: Details of Scope 3 emissions

Scope 3 CO_2 eq. emissions [tonnes] from:	2019	2020	2021	**2022**
Cat. 1 Purchased goods and services	237,340	208,101	191,789	184,832
Cat. 2 Capital goods	3,800	3,991	3,948	3,361
Cat. 3 Provision of electricity	7,690	7,521	7,298	7,421
Cat. 3 Provision of district heating	440	446	489	424
Cat. 3 Provision of vehicle fuels (petrol + diesel)[1]	1,943	1,503	1,896	1,766
Cat. 3 Provision of heating oil	866	773	817	631
Cat. 3 Provision of natural gas	402	408	394	273
Cat. 3 Provision of biomass	9	10	11	8
Cat. 4 Upstream transportation and distribution	14,359	17,038	15,787	12,671
Cat. 5 Waste generated in operations	2,581	1,927	1,786	1,905
Cat. 6 Rail travel in Switzerland	104	49	59	19
Cat. 6 International rail travel	23	4	1	9
Cat. 6 European flights	1,012	270	277	1,015
Cat. 6 Intercontinental flights	1,417	456	263	945
Cat. 6 Car journeys to meetings	807	453	509	123
Cat. 7 Employee commuting (public transport)	1,183	357	345	432
Cat. 7 Employee commuting (car)	13,851	3,889	4,131	3,301
Cat. 8 Upstream leased assets	7,867	7,554	7,004	6,132
Cat. 9 Downstream transportation and distribution	1,114	1,055	978	651
Cat. 11 Use of sold products	38,927	36,810	35,908	34,359
Cat. 12 End of life treatment of sold products	385	281	395	202
Cat. 15 Investments	3,223	3,026	1,876	2,178
Total Scope 3 CO_2 eq. emissions	**339,342**	**295,921**	**275,962**	**262,659**

1 Vehicle fuel consumption without private use of Swisscom's fleet.

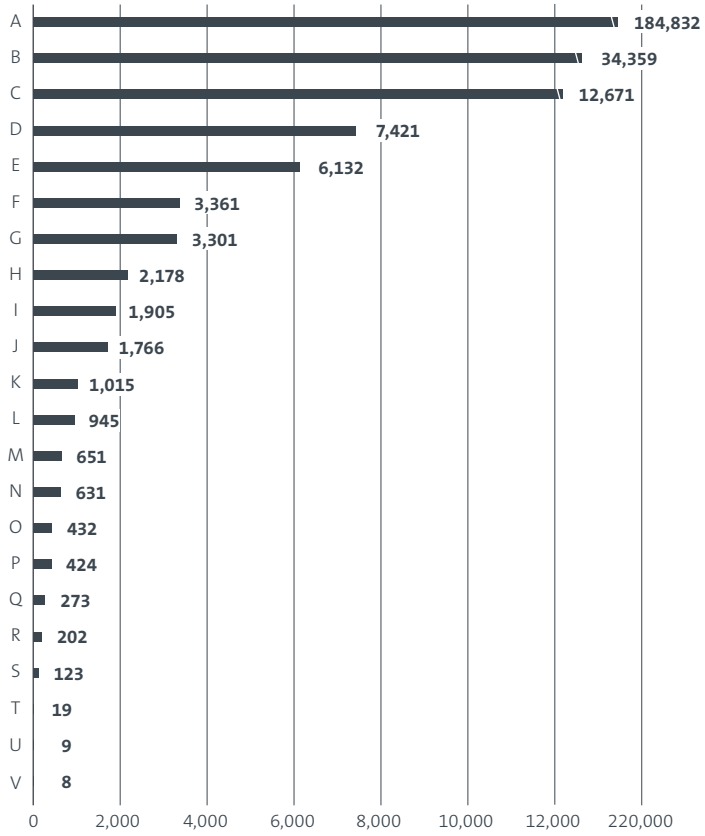
Categories 10, 13 and 14 are not relevant for Swisscom.

Emissions in Categories 1, 2 and 4 (supply chain) have so far included in part the emissions in the supply chains of Swisscom Group subsidiaries. Swisscom will reassess the completeness of supply chain emissions for Swisscom subsidiaries in Switzerland and revise them in the coming year (2023). There was a decrease in emissions in these categories in the year under review, which was attributable to the lower CO_2 intensities of included suppliers. Emissions from employee commuting (Category 7) remain low, mainly thanks to the option of working from home. Emissions from business travel (Category 6), on the other hand, increased slightly, especially emissions caused by more air travel than in the year before. Adjustments made to the survey's methodology resulted in both categories being measured more precisely in the year under review. Emissions in Category 11 (use of products sold) and Category 12 (disposal of products sold) decreased further due to the smaller number of devices bought by customers as well as an optimised electricity mix.

For Category 15, emissions of investments in Italy (Fastweb) are indicated as market-based.

Chart 2: All Scope 3 emissions by GHG category

in tonnes CO_2 eq.

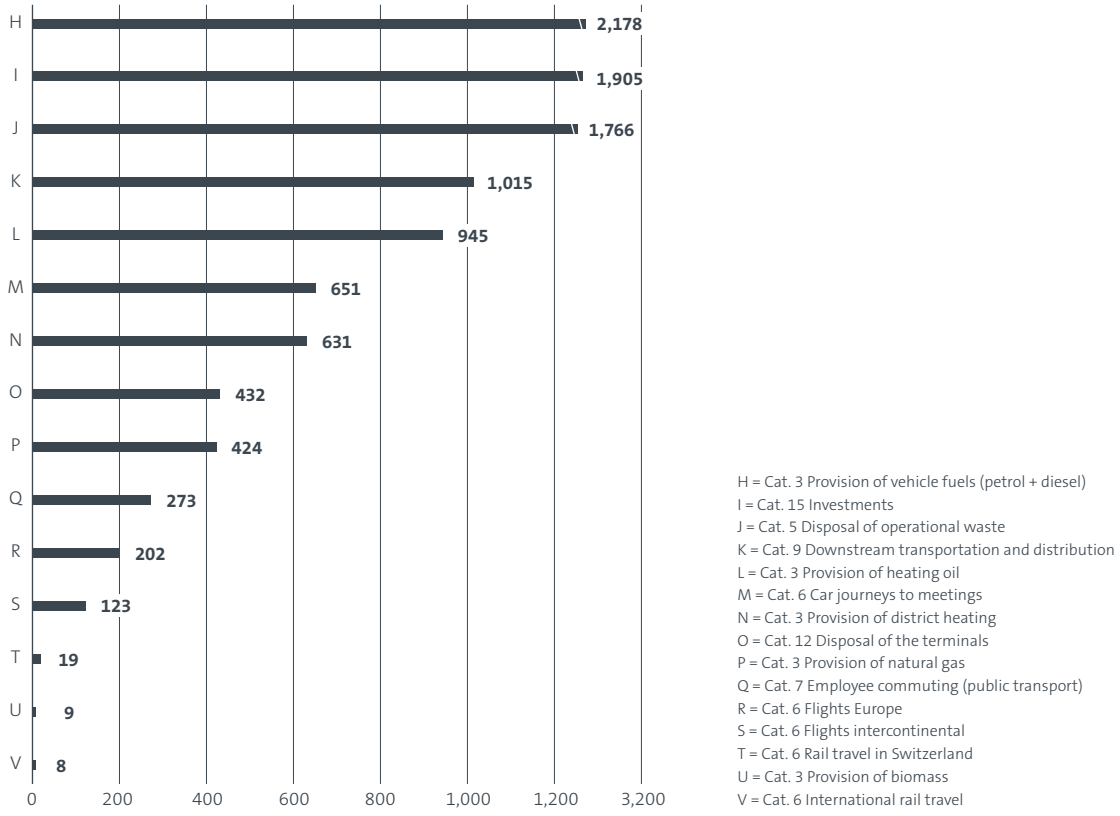


A = Cat. 1 Purchased goods and services
B = Cat. 11 Consumption of sold products
C = Cat. 4 Upstream transportation and distribution
D = Cat. 3 Provision of electricity
E = Cat. 8 Upstream leased assets
F = Cat. 7 Employee commuting (passenger car)
G = Cat. 2 Capital goods
H = Cat. 3 Provision of vehicle fuels (petrol + diesel)
I = Cat. 15 Investments
J = Cat. 5 Disposal of operational waste
K = Cat. 9 Downstream transportation and distribution
L = Cat. 3 Provision of heating oil
M = Cat. 6 Car journeys to meetings
N = Cat. 3 Provision of district heating
O = Cat. 12 Disposal of the terminals
P = Cat. 3 Provision of natural gas
Q = Cat. 7 Employee commuting (public transport)
R = Cat. 6 Flights Europe
S = Cat. 6 Flights intercontinental
T = Cat. 6 Rail travel in Switzerland
U = Cat. 3 Provision of biomass
V = Cat. 6 International rail travel

Chart 3 provides a detailed view of the categories with low emissions.

Chart 3: Selected Scope 3 emissions by GHG category

in tonnes CO_2 eq.



Both graphics show the emissions in descending order. The most significant emissions come from categories not under Swisscom's control (supply chain, transport, etc.). The reduction targets set in these categories can only be achieved in cooperation with suppliers. Swisscom is collaborating with the Carbon Disclosure Project (CDP) to evaluate suppliers. In addition, since the year under review it has been proactively approaching suppliers shown by the analysis to have a high potential for reducing their CO_2 emissions. Where Swisscom has the potential to exert influence, it uses it and agrees on targets with its partners – such as for logistics (Category 9) – in two steps: first, by documenting emissions in accordance with the standard which is customary for transport (EN 16258) and, second, through the subsequent optimisation of those emissions. Indirect emissions from its own activities are reduced by Swisscom as part of its efficiency and reduction programmes (Categories 3, 5 and 6).

5 Detailed information about savings and carbon offsets at Swisscom

5.1 Overview of savings measures

Measures that lead to energy savings and reduced greenhouse gas emissions are described in the report as 'directed actions'. These relate to measures that lead within Swisscom to a reduction in the consumption of heating and vehicle fuels and of electricity or to the off-setting of emissions (directed actions).

Table 6: Key measures employed by Swisscom to reduce Scope 1 to Scope 3 emissions (directed actions)

Scope		Directed actions
Scope 1	Emissions	Increase efficiency, reduce demand (target 2:1 and target 2025) • Fleet roadmap: spec. emissions down to 95 g CO_2/km in 2020 • Route planning and coordinated deployment of personnel (work-force management) • Building refurbishment, abandonment of oil heating systems • Offsetting emissions
Scope 2	Emissions	Increase efficiency, reduce demand (target 2:1 and target 2025) • Fleet roadmap: spec. emissions down to 95 g CO_2/km in 2020 • Route planning and coordinated deployment of personnel (work-force management) • Building refurbishment, abandonment of oil heating systems • Offsetting emissions
Scope 3 cat. 1	purchased goods	Selective measures in the supply chain Integration of suppliers in the CDP supply chain module and Action Exchange Program
Scope 3 cat. 2	Capital goods	Selective measures in the supply chain Integration of suppliers in the CDP supply chain module and Action Exchange Program
Scope 3 cat. 3	Provision of electricity	Increase in efficiency (+18.8% by 2025 from 2020). Most important measure: cooling of the networks with fresh air (Mistral, Levante and Scirocco)
Scope 3 cat. 3	Provision of car fuels (F+D)	Increasing efficiency, reducing demand Fleet roadmap: Halving CO_2 by 2025 (compared to 2020)
Scope 3 cat. 3	Provision of heating fuels	Increase efficiency, reduce demand (target 2025) Most important measure: building renovations, abandonment of oil heating
Scope 3 cat. 3	Provision of natural gas	Increase efficiency, reduce demand (target 2025) Most important measure: building renovations, abandonment of oil heating
Scope 3 cat. 4	Upstream transport and distribution	Selective measures in the supply chain Integration of suppliers in the CDP supply chain module and Action Exchange Program
Scope 3 cat. 5	Disposal of operational waste	Waste separation and recycling, local disposal
Scope 3 cat. 6	Rail travel Switzerland	Replacement with virtual mobility (Unified Communication and Collaboration (UCC)), telepresence meetings
Scope 3 cat. 6	Rail travel international	Same
Scope 3 cat. 6	Flights Europe	Same, plus stricter approval process for flights
Scope 3 cat. 6	Flights intercontinental	Same, plus stricter approval process for flights
Scope 3 cat. 6	Car journeys to meetings	Replacement with telepresence/videoconferencing
Scope 3 cat. 7	Commuter traffic public transport	Promotion of home office (remote working), home office guidelines
Scope 3 cat. 7	Commuter traffic passenger car	Promotion of home office (remote working), home office guidelines, reduction of parking spaces, promotion of public transport
Scope 3 cat. 8	Rented sales areas	Selective measures in the supply chain
Scope 3 cat. 9	Downstream transportation and distribution (to the customers)	Selective measures in the supply chain Integration of suppliers in the CDP supply chain module
Scope 3 cat. 11	Use of products sold	Reduction of the energy consumption of the end devices • Routers with a significantly lower standby compared to older devices • Internet-Box 3 with energy-saving options
Scope 3 cat. 12	Disposal of the terminals	Sorting and recycling, local elimination, Program Mobile Aid (re-use)
Scope 3 cat. 15	Capital expenditure	Environmental management at subsidiary Fastweb, aims to reduce energy consumption and use green electricity

5.2 Savings and efficiency improvements at Swisscom (directed actions)

5.2.1 Savings and efficiency improvements in operations (eligible green bond projects)

As part of a target agreement it reached with the Energy Agency of the Swiss Private Sector (EnAW), Swisscom reports annually on its efficiency improvements and reductions in the CO_2 intensity of heating and vehicle fuels. For that, Swisscom relies on the Swiss Federal Energy Act and the Swiss CO_2 Act. Last year, Swisscom's energy efficiency was effectively increased by 4.5% (2021: 4.8%), meaning it had achieved and even exceeded the energy efficiency target for 2020 that it had agreed with the EnAW. Since target achievement is calculated using a four-year average (2019–2022), the 2022 reporting year is still relevant. The target agreement with the EnAW has since been extended until the end of 2024. According to the EnAW target path, the planned energy efficiency increase is 3% per year, which puts the target for the accumulated energy efficiency increase at +36% by 2024 compared to the 2013 base year. Swisscom, however, has also set its own ambitious energy efficiency targets and aims to increase its energy efficiency by 20% from 1 January 2020 until the end of 2025 and by 43% until the end of 2030. To reduce the ecological footprint in the company's operations, Swisscom adopts savings measures that fall into the following three categories:

a) **CO_2 savings and efficiency improvement thanks to operational measures (eligible green bond projects):** The operational efficiency measures are set out in a catalogue of measures and implemented on an ongoing basis. The catalogue lists a total of eight measures. These include improvement measures in operations, especially the introduction of network equipment with an output that meets the requirements of the European Code of Conduct for broadband and FTTH equipment, efficient cooling of the networks (including the Mistral and Levante fresh-air cooling methods, but also free cooling and mixed systems), the use of low-CO_2 energy sources, heat recovery and the increased use of heat pumps, which ensure increased efficiency. The three most effective measures are the virtualisation of servers in data centres, the use of fresh-air cooling for networks and the activation of savings functions in the mobile network. With respect to its own fleet of passenger cars, Swisscom took drastic optimisation measures and reduced the number of vehicles to 1,685. Swisscom made further investments in the electrification of its fleet during the year under review and purchased or used additional hybrid or fully electric vehicles. It currently has 91 electric cars and 697 hybrid vehicles in operation, although its electrification programme is slightly behind schedule due to delivery problems in the automotive market. The number of operations-related kilometres driven decreased in 2022, thereby further reducing CO_2 emissions. All in all, efficiency measures amounted to 23.9 GWh in 2022 (2021: 25.7 GWh). Of this, 20.0 GWh was for electrical energy and the remaining 3.9 GWh for measures related to buildings and the vehicle fleet.

b) **CO_2 savings through own electricity generation:** Where economically feasible, Swisscom constructs its own photovoltaic installations to generate solar power. At the end of 2022, the total installed capacity of the 104 installations was 3,699 kWp. The installations supplied Swisscom with 3.601 GWh for its own consumption, of which 3.381 GWh were used for self-consumption.

c) **CO_2 savings using guarantees of origin:** Since 2010, Swisscom has been purchasing guarantees of origin (GoO) for renewable electricity for the proportion of nuclear power and electricity from fossil fuels in its electricity mix or used for its network infrastructure and the buildings it manages. Since 2019, it has also been purchasing guarantees of origin for renewable district heating. Thus, Swisscom once again used 100% renewable electricity and district heating in 2022, as certified independently. The use of GoO reduces CO_2 emissions from electricity and from district heating, with only indirect emissions remaining (see Table 4, Details of Scope 2 emissions).

5.2.2 Reduction in Swisscom's activity-related CO_2 emissions

Swisscom makes its customers aware of the many options available for reducing energy consumption, as well as offering concrete solutions for optimising their energy consumption.

a) **blue TV:** Swisscom launched the Swisscom Box 21 on the market in 2021. This requires even less electricity than its predecessors. Despite a steady increase in blue TV customers, Swisscom has gradually reduced the energy consumption of all set-top boxes in operation. In 2022, the TV boxes together required 51 GWh (prior year: 56 GWh), primarily through the gradual replacement of older models by the latest TV box (Swisscom Box 21).

b) **Routers:** Swisscom launched Internet-Box 4 for its fibre-optic customers in 2022. To save energy, these Internet boxes have the option to set the time period during which the Wi-Fi automatically switches off via a timer. In addition, the new Internet box is reducing the number of devices in home networks since it is increasingly replacing the connecting devices previously required to wirelessly link computers, televisions and HD fixed-line telephony, resulting in modest decreases in energy consumption.

5.2.3 Reduction of emissions in the supply chain – Supply Chain Program

Swisscom has no direct control over indirect emissions in the supply chain. However, it does have the means to exert influence by promoting joint efforts by suppliers through collaboration with the Global e-Sustainability Initiative (GeSI), the Joint Alliance for CSR (JAC) and especially the Carbon Disclosure Project (CDP). The CDP is a

non-profit organisation founded in 2000. The organisation encourages companies to publish relevant environmental data, including data on harmful greenhouse gas emissions and water consumption. Once a year, the CDP, on behalf of investors, uses standardised questionnaires to collect information and data from companies on a voluntary basis as regards CO_2 emissions, climate risks and reduction goals and strategies. The CDP maintains the world's largest database of this kind.

As part of its cooperation with the CDP, Swisscom contacted and surveyed 83 (prior year: 78) of its key suppliers. The suppliers surveyed have a high order volume (67%) or a high degree of environmental relevance. The response rate was 92% (prior year: also 92%), which again allowed the survey to be brought to a successful conclusion.

Swisscom also worked together with suppliers that can help it achieve a direct or major climate impact to launch the Joint Carbon Reduction programme in 2022. This project aims to develop products from scratch in keeping with circular economy principles in order to keep their footprint as small as possible.

As part of its ESG strategy, Swisscom is pursuing both a concrete near-term and a long-term target in the area of climate protection. As the supply chain is responsible for a major portion of Scope 3 emissions, its CO_2 emissions play a pivotal role. Swisscom again took part in the Action Exchange Program (AEP) in 2022 as part of its work with the CDP and defined specific development plans with individual suppliers. Thanks to the emission data that the CDP collects from suppliers, Swisscom has a reliable basis for determining reduction targets for itself as well as for its key suppliers.

5.3 Carbon offsets – offsetting CO_2 emissions

Swisscom has been systematically improving its energy efficiency and working to reduce its environmental footprint for over 20 years. It wants to take responsibility for the climate impact of its – currently unavoidable – residual emissions now instead of one day in the future to actively protect the climate. Swisscom has been offsetting its residual operational emissions since 2020, making its operations climate-neutral. It has also been offsetting all residual emissions for Swisscom subscriptions since 2022 as well as the residual emissions of all terminal devices and networks. The carbon offsets for both operational emissions and the emissions connected to the subscriptions are on a voluntary basis. The principle of voluntary offsets is based on the idea that the place where greenhouse gases are emitted or avoided is irrelevant to the climate. Swisscom does not view carbon offsets as a substitute for CO_2 reductions. Instead, Swisscom considers carbon offsetting an important complementary component of active, responsible climate protection. It also wants to promote the development of the voluntary carbon market by offsetting its emissions exclusively through the use of high-quality CO_2 certificates and by regularly examining new technologies for CO_2 sinks.

5.3.1 Climate-neutral operations

Swisscom reduced its operational CO_2 emissions again in 2022 and intends to reduce them further. It has been offsetting its remaining residual emissions from operations since 2020, making its operations climate-neutral. Offsetting covers emissions from the networks, the heating of buildings, mobility and related activities such as the purchase of network equipment, transport, business travel and waste disposal. This includes emissions under Scope 1 and Scope 3, Category 1 (purchased goods, only network equipment such as routers for Internet access and set-top boxes), Category 3 (provision of energy), Category 5 (waste) and Category 6 (business travel). Emissions under Scope 2 (purchase of energy, electricity and district heating) are offset by another mechanism (guarantees of origin, GoO). The non-renewable part of the electricity and district heating (Scope 2) is balanced by guarantees of origin for renewable and CO_2-free energy (e.g. wind, solar or geothermal energy). Overall, emissions in the above categories amounted to 42,252 tonnes of CO_2 in the year under review. These emissions are offset by the purchase and retirement of CO_2 certificates (1 certificate = 1 tonne of CO_2) in the same amount.

5.3.2 Climate-neutral subscriptions, networks and terminals

Since 2022, Swisscom has been offsetting the remaining residual emissions from all its customers' subscriptions (including emissions from the network and terminal devices). As a result, all Swisscom subscriptions, including the networks and terminal devices as well as equipment needed for them, are climate-neutral. This means that since the year under review, all Swisscom customers have been surfing, streaming and making phone calls in a climate-neutral manner without having to give anything up or incur additional costs. The offset covers all emissions that arise in connection with the manufacture, transport and installation of the network components, as well as with the manufacture, tra nsport, use and disposal of all terminal devices. In addition to climate-neutral operation, this includes emissions under Scope 3, Category 1 (purchased goods, mobile phones, wireless accessories, IP phones, wireline devices, wireline accessories, network, hardware and servers), Category 4 (upstream transportation and distribution of set-top boxes, Internet access, mobile phones, wireless accessories, IP phones, wireline devices, wireline accessories, network, hardware and servers), Category 9 (downstream transportation and distribution), Category 11 (use of products sold) and Category 12 (disposal of sold products). Overall, emissions in the above categories amounted to 152,416 tonnes of CO_2 in the year under review. These emissions are offset by the purchase and retirement of CO_2 certificates (1 certificate = 1 tonne of CO_2) in the same amount.

5.3.3 Outlook on becoming a climate-neutral company in 2025

Swisscom aspires to become a fully climate-neutral company in 2025. That makes climate-neutral subscriptions an intermediate step in its transformation from climate-neutral operations to a climate-neutral company. To achieve this, Swisscom aims to fully offset its residual emissions in 2025 in addition to the 90% reduction of Scope 1 and Scope 2 emissions (compared to the 1990 base year) and 50% reduction of Scope 3 emissions (compared to the 2013 base year). Until then and beyond, its focus will remain on reducing CO_2 in accordance with the SBTi reduction path in order to achieve the 1.5°C target. Unavoidable residual emissions from all Scope 3 categories recorded will additionally be offset from 2025 onwards: remaining emissions from Category 1 (services, etc.), Category 2 (capital goods), remaining emissions from Category 4 (upstream transportation and distribution), Category 7 (employee commuting), Category 8 (leased assets) and Category 15 (investments). This will make Swisscom a climate-neutral company as of 2025.

5.3.4 Carbon offsetting at Swisscom

In order to offset the 194,668 tonnes of CO_2 attributable to residual emissions from operations and subscriptions that are currently unavoidable, Swisscom has purchased and retired high-quality CO_2 certificates (CER and VER) from selected climate protection projects in accordance with the Gold Standard (GS) , the Verified Carbon Standard (VCS) and the Plan Vivo Standard in the same amount (1 certificate = 1 tonne of CO_2). Thus, Swisscom offsets over 70% of its total residual emissions in the year under review. To ensure that the CO_2 certificates are of high quality, Swisscom has defined clear criteria for their procurement. It also worked together with an external partner to review the offsetting projects offered; this was done using a multi-stage evaluation process, taking into account the following criteria, among others: additionality, leakage prevention, robust reference scenarios, double counting prevention, methodology, monitoring, standards, reputation, contribution to the SDGs and relation to Swisscom. When compiling its offsetting portfolio, Swisscom aimed for geographical and methodological diversification. Swisscom purchased CO_2 certificates from a total of seven offsetting projects as part of the evaluation and in cooperation with its external partners myclimate, South Pole and First Climate. These certificates will be used for offsetting in the years to come. Additionally to carbon offsetting, Swisscom also collaborates with myclimate and Hochstamm Suisse to plant and manage standard trees in Switzerland. In doing so, its offsetting activities are joined by contributions to both local climate protection efforts and biodiversity promotion.

CO_2 certificates from the following projects were used and retired in the year under review to offset unavoidable emissions from operations and subscriptions:

- Biogas for India (CO_2 avoidance)
- Solar power plant in Chile (CO_2 avoidance)
- Solar energy for Kenya (CO_2 avoidance)
- Reforestation in Uganda (CO_2 removal)

Table 7: Detailed information about offsetting projects in 2022

Detailed information about offsetting projects

Project name at Swisscom:	**Solar power plant in Chile**	**Solar energy for Kenya**	**Biogas for India**	**Reforestation in Uganda**
External partner:	SouthPole	myclimate	myclimate	myclimate
Official project name:	CERRO DOMINADOR CONCENTRATED SOLAR POWER PROJECT	SOLAR LIGHTING IN RURAL KENYA – VPA 2	SKG Sangha Biodigester PoA	Trees for global benefits – Uganda
Country:	Chile	Kenya	India	Uganda
Standard:	VCS (VER)	Gold Standard (VER)	Gold Standard (CER)	Plan Vivo (VER)
Project ID:	Verra ID 1998	GS ID 3626	CDM ID 9507 / GS ID 1127	7181 or VO18023.00
Project type:	Concentrated solar power (CSP) plant (Avoidance)	Solar Thermal - Electricity (Avoidance)	Biogas (Avoidance)	Afforestation/Refore-station (Removal)
Methodology:	ACM0002	AMS-I.A. Electricity generation	AMS-III.R. ver. 2 – Methane recovery in agricultural activities at household/ small farm level AMS-I.C. ver. 19 – Thermal energy production with or without electricity AMS-I.E. ver. 4 – Switch from non-renewable biomass for thermal applications by the user	Mixed Native and naturalized Tree species
Support SDGs:	4,7,8,9,13	3,4,5,7,8,13	1,2,3,4,5,7,8,12,13,15	1,2,4,5,6,8,12,13,15,17
Third-party verifier:	KBS Certification Services Pvt. Ltd.	SustainCert (GS internal verification DoE)	4K Earth Science Pvt. Ltd.	Environmental Services, Inc. (ESI)
Vintage (year launched):	2021	2018-2021	2018-2020	2020-2021
Number of CO_2 certificates used:	17’668	10’000	40’000	127’000

6 Detailed information about savings achieved through offerings for customers

6.1 Eco-friendly offerings as a climate protection opportunity for Swisscom

The TCFD standard (see section 3) requires companies to consider climate-related opportunities and risks with respect to the company and its offerings. In terms of opportunities, Swisscom already began to focus on the climate protection opportunities that arise through the intelligent use of ICT services in as early as 2008. In 2008, the Global e-Sustainability Initiative (GeSI) published the first report on emissions from and savings in the ICT industry. By 2020, it was predicted that this industry would account for 3% of global emissions while also contributing 15% of CO_2 savings worldwide, meaning savings should have exceeded emissions by a factor of five worldwide in 2020. The study was updated in 2015 with an outlook to 2030 predicting that, by then, the ICT industry would be responsible for some 20% of savings in global CO_2 emissions, with its burden, by comparison, put at around 3% of emissions. In collaboration with EMPA (Swiss Federal Laboratories for Material Science and Technology), the University of Zurich produced a study in 2017 that predicted a savings to emissions factor in the ICT industry in 2025 of around 3.5 for Switzerland alone. In 2014, Swisscom set itself the goal of saving twice as much CO_2 as the company emits by 2020. This target was exceeded, with Swisscom reporting a factor of 2.85 in 2020 and a factor just above three in 2021. The coronavirus pandemic also played a major role by accelerating the use of ICT services as a substitute for travel.

Aware of the climate protection potential offered by the intelligent use of ICT solutions, Swisscom has stepped up its efforts to integrate corresponding services into its own portfolio and to invest in such solutions. A new business area for corporate CO_2 management offerings was added to the portfolio during the year under review. In the area of investments, a fund for investments in sustainable start-ups was launched in 2021. Swisscom has set itself the goal of saving one million tonnes of CO_2 per year until 2025 together with its customers (Scope 4). It achieved that goal in the year under review with 1,590,772 tonnes of CO_2 saved. Savings exceeded emissions by a factor of 5.8 in the year under review. Swisscom will revise this target in 2023 and aspires to use its ICT solutions to save even more CO_2 with customers.

6.2 CO_2 savings through the sustainable portfolio for customers

Since 2018, the saving of greenhouse gas emissions that results from the use of Green ICT services (enabling effects, Scope 4) has been calculated in accordance with the ICT Sector Guidance built on the GHG Protocol Product Life Cycle Accounting and Reporting Standard. Customers reduce their emissions by using the sustainable portfolio made available to them by Swisscom. These savings are counted among Swisscom's climate-related opportunities in accordance with the risks and opportunities-based approach of the TCFD. This portfolio offers eight types of savings:

a) Savings through services that help customers to replace some of their travel. These include such offerings as managed unified communications and collaboration (Managed UCC) and remote access for home office use, which constitutes solutions that combine telephony, e-mail, instant messaging, desktop sharing, and telephone and video conferencing and that allow users to exchange images, sound and data over distances and to work on the move. Since the importance of conferencing services continued to decline during the year under review, the method used for calculating travel-related savings was restricted to online conferences and home office.
b) Savings through services that enable customers to control devices or vehicles intelligently via the Internet of Things (IoT). These services help, for example, to optimise logistics systems by improving route selection or to efficiently monitor filling levels, such as in oil tanks and waste containers, as well as the status of a wide range of different devices. In doing so, for instance, they reduce the number of transport kilometres travelled by logistics fleets or enable heating systems to be controlled remotely.
c) Savings through services that enable customers to give up their own data centres and servers and outsource them to highly efficient data centres with a considerable level of server virtualisation.
d) Savings through services that help to reduce paper consumption. These include electronic billing and the electronic trading platform Conextrade, on which companies can handle all their transactions electronically. In addition, Swisscom Trust Services offers an e-signature as an alternative to wet signatures, which drastically reduces customers' paper consumption. Further paper savings are achieved with the Dynamic Printing service, which significantly reduces paper

waste through an intelligent zone concept and features such as follow-me printing (documents are not printed until the user is at the printer).

e) Savings through 'dematerialisation' services. This refers to customers replacing previously physical items with data transmitted via a broadband connection.
f) Savings through services that target reductions in shopping trips due to online ordering and in retail space as physical shops are replaced by virtual ones (e-commerce).
g) Savings through services that extend the life of mobile phones and laptops. As part of its circular economy initiative, Swisscom recycles used but still functioning mobile handsets and laptops for further use to extend their service life. Mobile phones continue to be used in Switzerland or in developing countries, giving the people there access to low-cost devices.
h) Savings thanks to new corporate CO_2 management offerings, including the comprehensive offering aimed at helping business customers achieve net zero emissions or the Swiss Climate Challenge. In 2022, Swisscom further developed its offering to help companies reduce their CO_2 emissions. Alongside the Swiss Climate Challenge, Swisscom is now working together with Swiss Climate, a climate consulting firm, and Sweep, a software company, to offer a comprehensive range of services for automatically collecting and processing emissions and CO_2 reduction measures and for making data-based decisions. The task of collecting data from a wide variety of sources across the company and tracking the measures taken to achieve net-zero goals over several decades presents challenges that call for intelligent software solutions.

6.3 CO_2 savings through investments in sustainable start-ups

Through its Swisscom Venture unit, Swisscom also makes targeted investments in start-ups whose products help solve urgent sustainability problems with a focus on climate protection. Swisscom made new investments in the sustainable start-ups South Pole, Daphne and XFarm during the 2022 reporting year, following investments in 2021 in the Swiss start-ups Ecorobotix and Clearspace. The following is a brief description of the ways in which the products offered by these start-ups help achieve savings:

XFarm: Swiss start-up offering software that increases resource efficiency on farms. This software can be used to reduce water and fertiliser consumption, among other things.

Daphne: Swiss start-up with a solution that reduces the greenhouse gas and pollutant emissions of cargo ships.

South Pole: Swiss company active in the area of carbon offsetting and with solutions to help companies reduce their greenhouse gas emissions.

Ecorobotix: Swiss start-up with a precision farming solution that reduces the use of pesticides in agriculture. Since the production of pesticides is resource-intensive, reducing the need for pesticides also goes hand in hand with reductions in greenhouse gas emissions.

Clearspace: Swiss start-up to remove space debris and non-functional satellites. This start-up does not make any direct contribution to the reduction of greenhouse gases in the atmosphere.

6.4 Overview of savings attributable to green ICT services and investments

The savings attributable to green ICT services and from investing in sustainable start-ups are shown in Table 8.

Swisscom developed the calculation methods in collaboration with the myclimate foundation. However, within the context of the COVID-19 pandemic, current computational models were unable to clearly distinguish between the effects of targeted savings and the effects of the pandemic. Because of this, the results show the overall level of emissions avoided by the portfolio.

Table 8: Savings from the use of green ICT services and investments in sustainable start-ups

CO_2 eq. emissions [tonnes]	Service group	Service	2019	2020	2021	**2022**
Reducing travel	Virtual conferences	Conferencing service	43,870	47,493	19,664	–
		MCC/UCC	116,153	265,774	295,920	757,220
	Home office	Home office services	178,896	354,740	509,110	555,507
Remote monitoring and control	IoT	Logistics, heaters, etc.	48,182	80,254	122,176	146,520
Saving energy	Data centre services	Hosting	41,251	40,545	39,687	31,950
		Housing	1,022	1,122	1,111	1,660
Saving paper	Saving paper	e-bill, Conextrade, printing	1,544	1,232	1,178	1,651
		E-Signatur	–	–	–	98
Reducing material	Dematerialisation	Data carriers	71,451	72,695	68,985	72,320
E-commerce	E-commerce	Retail space	17,301	17,651	16,652	17,320
Saving material	Reuse	Smartphones and laptops	2,930	6,624	6,215	5,820
		Laptop	–	–	–	706
Guidance to reach net zero		Sustainability offering	–	–	–	–
Sustainable start-ups		Capital expenditure	–	–	–	–
Total CO_2 eq. savings portfolio			**522,601**	**888,130**	**1,080,697**	**1,590,772**

Online conferences: The increase in CO_2 savings in this category in recent years is primarily attributable to the COVID-19 pandemic, which continued to have an impact in 2022. In October 2022, Swisscom and GfK conducted another survey of the population on the topics of online conferences and home office. The survey determined the number of home office days and the average number of business trips that were avoided through the use of online conferences. To calculate the potential savings of unified communications and collaboration (UCC) services, Swisscom has further developed its model with a more detailed survey on the amount of international travel eliminated. This survey revealed that the number of trips saved worldwide is significantly higher than the figure from the model previously used, which had been calculated based on conservative assumptions. This resulted in an increase in the number of trips eliminated. Accordingly, CO_2 savings in this area rose sharply in the year under review.

Home office: The methodology used to calculate home office data based on the aforementioned GfK study from the previous year was confirmed in the year under review and adapted to the new findings. As a result, the CO_2 savings achieved through home office use have increased significantly as well. Since the GfK study had already served as the basis for calculating CO_2 savings achieved through home office use in 2021, this value was adjusted retroactively.

Internet of Things (IoT): Partner companies' contributions to the CO_2 savings were audited in 2022 and the values were adjusted after consultation with the partner companies. The increase in CO_2 savings in this category is attributable to the responses of the partner companies providing corresponding data to Swisscom.

Mobile phone reuse: The CO_2 savings in this category are attributable to new measures and services introduced in 2021 as part of Swisscom's circular economy programme because the repair, reuse and recycling of mobile devices reduce the consumption of resources and CO_2 emissions. Savings from tablet recycling were also added during the year under review.

Computer reuse: As part of its circular economy programme, Swisscom collects its own used but still functional computers. These are overhauled by a partner company and all data on the devices is completely deleted. The partner company then resells the devices. Reusing and extending the useful life of computers reduces the pressure to procure valuable resources as well as the CO_2 emissions that result from manufacturing these devices.

Swisscom separates the categories of e-commerce and 'dematerialisation'. In both categories a rebound effect can be observed, which – as investigations in recent years show – is due to the increased return of goods and the corresponding increase in freight traffic. The impact of the rebound effect is taken into account, which reduces the level of CO_2 savings accordingly.

E-signature: Swisscom Trust Services offers easy-to-integrate electronic signature services and online identity solutions throughout Europe as an alternative to wet signatures. This saves CO_2 emissions by reducing both paper consumption and transportation. This contribution was added to the section on saving paper in the year under review.

The new business division that focuses on comprehensive sustainability solutions for the path to achieving net zero does not yet contribute to reductions in CO_2 emissions in the year under review but should play a greater role with respect to enabling effects (Scope 4) in future years.

Investments in climate-friendly start-ups such as XFarm, Ecorobotix. South Pole and Daphne are expected to contribute to CO_2 emission savings in the years to come.

Overall, significantly higher savings were achieved through climate-friendly ICT offerings, especially as a result of improvements to the methodology used for Work Smart, which comprises unified communications and collaboration as well as home office. That means the target set for 2025 of saving at least one million tonnes of CO_2 per year with our customers was clearly exceeded. The target for savings achieved through the use of climate-friendly services will be reconsidered and adjusted in 2023.

7 Summary of direct and indirect emissions and savings

7.1 Summary of emissions

Table 9: Summary of Scope 1, Scope 2 and Scope 3 emissions

CO_2 eq. emissions [tonnes]	2019	2020	2021	**2022**
Scope 1 (from consumption of fossil energies)	16,295	14,384	14,396	11,933
Scope 1 (from refrigerants)	153	36	33	372
Scope 2 (from electricity, "location-based")	47,639	46,593	45,214	45,974
Scope 2 (from district heating, "location-based")	1,011	511	600	465
Total Scopes 1, 2 ("location-based")	**65,098**	**61,524**	**60,244**	**58,744**
Scope 1 (from consumption of fossil energies)	16,295	14,384	14,396	11,933
Scope 1 (from refrigerants)	153	36	33	372
Scope 2 (from electricity, "market-based")	–	–	–	–
Scope 2 (from district heating, from 2019 "market-based")	–	–	–	–
Total Scopes 1, 2 ("market-based")	**16,448**	**14,420**	**14,429**	**12,305**
Scope 3	339,342	295'921	275,962	262,659
Total Scopes 1, 2 ("location-based"), 3	**404,440**	**357'445**	**336,206**	**321,403**
Total Scopes 1, 2 ("market-based"), 3	**355,790**	**310'341**	**290,392**	**274,964**

7.2 Overview of offsets for climate-neutral operation and subscriptions

Table 10: Offset emissions for climate-neutral operation and climate-neutral subscriptions

Overview	2022	Unit
CO_2 emissions climate-neutral operation	42,252	CO_2
CO_2 emissions climate-neutral subscriptions	152,416	CO_2
CO_2 total	**194,668**	**CO_2**
Solar power plant project in Chile	17,668	CO_2 certificates
Solar energy project in Kenya	10,000	CO_2 certificates
Biogas project in India	40,000	CO_2 certificates
Reforestation project in Uganda	127,000	CO_2 certificates
Total CO_2 certificates	**194,668**	**CO_2 certificates**
Net emissions	**–**	**CO_2**

CO_2 certificates in the same amount are retired for unavoidable CO_2 emissions from operations and subscriptions (1 certificate = 1 tonne of CO_2). As a result net emissions are zero, rendering operations and all Swisscom subscriptions (including the networks and terminal devices as well as equipment) climate-neutral.

7.3 Difference between savings and emissions (net balance)

Table 11: Relationship between savings and emissions

Target 2025	2019	2020	2021	**2022**
Savings by customers thanks to the sustainable ICT portfolio (enabling effects)	529,665	888,130	892,812	1,590,772
Emissions (without Fastweb, with HKN offsets)	355,790	310,341	288,516	272,787
Difference savings to emissions	**173,875**	**577,788**	**604,297**	**1,317,985**

Savings achieved using green ICT services for customers and from investments in sustainable start-ups exceed Swisscom's emissions by a factor of 5.8. The savings represent over 3.5% of Switzerland's emissions (according to the latest information published in 2022 by the Federal Office for the Environment (FOEN)).

The calculation is made without offsetting to ensure comparability with previous years.

7.4 Summary of target achievement

Table 12: Target achievement

Partnership	Target agreement	Status 2022	Start year	Target year	**Target**
	Energy and energy efficiency agreements				
Swisscom	Energy efficiency (savings measures across total energy consumption, unweighted)	+9.3%	2020	2025	+20%
Swisscom	Energy efficiency (savings measures across total energy consumption, unweighted)	+9.3%	2020	2030	+43%
EnAW	Energy efficiency (savings measures across[1] total energy consumption, weighted)	+59.4%	2013	2024	+36%
VEK	Energy efficiency (savings measures across[1] total energy consumption, unweighted)	+1.7%	2020	2030	+18%
	CO_2 reduction agreements				
Swisscom	CO_2 reduction Scopes 1 & 2 since measurements began	-88%	1990	2025	–90%
Swisscom	CO_2 reduction Scope 3 since measurements began	-38%	2013	2025	-50%
Swisscom	Climate-neutral company			2025	100%
Swisscom	CO_2 reduction Scopes 1 to 3 acc. to 1.5°C reduction path of sector guidance (SBT)	-11%	2020	2025	–25%
Swisscom	CO_2 reduction Scopes 1 to 3 acc. to 1.5°C reduction path of sector guidance (SBT)	-11%	2020	2030	–50%
EnAW	CO_2 intensity of heating fuels[1] (CO_2 emissions as a proportion of total CO_2 emissions and CO_2 savings)	-24.9%	2013	2024	–9.5%
EnAW	CO_2 intensity of fuels[1] (CO_2 emissions as a proportion of total CO_2 emissions and CO_2 savings)	-39.3%	2013	2024	–28.4%

1 Data from previous year (external reports)

Swisscom had already achieved the targets it had set with the EnAW for the year under review by the end of December 2020, two years earlier than planned. The indicators of the EnAW and the Exemplary Energy and Climate initiative (VBE) are consistent with the values for 2021 defined by the partners of the target agreements, as the indicators for 2022 will not be available until March 2023.

7.5 Summary of CO_2 intensities

Table 13: CO_2 intensities

Tonnes CO_2 eq. or To/unit	Unit	2018	2019	2020	2021	**2022**
CO_2 Scope 1	Tonnes	16,289	16,448	14,420	14,429	12,305.0
CO_2 Scope 2 ("market-based")	Tonnes	1,052	–	–	–	–
CO_2 intensity of energy	Tonnes / TJ	8.6	8.1	7.1	7.5	6.5
CO_2 intensity turnover	Tonnes / mio. CHF	1.87	1.83	1.67	1.68	1.45
CO_2 intensity EBITDA	Tonnes / mio. CHF	5.1	4.7	4.1	4.0	3.5

The intensities are calculated based on the verified indicators and published in Swisscom's sustainability reports or annual reports. Only Scope 1 and Scope 2 emissions related to operations are considered. The revenue is Swisscom's revenue in Switzerland. The CO_2 intensity of Swisscom's energy mix is declining. This is a direct result of the efficiency improvement and emission reduction programmes implemented in recent years, particularly in buildings.

7.6 Summary of the impact of eligible projects (green bond)

Table 14: Impact of projects

ICMA GBP categories	impact indicator	2021	**2022**
Energy efficiency	Annual direct energy savings (in MWh)	25,200	23,919
	Efficiency increase (%) compared to the new base year (2020)	4.8	9.3
	Annual GHG emissions according to Scopes 1 and 2 (in tonnes CO_2 eq.)	14,429	12,305
	GHG intensity (tonnes CO_2 eq. / TJ)	7.5	6.5
	GHG intensity (tonnes CO_2 eq. / CHF million)	1.68	1.43
Renewable energy	Annual additional photovoltaic capacity (kW)	60	182
	Annual GHG emissions avoided (tonnes CO_2 eq.)	377	461
Clean transport	Number of vehicles PW (#)	1,727	1,685
	Share of vehicles in energy efficiency categories in % (A + B)	87.8	89.1
	GHG emissions Scope 1 Mobility (tonnes CO_2 eq. per year)	7,369	6,691

The above table specifies the environmental impact of the projects realised in 2022. The indicators are consistent with the handbook 'Harmonised Framework for Impact Reporting' (ICMA 2019) and the GRI standards.

8 Explanations and assumptions

8.1 Base year

The base year for Swisscom in Switzerland for Scope 1, Scope 2 and Scope 3 emissions is now 2020. Within the framework of the target set in accordance with the SBTi, a new base year no earlier than 2015 will serve as the base year for the Swisscom Group (including the Italian subsidiary Fastweb). Swisscom has energy data for the base year that has been published and verified. There have been no material changes in the scope of the report since 2012 (the previous base year). Swisscom is still engaged in the same activities as in 2012, with any changes (purchase or sale of small companies, slight changes in the real estate structure) immaterial in terms of CO_2 emissions.

8.2 Recalculation of the base year emissions

In accordance with the ISO 14064-1 standard, significant changes in the scope of consolidation, changes of ownership or control, or the application of new or corrected emission factors lead to a recalculation of the base year emissions, provided these changes result in a change to the greenhouse gas emissions of more than 10% (compared with the emissions in the same year before the changes).

- **Scope 1:** There were no significant changes made in 2022, neither in the scope of consolidation nor in ownership or control.
- **Scope 2:** There were no significant changes made in 2022, neither in the scope of consolidation nor in ownership or control.
- **Scope 3:** There were no significant changes made in 2022, neither in the scope of consolidation nor in ownership or control. Swisscom will reassess the supply chain emissions of its subsidiaries in Scope 3, categories 1, 2 and 4 (spend-based survey) in the coming year (2023). It will recalculate the figures where necessary and make retroactive corrections for past years to ensure that a comparison over time is still possible.

8.3 Activities and energy consumption

Swisscom takes the following forms of consumption into account under Scope 1 (direct emissions):

- All fuel used to operate the company's own vehicles: In the case of allocated vehicles, this covers business journeys to customers and to switching centres (regional exchanges, base stations, street cabinets, etc.), while in the case of pool vehicles, it covers journeys to meetings.
- All fuels for heating all owned and leased buildings that are under 'operational control'
- Fuel for emergency power systems
- Refrigerant refills

Under Scope 2 (indirect emissions), Swisscom considers emissions from electricity consumption for the operation of the following systems and facilities:

- All types of switching equipment (access network, i.e. DSL, FTTH, FTTS and core network)
- Base stations (mobile) and transmitter stations (radio and television)
- Cooling systems, lighting and ventilation in buildings
- Shops (lighting and ventilation)
- Computerised office workplaces
- Data centres, minus the electricity consumed for hosting and housing
- Swisscom TV (servers)

Swisscom takes emissions from district heating and district cooling into account under Scope 2.
Swisscom takes the emissions from the categories listed below into account under Scope 3. It also specifies the methods used for calculating the emissions. They follow the nomenclature of the GHG Protocol Technical Guidance for Calculating Scope 3 Emissions (Supplement to the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard):

- **Category 1:** purchased goods; spend-based survey method
- **Category 2:** capital goods; spend-based survey method
- **Category 3:** provision of energy (electricity, vehicle and heating fuels); average-data method
- **Category 4:** upstream transportation and distribution from places of origin to distribution centres in Switzerland; spend-based survey method
- **Category 5:** waste disposal; waste-type-specific method
- **Category 6:** business travel (flights, rail travel and journeys to meetings in private cars); distance-based method
- **Category 7:** Swisscom employee commuting; distance-based method
- **Category 8:** leased assets (retail space also including shops that are located outside Swisscom buildings – 75% of Swisscom shops or 102 shops); spend-based survey method
- **Category 9:** downstream transportation and distribution from distribution centres in Switzerland to the shops; supplier-specific method
- **Category 11:** use of products sold; direct use-phase emission method (products that directly consume energy (electricity) during use)
- **Category 12:** disposal of terminals; waste-type-specific method

- **Category 15:** investments and/or the subsidiary Fastweb in Italy; supplier-specific method

All other Scope 3 categories according to the GHG Protocol are not included in this report. These other Scope 3 categories, namely Categories 10 (processing of sold products), 13 (downstream leased assets) and 14 (franchises), are not relevant for Swisscom.

8.4 Biomass, removal and CO_2 sinks

As in previous years, Swisscom did not make use of any forms of CO_2 removal or CO_2 sinks within the operational scope of the company in 2022. It renovated several additional sites and now heats some of them with wood pellets (biomass). The heating systems are the automatic pellet firing type with an output of less than 50 kW (system category 11). The amount of biomass consumed is recorded, and the emissions are calculated. Swisscom uses numerous wooden telephone masts in mountain regions. Some of the masts have a long service life. They can be considered CO_2 sinks but are not used as such since they only partially meet the criteria of additionality.

8.5 Greenhouse gas inventory according to ISO 14064

A greenhouse gas inventory according to ISO 14064 includes the emissions of carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) as well as the emissions of synthetic gases such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6) and, since 2013, nitrogen trifluoride (NF_3). This list is consistent with the requirements of the Kyoto Protocol and the GHG Protocol standard. Swisscom reports on its emissions of the CO_2 equivalents for CO_2, CH_4 and N_2O in aggregated form within its reporting boundaries (see 1.7 'Operational control'). HFC refrigerants used within the consolidation boundaries are listed separately. The emission sources are described in the list below.

Combustion:

- **CO_2:** combustion of fossil fuels (heating and mobility) or from the processes to produce electricity (biogenic CO_2 from biomass combustion – i.e. from wood heating – continues to remain at a marginal level)
- **CH_4:** combustion of fossil fuels (heating and mobility)
- **N_2O:** combustion of fossil fuels (heating and mobility)

Cooling:

- **HFC:** loss of refrigerants from cooling systems
- **PFC:** loss of refrigerants; the emissions from fire extinguishers are negligible or non-existent (halon).

Other processes outside the reporting boundaries (see 1.7 'Operational control'):

- **SF_6:** used as an insulation medium in electrical transformers and electrical switchboards; the installations are operated by the power utility companies.
- **NF_3:** used for the production of LCD screens (displays); Swisscom does not engage in manufacturing activities.

These synthetic greenhouse gases are therefore not included in Swisscom's inventory, as they are not material in terms of the reporting boundaries. Suppliers using these gases must document them in their own inventories. Swisscom makes information provided by suppliers available in aggregated form, expressed in terms of CO_2 equivalents.

8.6 Upstream and downstream levels for Scope 3 analysis

The analysis of Scope 3 emissions in Categories 6 and 7 (travel and commuting) considers not only direct operations but also the upstream and downstream activities in connection with the manufacture of vehicles (trains and cars) and the construction of infrastructure (road and rail). The consideration of upstream and downstream levels is optional under the GHG Protocol standard. Upstream and downstream activities for the other categories are not recorded due to a lack of data.

8.7 Emission factors

Emission factors for Scope 1 emissions:
Since 2015, Swisscom has used the emission factors of the ecoinvent life cycle inventory database for Scope 1 emissions from the consumption of fossil fuels. For Scope 1 emissions from refrigerants, Swisscom uses the corresponding global warming potential with a horizon of 100 years (GWP100) and reports the emissions in tonnes of CO_2 eq. (5th Assessment Report IPCC 2013).

Emission factors for Scope 2 emissions:
The emission factors set out in Table 3 are used by Swisscom for Scope 2 emissions from electricity, with the emissions reported in tonnes of CO_2 eq. These emission factors are based on a study of the Swiss electricity mix (environmental review: electricity mixes Switzerland 2018 from 27 April 2021) and, since 2018, on the data provided for the individual scopes by ecoinvent (version 3.8 applied). Since 2019, the emission factors for electricity have been based on the individual scopes published in a supplement to the above-mentioned study.

Swisscom sources its district heating from different heat networks. Since 2018, the emission factor for district heating has been calculated by scope (Scope 2 and Scope 3).

Emission factors for Scope 3 emissions:
For Scope 3 emissions during the year under review, Swisscom uses the emission factors from the ecoinvent life cycle inventory database version 2.2 for mobility, as shown in the mobitool, or, wherever possible, version 3.8.

Specific emission factors are incorporated as follows:

- **Emissions in the supply chain (Categories 1, 2, 4 and 8):** the relevant emission factors are calculated for the individual scopes based on data from ecoinvent version 3.8 by EBP (methodology for determining greenhouse gas emissions in the ICT sector supply chain).
- **Emissions from the provision of electricity (Category 3, Table 3), the disposal of waste (Category 5), and the use and disposal of terminals (Categories 11 and 12):** the relevant emission factors are calculated for the individual scopes by myclimate based on data from ecoinvent version 3.8.
- **Emissions from the provision of district heating (Category 3, Table 3):** the respective emission factors are calculated based on data from ecoinvent version 3.8.
- **Business travel (Category 6):** the relevant emission factors and emissions are calculated by the partner companies (SBB or Kuoni Business Travel).
- **Mobility (Category 7):** the relevant emission factors correspond to those of mobitool, based on ecoinvent version 2.2.
- **Emissions from downstream transportation and distribution to customers (Category 9):** The relevant emission factors are determined by the logistics partner.

Emission factors for savings (Scope 4):

Emission factors for determining customer savings thanks to Green ICT:

- The relevant emission factors are calculated for the individual scopes by myclimate based on data from ecoinvent version 3.8 and various external studies, as well as Swisscom's own data.

9 References

9.1 Further reports

- **Swisscom Annual Report 2022:** www.swisscom.ch/en/about/investors/reports.html
- **Swisscom Sustainability Report 2022:** www.swisscom.ch/en/about/investors/reports.html
- **Swisscom Climate Report 2021:** www.swisscom.ch/climatereport2021
- **Carbon Disclosure Project (CDP):** www.cdp.net

9.2 Regulations and guidelines

- **Swiss Federal Act** of 23 December 2011 on the Reduction of Greenhouse Gas Emissions (CO_2 Act); SR 641.71; fedlex.data.admin.ch/eli/cc/2012/855
- **Ordinance** of 30 November 2012 on the Reduction of CO_2 Emissions; SR 641.711; fedlex.data.admin.ch/eli/cc/2012/856
- **Swiss Federal Energy Act** of 30 September 2016 (EnG); SR 730.0; www.admin.ch/ch/d/sr/c730_0.html
- **Guideline:** Target agreements with the federal government to boost energy efficiency, Berne, 30 June 2018; pubdb.bfe.admin.ch/de/publication/download/9434

9.3 References for emission factors

- **FOEN:** 'CO_2 emission factors for greenhouse gas inventory in Switzerland' fact sheet (January 2022);
- www.bafu.admin.ch/dam/bafu/de/dokumente/klima/fachinfo-daten/CO_2_Emissionsfaktoren_THG_Inventar.pdf.download.pdf/CO_2_Emissionsfaktoren.pdf
- **ecoinvent life cycle inventory database version 2.2 (2010) and version 3.8:** www.ecoinvent.org
- **mobitool:** www.mobitool.ch. The mobitool database takes its data from the ecoinvent life cycle inventory database (version 2.2).
- **Emission factor for district heating**: district heat calculator from treeze Ltd,
- treeze.ch/fileadmin/user_upload/calculators/KBOB_Rechner/Fernwaerme.html
- **District heating:** Scope 2 and 3 emission factors, myclimate, drawn from the ecoinvent life cycle inventory database (version 3.8)
- **Greenhouse gas emissions of the electricity and district heating mixes in Switzerland according to the GHG Protocol:** Martina Alig, Laura Tschümperlin, Rolf Frischknecht/treeze Ltd, Uster, 14 July 2017; treeze.ch/fileadmin/user_upload/downloads/Publications/Case_Studies/Energy/619-GHG_Strom_Fernw%C3%A4rme_v3.0.pdf
- **Environmental review: electricity mixes Switzerland 2018**: Luana Krebs, Rolf Frischknecht/treeze Ltd, Uster, 27 April 2021; www.bafu.admin.ch/dam/bafu/de/dokumente/klima/fachinfo-daten/Umweltbilanz-Strom-mix-Schweiz-2018-v2.01.pdf.download.pdf/Umweltbilanz-Strommix-Schweiz-2018-v2.01.pdf
- **SFOE:** Swiss wood energy statistics, 2020 survey; www.bfe.admin.ch/bfe/en/home/supply/statistics-and-geodata/energy-statistics/sector-statistics.html
- **Swisscom's supply chain greenhouse gas emissions 2020 (Scope 3):** Methodology report (11 January 2021). Luana Krebs, Rolf Frischknecht/treeze Ltd, Swisscom internal document, unpublished emission factors for directed actions (savings or Scope 4)
- **Swisscom's supply chain greenhouse gas emissions 2021 (Scope 3):** Methodology report (11 January 2022). Carmen Steg, Isabel O'Connor/EBP AG, Swisscom internal document, unpublished emission factors for directed actions (savings or Scope 4)
- **'Green ICT effect':** Swisscom internal document, not published

9.4 Other references

- **Information on the topic of target agreements to boost energy efficiency and reduce CO_2 emissions:** www.zv-energie.admin.ch/zve/de/home.html
- **EnAW (Energy Agency of the Swiss Private Sector):** enaw.ch
- **VBE (Exemplary Energy and Climate):** www.vorbild-energie-klima.admin.ch/vbe/de/home.html
- **SBTi (Science Based Targets initiative):** sciencebasedtargets.org/
- **Energy Strategy 2050 Swiss federal government:** www.bfe.admin.ch/bfe/de/home/politik/energiestrategie-2050.html
- **Climate change in Switzerland:** www.bafu.admin.ch/bafu/en/home/topics/climate/info-specialists/climate-change.html
- **MeteoSwiss climate indicators:** www.meteoswiss.admin.ch/home/climate/swiss-climate-in-detail/climate-indicators.html

- **MeteoSwiss climate change scenarios CH2018:** https://www.meteoswiss.admin.ch/climate/climate-change/swiss-climate-change-scenarios.html
- **TCFD:** Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) of the Financial Stability Board (FSB); www.fsb-tcfd.org/
- **Green Bond Principles of the International Capital Market Association (ICMA):** www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp/
- **GeSI Smarter 2020:** Enabling the low-carbon economy in the information age, Global e-Sustainability Initiative, 2008 https://gesi.org/research/smart-2020-enabling-the-low-carbon-economy-in-the-information-age
- **GeSI Smarter 2030:** ICT Solutions for 21st century challenges, Global e-Sustainability Initiative, 2015 https://smarter2030.gesi.org/
- **Opportunities and Risks of Digitalization for Climate Protection in Switzerland, University of Zurich, 2017** https://www.ifi.uzh.ch/dam/jcr:3a880a44-ab51-4672-aca8-d51138ef1508/Studie_Digitalisierung_Klimaschutz_Zusammenfassung_Okt2017.pdf

10 Contact and further questions

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11 Verification

Greenhouse Gas Verification Statement Number CCP.ISO1406401(1500615)2023/01/30

The inventory of Greenhouse Gas emissions in the period 01/01/2022 – 31/12/2022 for

Swisscom AG

Alte Tiefenaustrasse 6, CH-3050 Bern

has been verified in accordance with ISO 14064-3:2006 as meeting the requirements of

ISO 14064-1 and
WRI/WBCSD GHG Protocol – A Corporate Accounting and Reporting Standard

To represent a total amount of:

58’744 t CO_2 equivalent
(Scope 1+2; gross location-based scope 2 emissions)
12’305 t CO_2 equivalent
(Scope 1+2; gross market-based scope 2 emissions)
262’659 t CO_2 equivalent
(Scope 3 emissions)

For the following activities
Network and transmission infrastructure for telecommunication operation, data centre and administration of Swisscom AG in Switzerland

Lead Assessor: Daniel Aegerter
Technical Reviewer: Peter Simmonds

Authorised by:

Pamela Chadwick
Business Manager
SGS United Kingdom Ltd

Verification Statement Date 27th January 2023

This Statement is not valid without the full verification scope, objectives, criteria and conclusion available on pages 2 to 4 of this Statement.

Schedule Accompanying Greenhouse Gas Verification Statement Number CCP.ISO1406401(1500615)2023/01/30

Brief Description of Verification Process
SGS has been contracted by Swisscom AG (hereinafter referred to as "Swisscom") for the verification of direct and indirect carbon dioxide (CO_2) equivalent emissions as provided by Swisscom, Alte Tiefenaustrasse 6, in their GHG Assertion in the form of a Greenhouse Gas Emissions Report covering CO_2 equivalent emissions.

Roles and responsibilities
The management of Swisscom is responsible for the organization's GHG information system, the development and maintenance of records and reporting procedures in accordance with that system, including the calculation and determination of GHG emissions information and the reported GHG emissions.

It is SGS' responsibility to express an independent GHG verification opinion on the emissions as provided in the Swisscom GHG Assertion for the period 01/01/2022 – 31/12/2022.

SGS conducted a third-party verification following the requirements of ISO 14064-3: 2006 of the provided CO_2 equivalent assertion in the period November 2022 to January 2023.

The assessment included a desk review and site visits at the headquarters in Worblaufen (Switzerland). The verification was based on the verification scope, objectives and criteria as agreed between Swisscom and SGS on 19/04/2022.

Level of Assurance
The level of assurance agreed is that of reasonable assurance for Scope 1 and 2 emissions, and that of limited assurance for Scope 3 emissions.

Scope
Swisscom has commissioned an independent verification by SGS of reported CO_2 equivalent emissions arising from their activities, to establish conformance with the requirements of ISO 14064-1:2006 and "GHG Protocol Company Accounting and Reporting Standard" within the scope of the verification as outlined below. Data and information supporting the CO_2 equivalent assertion were historical in nature and proven by evidence.

This engagement covers verification of emissions from anthropogenic sources of greenhouse gases included within the organization's boundary and meets the requirements of ISO 14064-3:2006.

- The organizational boundary was established following the operational control approach.
- Title or description of activities: Network and transmission infrastructure for telecommunication operation, data centre and administration
- Location/boundary of the activities: Switzerland
- Physical infrastructure, activities, technologies and processes of the organization: Network and transmission infrastructure for telecommunication operation, data centre and administration.
- GHG sources, sinks and/or reservoirs included:
  Scope 1 - stationary combustion, mobile combustion, fugitive emissions;
  Scope 2 – purchased electricity and district heat;

Scope 3 – purchased goods and services, capital goods, energy upstream emissions, upstream transportation and distribution, waste generated, business travel, employee commuting, downstream transportation and distribution, use of sold products, end of life treatment of sold products, investments.

- Types of GHGs included: CO_2, N_2O, CH_4 and HFCs.
- Directed actions: efficiency improvements in operations, use of green electricity, enabling effects due to ICT services.
- GHG information for the following period was verified: 01/01/2022 – 31/12/2022
- Intended user of the verification statement: Stakeholders such as national and international NGO's, customers, general public, regulators and rating agencies.

Objective

The purposes of this verification exercise are, by review of objective evidence, to independently review:

- Whether the CO_2 equivalent emissions are as declared by the organization's CO_2 equivalent assertion
- That the data reported are accurate, complete, consistent, transparent and free of material error or omission.

Criteria

Criteria against which the verification assessment is undertaken are the requirements of ISO 14064-1:2006 and WRI/WBCSD GHG Protocol – A Corporate Accounting and Reporting Standard.

Materiality

The materiality required of the verification was considered by SGS to be below 5% for Scope 1 and Scope 2 emissions, based on the needs of the intended user of the GHG Assertion

Conclusion

Swisscom provided the GHG assertion based on the requirements of ISO 14064-1:2006. The GHG information for the period 01/01/2022 – 31/12/2022 disclosing Scope 1 and 2 emissions of 58'744 metric tonnes of CO_2 equivalent (including gross location-based scope 2 emissions) are verified by SGS to a reasonable level of assurance, consistent with the agreed verification scope, objectives and criteria. The amount of 58'744 tonnes CO_2 equivalent represents mandatory reportable emissions according to boundaries as defined by ISO 14064-1. A further 262'659 tonnes CO_2 equivalent from Scope 3 sources are verified by SGS to a limited level of assurance, consistent with the agreed verification scope, objectives and criteria.

Included in the Swisscom GHG assertion for the period 01/01/2022 to 31/12/2022, and in addition to scope 1 and 2 emissions of 58'744 metric tonnes CO_2 equivalent (including scope 2 location-based emissions), is a disclosure of emissions of 12'305 tonnes CO_2 equivalent including scope 2 market-based emissions. This figure includes renewable electricity and district heat used by Swisscom AG and amounting to 100% of electricity and district heat consumption originating from renewable sources without Scope 2 emissions. These emissions have been verified by SGS based on WRI GHG Protocol Scope 2 Guidance.

Included in the GHG assertion for the period 01/01/2022 to 31/12/2022 is the claim of carbon neutral in-house operations by purchase of Verified Emission Reduction Certificates (VER). SGS confirms that the purchase of VERs by Swisscom cover direct emissions under Scope 1 and indirect emissions under Scope 3 Category 1

(routers for internet access and set-top boxes only), Category 3 (provision of energy), Category 5, (waste) and Category 6 (business travel).

Included in the GHG assertion for the period 01/01/2022 to 31/12/2022 is the claim of carbon neutral subscriptions, network, and devices by purchase of Verified Emission Reduction Certificates (VER). SGS confirms that the purchase of VER by Swisscom cover indirect emissions under Scope 3 Category 1 (mobile phones, wireless accessories, IP phones, wireline devices, wireline accessories, network, IT hardware and server), Category 4 (upstream transportation for TV set-top boxes, internet access, mobile phones, wireless accessories, IP phones, wireline devices, wireline accessories, network, IT hardware and server), Category 9 (downstream transportation), Category 11 (use of sold products), and Category 12 (end-of-live treatment of sold products).

Base year change and recalculation

SGS' approach is risk-based, drawing on an understanding of the risks associated with modeling GHG emission information and the controls in place to mitigate these risks. Our examination included assessment, on a sample basis, of evidence relevant to the voluntary reporting of emission information.

SGS concludes with reasonable assurance for Scope 1 and Scope 2 emissions that the presented CO_2 equivalent assertion is materially correct and is a fair representation of the CO_2 equivalent data and information and is prepared following the requirements of ISO 14064-1.

We planned and performed our work to obtain the information, explanations and evidence that we considered necessary to provide a reasonable level of assurance that the Scope 1 and Scope 2 CO_2 equivalent emissions for the period 01/01/2022 – 31/12/2022 are fairly stated.

The scope 3 emissions are verified to a limited level of assurance. SGS concludes with limited assurance that there is no evidence to suggest that the presented CO_2 equivalent assertion is not materially correct and is not a fair representation of the CO_2 equivalent data and information.

This statement shall be interpreted with the CO_2 equivalent assertion of Swisscom as a whole.

Note: This Statement is issued, on behalf of Client, by SGS United Kingdom Ltd, Rossmore Business Park, Inward Way, Ellesmere Port, Cheshire, CH65 3EN ("SGS") under its General Conditions for GHG Validation and Verification Services.The findings recorded hereon are based upon an audit performed by SGS. A full copy of this statement and the supporting GHG Assertion may be consulted at **Swisscom website (www.swisscom.ch).** This Statement does not relieve Client from compliance with any bylaws, federal, national or regional acts and regulations or with any guidelines issued pursuant to such regulations. Stipulations to the contrary are not binding on SGS and SGS shall have no responsibility vis-à-vis parties other than its Client.