

2021 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

Table of contents

1. Introduction	3
1.1 Environment	3
1.2 Summary: The impact of Swisscom's activities on the climate	3
1.3 Swisscom's targets and its energy and climate strategies	4
1.4 Reference systems	5
1.4.1 Reference systems for the greenhouse gas inventory	5
1.4.2 Reference systems for target setting	5
1.5 System boundaries	5
1.6 Link to Swisscom's Sustainability Report and Annual Report 2021	5
1.7 Definition of scopes	6
1.8 Data quality	6
1.9 Sustainable financing (green bond) and eligible categories	7
2. Energy management and overall consumption	8
2.1 Energy management	8
2.2 Governance and responsibility for climate and energy management	8
2.3 Energy consumption at Swisscom	8
2.4 Energy consumption by customers	10
3. Details of emissions	11
3.1 Development of Scope 1 emissions	11
3.2 Development of Scope 2 emissions	12
3.3 Development of Scope 3 emissions	13
4. Details of savings	15
4.1 Overview of savings measures	15
4.2 Savings and efficiency improvements at Swisscom (directed actions)	16
4.2.1 Savings and efficiency improvements in operations (eligible green bond projects)	16
4.2.2 Reduction in Swisscom's activity-related CO ₂ emissions	16
4.2.3 Reduction of emissions in the supply chain – Supply Chain Program	16
4.3 Savings by customers (enabling effects through the portfolio)	17
4.4 Offsetting of CO ₂ emissions	18
4.4.1 Climate-neutral operations	18
4.4.2 Climate-compensated products	18
5. Summary of direct and indirect emissions and savings	19
5.1 Summary of emissions	19
5.2 Summary of savings	19
5.3 Difference between savings and emissions (net balance)	20
5.4 Summary of target achievement	20
5.5 Summary of CO ₂ intensities	21
5.6 Summary of the impact of eligible projects (green bond)	21
6. Explanations and assumptions	22
6.1 Base year	22
6.2 Recalculation of the base year emissions	22
6.3 Activities and energy consumption	22
6.4 Biomass, removal and CO ₂ sinks	23
6.5 Greenhouse gas inventory according to ISO 14064	23
6.6 Upstream and downstream levels for Scope 3 analysis	23
6.7 Emission factors	23
6.8 References	24
6.8.1 Other reports	24
6.8.2 Regulations and guidelines	24
6.8.3 References for emission factors	24
6.8.4 Other references	25
7. Recommendations of the TCFD	26
7.1 Climate change carries risks and affords opportunities	26
7.2 The recommendations of the TCFD	26
7.2.1 Governance	26
7.2.2 Strategy	26
7.2.3 Risk management	27
7.2.4 Metrics and targets	28
7.3 Conclusions	28
8. Contact and further questions	29
9. Verification	30

1. Introduction

1.1 Environment

The framework conditions in place 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 (CO₂ 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 terms of its energy and climate strategy, Swisscom has positioned itself clearly and pledged to reduce its CO₂ emissions. It supports targets that align with the scientific consensus and aims to help limit the increase in average temperature to a maximum of +1.5°C (compared to the average temperature of the pre-industrial period).

In addition to the national legal framework, Swisscom takes into account the special report of the Intergovernmental Panel on Climate Change (IPCC) on the consequences of a global warming of 1.5°C. 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.

Accordingly, Swisscom has prepared new science-based targets (SBTs) for the period up to 2030 and communicated those targets to the Science Based Targets initiative (SBTi). Swisscom has previously achieved the old SBTs that it had set for the 2013–2020 period.

Offsetting has enabled Swisscom to operate in a CO₂-neutral manner since 2020. These offsets do not in any way release Swisscom from its obligation to continue reducing its direct and indirect CO₂ emissions. For example, Swisscom continues to drive its emission reductions forward through targeted savings and effi-

ciency measures. It has also reconsidered its offsetting strategy and intends to gradually offset its remaining emissions by 2025. That means Swisscom plans to achieve net zero status in as early as 2025, initially by purchasing offset certificates and then, from 2025 onwards, exclusively through the use of removal certificates (CO₂ Removal Certificates) for a mix of projects in Switzerland and abroad. This shows Swisscom's commitment to providing early-stage support for progressive projects and new technologies capable of helping overcome the climate crisis.

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

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

This report deals with the 2021 financial year and therefore comprises the period from 1 January 2021 to 31 December 2021. 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 Scopes 1, 2 and 3 for the years 2019 to 2021. It also summarises the impact of the savings made on the climate.

- **Emissions:** Swisscom directly (Scope 1) and indirectly (Scope 2 and Scope 3) emitted a total of 336,206 tonnes of carbon dioxide equivalent (CO₂ eq.) in 2021 (290,392 tonnes of CO₂ eq. after offsetting electricity and district heating).
- **Savings:** Thanks to enabling effects (also referred to as Scope 4 in this report) and specifically as a result of its service portfolio, Swisscom was able to save 892,812 tonnes of CO₂ eq. among its customers during the same period. Swisscom has achieved further savings as a result of its directed actions in operations

and offsetting through guarantees of origin. These are summarised in Table 5.2.

- **Difference:** The difference between the savings made by customers (892,812 tonnes of CO₂ eq.) and the emissions (290,392 tonnes of CO₂ eq.) is 602,420 tonnes of CO₂ eq., and amounts to 1.30% of Switzerland's total emissions (according to the current 2021 report by the Federal Office for the Environment (FOEN), which lists the status for years incl. 2019).

The emissions are broken down into 4.3% Scope 1 emissions, 13.6% Scope 2 emissions (before compensation) and 82.1% Scope 3 emissions.

Swisscom's 2021 greenhouse gas inventory was verified in January 2022 by Société Générale de Surveillance (SGS) in an independent audit according to ISO 14064. The verification focused on Scope 1 and 2 emissions, but additionally included Scope 3 emissions as well as, in less depth, the 'enabling effects' (the savings by customers due to the use of Green ICT services or due to offsetting).

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 CO₂ emissions.

1.3 Swisscom's targets and its energy and climate strategies

At present, the call for more intense climate protection measures is becoming ever louder. Swisscom has therefore revised its two main objectives of energy efficiency and reducing greenhouse gas emissions.

Using 1 January 2020 as the baseline, Swisscom has set itself the goal of

- boosting its energy efficiency by another 25% by the end of 2025.
- reducing its emissions by a total of 47% for all scopes by 2030.

- helping its customers in Switzerland reduce their emissions by 1 million tonnes of CO₂ by 2030, which is significantly higher than the company's own emissions including its supply chain.

Specifically, the CO₂ reduction targets for the period from 2020 to 2030 can be broken down as follows:

- 74.9% reduction in Scope 1 emissions
- 100% reduction in Scope 2 emissions
- 45.7% reduction in Scope 3 emissions

In addition to these CO₂ reductions, Swisscom intends to offset its emissions from 2022 onwards and achieve net zero in as early as 2025. To that end, it is taking fast action to support new projects and technologies, including CO₂ capture and storage technologies (removal technologies). The published reduction target for 2025 should be seen as a stage on the CO₂ reduction path.

Swisscom's energy and climate strategies to reach the above-mentioned goals rely on comprehensive energy management as well as efficiency and reduction measures in its own operations and in the supply chain; other measures include energy savings by customers thanks to improved end 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). Swisscom's strategy also provides for the purchase of certificates (either guarantees of origin for energy or CO₂ certificates for offsetting).

The 2030 Agenda for Sustainable Development adopted by the United Nations (UN) is a reference framework for Swisscom. Swisscom's climate strategy and its aim to reduce CO₂ emissions relate primarily to Sustainable Development Goal 13 of the 2030 Agenda: 'Climate Action'.

The table below provides an overview of all of Swisscom's climate protection agreements. The results are described in section 5.4.

Partnership	Target agreement	Start year January 1 st	Target year Dec. 31 st	Target
Swisscom	CO ₂ reduction scope 1 to 3	2020	2030	-47%
Swisscom	Net zero emissions	2020	2025	-%
Swisscom	Energy efficiency (savings measures over total energy consumption, not weighted)	2020	2030	+43%
EnAW	Energy efficiency (savings measures over total energy consumption, not weighted)	2013	2022	+35%
EnAW	CO ₂ intensity of heating fuels (CO ₂ emissions as a proportion of total CO ₂ emissions and CO ₂ savings)	2013	2022	-8%
EnAW	CO ₂ intensity of fuels (CO ₂ emissions as a proportion of total CO ₂ emissions and CO ₂ savings)	2013	2022	-24%
VBE	Energy efficiency (savings measures over total energy consumption, not weighted)	2020	2030	+18%
Science-Based Target	CO ₂ reduction Scope 1	2020	2030	-74.9%
Science-Based Target	CO ₂ reduction Scope 2	2020	2030	-100%
Science-Based Target	CO ₂ reduction Scope 3	2020	2030	-45.7%

1.4 Reference systems

1.4.1 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:** Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals (ISO 14064-1:2018)
- **ISO 14064-3:** Specification with guidance for the validation and verification of greenhouse gas assertions (ISO 14064-3:2018)

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 indirect 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)

Global e-Sustainability Initiative (GeSI)

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

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

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

1.4.2 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)

1.5 System boundaries

In line with Swisscom's Annual Report and Sustainability Report 2021, the system boundaries for the greenhouse gas inventory are defined by the fully consolidated companies in Switzerland (i.e. consolidated from a shareholding of 50% or higher; see Sustainability Report 2021, 'Scope of the report', and Annual Report Note 5.4, Group companies in Switzerland). All Group companies domiciled abroad and investments in associates and joint ventures are not included in the scope, with the exception of Fastweb. The investment in blue Entertainment Ltd is not included in the scope of the report either.

These 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 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 2021 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

1.6 Link to Swisscom's Sustainability Report and Annual Report 2021

The Swisscom corporate responsibility strategy on energy efficiency and climate protection as well as energy management, energy consumption, own CO₂ emissions and savings achieved by customers using services from the sustainable ICT portfolio are also presented in the Sustainability Report 2021 under 'Ready for the environment'. The governance of corporate responsibility, including for climate and energy management, is described in

the ‘Governance’ section of the Sustainability Report. The key figures and information in this report are in line with those 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 2021.

1.7 Definition of scopes

Greenhouse gas emissions by scope.

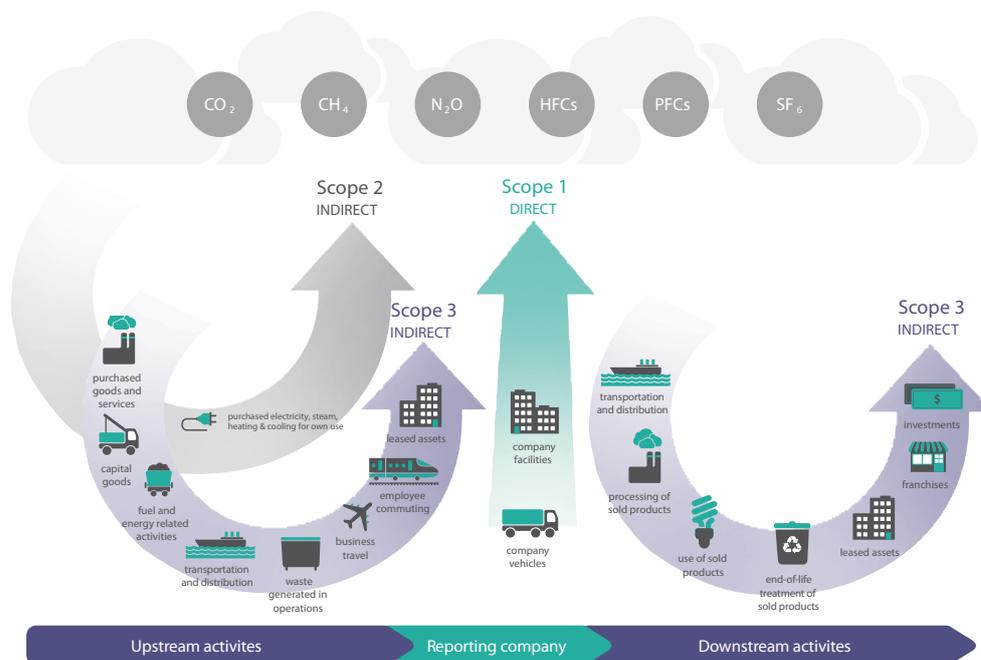


Fig. 1: Greenhouse gas emissions by scope. (Source: GHG Protocol, Corporate Value Chain (Scope 3) Accounting and Reporting Standard)

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

Relevant Scope 3 greenhouse gas emissions are those from

- the supply chain (Categories 1, 2 and 4),
- the provision of energy (Category 3),
- waste generated in operations (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 terminals (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).

1.8 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), waste generated in operations (Category 5), disposal of terminal devices (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 consumption by terminals (Category 11), along with enabling effects or savings achieved using services from the sustainable ICT portfolio (Scope 4).

1.9 Sustainable financing (green bond) and eligible categories

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 CO₂-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 overall 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 sustainability. 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 respec-

tive 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. The Audit & Corporate Responsibility Reporting Committee now advises the Board of Directors on matters related to CR reporting.

In addition to the sponsors, newly appointed CR champions implement CR measures in the other Group divisions, provided implementation progress reports and proposed measures to Group Communications & Responsibility. Governance is described in detail in the 'Governance' section of the Annual Report.

2.3 Energy consumption at Swisscom

Swisscom's energy consumption (electricity, vehicle and heating fuels as well as district heating) fell in 2021, thanks to the final decommissioning of the old analogue telephony (TDM), the efficiency measures implemented and the resulting savings. In doing so, Swisscom increased its energy efficiency by 4.8% in the year under review compared with the previous year (source: Sustainability Report 2021).

The private usage of vehicles from the Swisscom fleet was taken into consideration and subtracted from the fuel consumption.

The share of third-party tenants (proportion of third-party tenants at Swisscom sites) of electrical energy consumption was also subtracted.

Table 1: Energy consumption and energy mix of Swisscom Ltd in Switzerland according to system boundaries (source: Swisscom Annual Report 2021)

Energy consumption and mix [MWh]	2018	2019	2020	2021
Electrical energy consumption	485,141	489,800	479,046	464,865
Vehicle fuel consumption petrol	4,655	4,738	3,796	3,854
Vehicle fuel consumption diesel	30,795	30,120	24,624	23,575
Vehicle fuel consumption natural gas	47	111	83	–
Heating oil consumption (emergency power systems)	1,044	1,299	1,193	1,154
Heating energy consumption heating oil	18,150	18,732	18,127	19,436
Heating energy consumption natural gas	7,595	7,872	7,944	7,702
Heating energy consumption district heating	10,338	9,928	10,540	12,786
Heating energy consumption biomass	319	341	301	365
Total energy consumption	558,083	562,941	545,655	533,738

Information regarding the environmental energy supplied to Swisscom by heat pumps has been added to the table. This environmental energy does not incur any costs whatsoever and does not cause any CO₂ 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

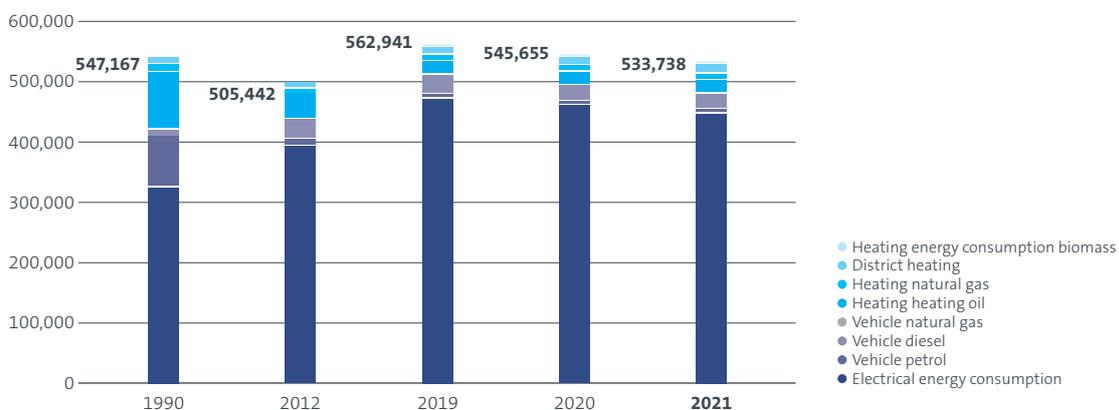
in MWh or TJ	2018	2019	2020	2021
Energy consumption				
Electricity	485,141	489,800	479,046	464,865
Fuels	35,497	34,969	28,504	27,429
Heating fuels	37,446	38,172	38,104	41,444
Total energy consumption [MWh]	558,083	562,941	545,655	533,738
Total energy consumption [TJ]	2,009	2,027	1,964	1,921

The table shows the shift in energy consumption from fossil sources to electricity. This corresponds to a trend which, according to internal forecasts, will become even

more pronounced in the future due to the ongoing electrification of heating systems and mobility.

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

in Megawatthours MWh



2.4 Energy consumption by customers

The energy consumed by customer devices can be extrapolated to 281 GWh based on the devices, the energy consumption of each device and the typical usage profiles (2020: 288 GWh). Fewer end devices such as TV boxes and routers were installed in 2021. Swisscom

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

3. Details of emissions

3.1 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 (SF₆).

Scope 1 emissions from vehicle fuels fell year on year in 2021. This is mainly due to a decline in the number of vehicle kilometres travelled in the course of the year.

Table 2: Details of Scope 1 emissions

Scope 1 CO ₂ eq. emissions [tonnes] from:	2018	2019	2020	2021
Vehicle fuel consumption petrol	1,260	1,313	1,052	1,068
Vehicle fuel consumption diesel	8,261	8,050	6,581	6,301
Vehicle fuel consumption natural gas	8	20	15	–
Heating oil consumption (emergency power systems)	279	347	319	308
Heating energy consumption heating oil	4,855	5,004	4,842	5,192
Heating energy consumption natural gas	1,506	1,561	1,575	1,527
Scope 1 CO ₂ eq. emissions (from energy consumption)	16,171	16,295	14,384	14,396
Scope 1 CO ₂ eq. emissions (from refrigerants)	118	153	36	33
Scope 1 CO₂ eq. emissions	16,289	16,448	14,420	14,429
CO ₂ eq. emissions from biomass	–	–	–	–

In 2021, the total Scope 1 emissions have remained virtually the same (+0.06%). Swisscom is continuing its efficiency programme for its properties by using a mix of low-CO₂ 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 CO₂-free; the biogenic

Emissions from heating fuels increased slightly in 2021 due to a colder year.

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.

CO₂ 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. Direct CO₂ emissions from mobility are to be cut in half by 2025. The complete electrification of mobility is planned for 2030.

3.2 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 GHG Protocol Scope 2 Guidance, this report contains the Scope 2 emissions prior to offsetting (location-based approach) and the emissions after offsetting (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 with a blend of other renewable sources, such as wind and solar power. For district heating, it has used renewable heat since 2019. Swisscom has thus increased its share of electricity and heat from renewable energy sources. The energy purchased is CO₂-free and Swisscom uses guarantees of origin (HKN) or certificates 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 CO₂ emissions from electricity to the indirect emissions (provision of

electricity and district heating) shown in section 3.3. 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 22.0 GWh in 2021 (2020: 51.6 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 2021, the total installed capacity was 3,376 kWp, with the installations producing 2,942 MWh of electricity (2020: 2,900 MWh).

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 according to scopes	2018	146.10	101.78	44.32
District heating (“market-based”)	2019	44.32	0	44.32
District heating (“market-based”)	2020	42.26	0	42.26

Swisscom updates the emission factor for district heating each year and also divides it by scope (Scope 2 and 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 (HKN) 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:	2018	2019	2020	2021
Electricity consumption supplier electricity mix Switzerland (“location-based”)	58,168	47,639 ¹	46,593 ¹	45,214
Heating energy consumption district heating (“location-based”)	1,052	1,011	511	600
Scope 2 CO₂ eq. emissions (“location-based”)	59,220	48,650¹	47,104¹	45,814
Electricity consumption certified electricity (“market-based”)	–	–	–	–
Heating energy consumption district heating (“market-based”)	1,052	–	–	–
Scope 2 CO₂ eq. emissions (“market-based”)	1,052	–	–	–

¹ restated

3.3 Development of Scope 3 emissions

Reducing Scope 3 emissions is one of Swisscom's main concerns: In 2021, more than 80% of Swisscom's emissions were attributable to indirect emissions (Scope 3), whereby most of them were incurred in the supply chain. In this context, Swisscom has drawn up a model

for calculating supply chain emissions along with the life cycle specialists from treeze Ltd and now with the company EBP. Other emissions are derived from materials and energy flows or are estimated using approximate values or empirical information (Categories 7 and 11).

Table 5: Details of Scope 3 emissions

Scope 3 CO ₂ eq. emissions [tonnes] from:	2018	2019	2020	2021
Cat. 1 Purchased goods and services	311,600	237,340	208,101	191,789
Cat. 2 Capital goods	3,900	3,800	3,991	3,948
Cat. 3 Provision of electricity	6,307	7,690 ²	7,521 ²	7,298
Cat. 3 Provision of district heating	458	440	446	489
Cat. 3 Provision of vehicle fuels (petrol + diesel) ¹	1,977	1,943	1,503	1,896
Cat. 3 Provision of heating oil	831	866	773	817
Cat. 3 Provision of natural gas	409	402	408	394
Cat. 3 Provision of biomass	8	9	10	11
Cat. 4 Upstream transportation and distribution	17,800	14,359	17,038	15,787
Cat. 5 Waste generated in operations	2,434	2,581	1,927	1,786
Cat. 6 Rail travel in Switzerland	102	104	49	59
Cat. 6 International rail travel	22	23	4	1
Cat. 6 European flights	1,016	1,012	270	277
Cat. 6 Intercontinental flights	1,400	1,417	456	263
Cat. 6 Car journeys to meetings	905	807	453	509
Cat. 7 Employee commuting (public transport)	1,318	1,183	357	345
Cat. 7 Employee commuting (car)	15,543	13,851	3,889	4,131
Cat. 8 Upstream leased assets	8,000	7,867	7,554	7,004
Cat. 9 Downstream transportation and distribution	1,200	1,114	1,055	978
Cat. 11 Use of sold products	44,700	38,927 ²	36,810 ²	35,908
Cat. 12 End of life treatment of sold products	220	385	281	395
Cat. 15 Investments	4,943	3,223	3,026	1,876
Total Scope 3 CO₂ eq. emissions	425,093	339,342²	295,921²	275,962

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

² restated

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

Emissions in the supply chain (Categories 1, 2, 4 and 8) fell sharply in 2021, mainly due to a lower purchase volume than in the previous year and the lower CO₂ intensity of new or newly included suppliers. The additional Scope 3 emissions fell slightly year on year. Emissions from commuting (Category 7) remained low in the second year of the pandemic, mainly due to employees working at home (home office). Emissions from business

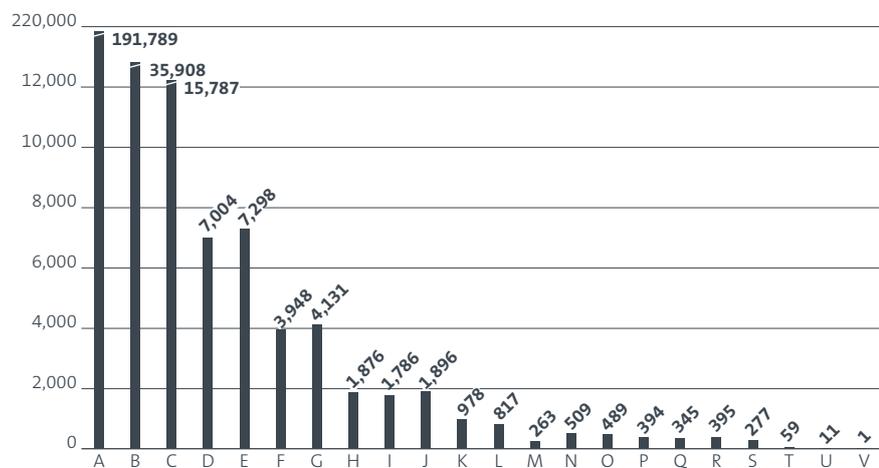
trips (Category 6) also remained at a low level due to the Covid-19 pandemic.

With Category 11 (consumption of sold products), emissions decreased due to the smaller number of devices bought by customers as well as an optimised electricity mix.

Emissions of our investments (category 15) in Italy (Fastweb) are indicated as market-based.

Chart 2: All Scope 3 emissions by GHG category

in tonnes CO₂ eq.

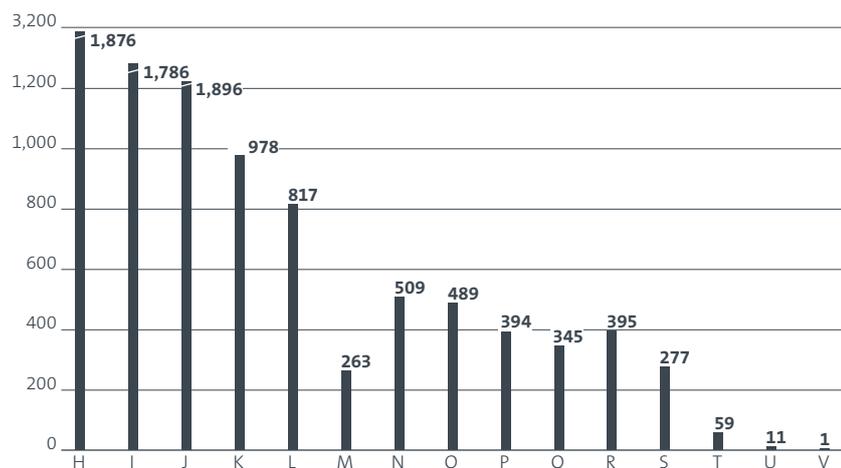


- A = Cat. 1 Purchased goods and services
- B = Cat. 11 Consumption of sold products
- C = Cat. 4 Upstream transportation and distribution
- D = Cat. 8 Upstream leased assets
- E = Cat. 3 Provision of electricity
- F = Cat. 2 Capital goods
- G = Cat. 7 Employee commuting (car)
- H = Cat. 15 Investments
- I = Cat. 5 Waste generated in operations
- J = Cat. 3 Provision of vehicle fuels
- K = Cat. 9 Downstream transportation and distribution
- L = Cat. 3 Provision of heating oil
- M = Cat. 6 Intercontinental flights
- N = Cat. 6 Car journeys to meetings
- O = Cat. 3 Provision of district heat
- P = Cat. 3 Provision of natural gas
- Q = Cat. 7 Employee commuting (public transport)
- R = Cat. 12 Disposal of the end devices
- S = Cat. 6 European flights
- 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 CO₂ eq.



- H = Cat. 2 Capital goods
- I = Cat. 5 Waste generated in operations
- J = Cat. 3 Provision of vehicle fuels (petrol + diesel)
- K = Cat. 6 Intercontinental flights
- L = Cat. 7 Employee commuting (public transport)
- M = Cat. 9 Downstream transportation and distribution
- N = Cat. 6 European flights
- O = Cat. 6 Car journeys to meetings
- P = Cat. 3 Provision of heating oil
- Q = Cat. 3 Provision of district heat
- R = Cat. 3 Provision of natural gas
- S = Cat. 12 End of life treatment of sold products
- T = Cat. 6 Rail travel in Switzerland
- U = Cat. 6 International rail travel
- V = Cat. 3 Provision of biomass

Both the graphics show the emissions in descending order. The most important emissions come from categories not under Swisscom's control (supply chain, transport, etc.). The reduction targets set in these categories can only be achieved with the cooperation of suppliers. Swisscom is collaborating with the Carbon Disclosure Project (CDP) to evaluate suppliers. In addition, since 2021 it has been proactively approaching suppliers shown by the analysis to have a high potential for reducing their CO₂ emissions. Where Swisscom has the poten-

tial 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 own activities are reduced by Swisscom as part of its efficiency and reduction programmes (Categories 3, 5 and 6).

4. Details of savings

4.1 Overview of savings measures

Measures that lead to energy savings and reduced greenhouse gas emissions are described in the report as 'directed actions' and 'enabling effects'. These relate firstly to measures that lead within Swisscom to a reduction in the consumption of heating and vehicle fuels and of electricity or to the offsetting of emissions (directed actions) and secondly to savings by customers due to the

use of Green ICT services or due to offsetting (enabling effects, Scope 4). Since 2018, the saving of greenhouse gas emissions that results from the use of Green ICT services has been calculated in accordance with the ICT Sector Guidance built on the GHG Protocol Product Life Cycle Accounting and Reporting Standard.

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

Scope		Directed actions
Scope 1	emissions	Increase efficiency, reduce demand (target 2:1 and target 2025) <ul style="list-style-type: none"> • Fleet roadmap: spec. emissions down to 95 g CO₂/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) <ul style="list-style-type: none"> • Fleet roadmap: spec. emissions down to 95 g CO₂/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 <ul style="list-style-type: none"> • 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

4.2 Savings and efficiency improvements at Swisscom (directed actions)

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

As part of a target agreement on energy efficiency improvements and CO₂ reduction it reached with the Energy Agency of the Swiss Private Sector (EnAW), Swisscom reports annually on its efficiency improvements and CO₂ footprint. It aims to increase energy efficiency and is based on the Energy Act and the Swiss CO₂ Act. Its execution is governed by the implementing directive issued by the Federal Offices for the Environment and Energy on 9 November 2011. Swisscom's aim according to the target agreement is to increase its energy efficiency by 35% by 2020 (compared with 1 January 2016). Target achievement for 2020 is also measured in accordance with the agreement and based on average efficiency over a four-year period, in other words from 2019 to the end of 2022, which is why the agreement extends until 2022. To reduce the ecological footprint in the company's operations, Swisscom adopts savings measures which fall into the following three categories:

a) **CO₂ savings 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 (whereby the previous 17 measures addressed in our reports until 2019 have been newly grouped by theme): 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-CO₂ 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 since 2015 the activation of savings functions in the mobile network. So far as the vehicle fleet is concerned, Swisscom made additional investments in 2021, including the purchase and use of 80 electric cars. The number of operations-related kilometres driven decreased in 2021, thereby reducing CO₂ emissions. All in all, efficiency measures amounted to 25.2 GWh in 2021. Of this, 22.0 GWh was for electrical energy and the remaining 3.2 GWh for measures related to buildings and the vehicle fleet.

b) **CO₂ savings thanks to own electricity generation (eligible green bond projects):**

Where economically feasible, Swisscom constructs its own photovoltaic installations to generate solar power. At the end of 2021, the total installed capacity of the 84 installations was 3,376 kWp. The installations supplied Swisscom with 2.942 GWh for its own consumption.

c) **CO₂ savings using guarantees of origin:**

Since 2010, Swisscom has offset the proportion of nuclear power, electricity of unknown origin and electricity from fossil fuels in its electricity mix or used for its network infrastructure and the buildings it manages by purchasing guarantees of origin (HKN). Since 2019, it has also offset district heating. Thus, Swisscom once again used 100% renewable electricity in 2021, as certified independently. The use of HKN reduces CO₂ emissions from electricity and from district heating to indirect emissions (see Table 4, Details of Scope 2 emissions).

4.2.2 Reduction in Swisscom's activity-related CO₂ 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) **Campaigns and apps:** Together with Energie Schweiz, Migros Pioneer Fund and South Pole, we launched the "Swiss Climate Challenge" (SCC). In June 2021, we held a public challenge encouraging the public to collect 100,000 Green Points via the SCC app. The target was exceeded with 175,000 Green Points and around 12,000 new users.

b) **Swisscom TV:** In the reporting year, Swisscom launched the Swisscom Box 21, which 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 2021, the TV boxes together required 56 GWh (previous year: 59 GWh). This was achieved thanks to extensive efficiency improvements in the new Swisscom Box 21.

c) **Routers:** The current Internet Box 3 is even more powerful than its predecessor, the Internet Box 2, yet offers a similar power consumption. It offers several energy-saving features. One is a time switch allowing users to set times during which the Wi-Fi, central storage or telephony (Digital Enhanced Cordless Telecommunications – DECT) functions are switched off. Furthermore, the Internet Box 3 means fewer and fewer devices are used in the home network. This is because the box replaces the multiple devices that used to be required to connect computers, TVs and HD fixed-line telephony wirelessly, thereby significantly reducing energy consumption.

4.2.3 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 Audit Cooperation (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 CO₂ 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 78 (prior year: 77) of its key suppliers. The suppliers surveyed have a high order volume (61%) or a high degree of environmental relevance. The response rate was 92% (prior year: 91%), which again allowed the survey to be brought to a successful conclusion.

As part of its new CR Strategy 2025, Swisscom is pursuing yet another defined target in the area of climate protection. As the supply chain is responsible for a major portion of Scope 3 emissions, those CO₂ emissions play a fundamental role in climate protection. Swisscom again took part in the Action Exchange Program (AEP) in 2021 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.

4.3 Savings by customers (enabling effects through the portfolio)

Customers reduce their emissions by using the sustainable portfolio made available to them by Swisscom. This portfolio offers seven types of savings:

a) Savings through services that help customers to replace some of their travel. These include such offerings as conferencing services, 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.

- 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 monitor filling levels, such as oil tanks or waste containers, efficiently. In doing so, they reduce the number of transport kilometres travelled by logistics fleets. They also make it possible to control heating 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. 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. As part of its circular economy initiative, Swisscom recycles used but still functioning mobile handsets for further use in developing countries. This extends their useful life and gives people in developing countries access to low-cost devices.

The savings achieved through Green ICT services are listed in Table 7.

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

Table 7: Savings using Green ICT services

CO ₂ eq. emissions [tonnes]	Service group	Service	2018	2019	2020	2021
Reducing travel	Virtual conferences	Conferencing service	27,769	43,870	47,493	19,664
		MCC/UCC	138,519	116,153	265,774	295,920
	Home office	Home office services	196,129	178,896	354,740	321,225
		Machine-to-machine	Logistics, heating	40,897	48,182	80,254
Saving energy	Data centre services	Hosting	44,377	41,251 ¹	40,545 ¹	39,687
		Housing	1,148	1,022 ¹	1,122 ¹	1,111
Saving paper	Saving paper	e-bill, Conextrade, printing	1,439	1,544	1,232	1,178
Dematerialisation		Data carriers and retail space	116,689	71,451	72,695	68,985
E-commerce				17,301	17,651	16,652
Mobile phone reuse			2,035	2,930	6,624	6,215
Total CO₂ eq. savings portfolio			569,003	522,601¹	888,130¹	892,812

1 restated

Conferencing and home office: The increase in CO₂ savings in this category is primarily explained by the Covid-19 pandemic. For both services, Swisscom conducted a survey of the population in September 2021 together with the company GfK to determine the frequency of home office days and the average number of business trips avoided and replaced by teleservices. For UCC, Swisscom intends to further deepen its model and has applied a conservative and cautious approach to its estimate of CO₂ reductions in 2021.

Internet of Things, IoT: The increase in CO₂ savings in this category is attributable to the renewed increase in the number of partner companies providing data to Swisscom in 2021.

Mobile Aid: The increase in CO₂ savings in this category comes from 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 CO₂ emissions.

Swisscom separates the categories of e-commerce and 'dematerialisation'. In both categories a rebound effect can be observed, which – as investigations in the year under review 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 savings accordingly.

4.4 Offsetting of CO₂ emissions

4.4.1 Climate-neutral operations

Swisscom has significantly reduced its CO₂ emissions again in 2021 and intends to reduce them further. The

remaining emissions from operations have been offset since 2020, making Swisscom's operations climate-neutral. Offsetting covers emissions from the networks, the heating of buildings, mobility and related activities such as the purchase of network equipment, its 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). To cover these emissions, Swisscom buys CO₂ certificates (CER) according to the gold standard (1 certificate = 1 tonne of CO₂), from a biogas project in India. The external partner myclimate has guided the project. Emissions under Scope 2 (purchase of energy, electricity and district heating) are offset by another mechanism (guarantees of origin, HKN). The non-renewable part of the electricity or district heating is offset by guarantees of origin for renewable and CO₂-free energy (e.g. wind, solar or geothermal energy). Swisscom therefore restricts the choice of guarantees of origin in two ways.

4.4.2 Climate-compensated products

CO₂ emissions from purchased products such as smartphones, tablets or accessories are not covered by climate-neutral operations. For this reason, Swisscom offers its customers the opportunity to offset the CO₂ emissions of these products for a small surcharge. A biogas plant in India and two reforestation projects in the Congo and Switzerland offset this CO₂. The external partner South Pole has guided the corresponding projects.

5. Summary of direct and indirect emissions and savings

5.1 Summary of emissions

Table 8: Summary of Scope 1, 2 and 3 emissions

CO ₂ eq. emissions [tonnes]	2018	2019	2020	2021
Scope 1 (from consumption of fossil energies)	16,171	16,295	14,384	14,396
Scope 1 (from refrigerants)	118	153	36	33
Scope 2 (from electricity, "location-based")	58,168	47,639 ¹	46,593 ¹	45,214
Scope 2 (from district heating, "location-based")	1,052	1,011	511	600
Total Scopes 1, 2 ("location-based")	75,509	65,098¹	61,524¹	60,244
Scope 1 (from consumption of fossil energies)	16,171	16,295	14,384	14,396
Scope 1 (from refrigerants)	118	153	36	33
Scope 2 (from electricity, "market-based")	–	–	–	–
Scope 2 (from district heating, from 2019 "market-based")	1,052	–	–	–
Total Scopes 1, 2 ("market-based")	17,341	16,448	14,420	14,429
Scope 3	425,093	339,342	295,921	275,962
Total Scopes 1, 2 ("location-based"), 3	500,602	404,440¹	357,445¹	336,206
Total Scopes 1, 2 ("market-based"), 3	442,433	355,790¹	310,341¹	290,392

¹ restated

5.2 Summary of savings

Table 9: Impact of directed actions and enabling effects

CO ₂ eq. emissions [tonnes]	2018	2019	2020	2021
Enabling effects: Savings for customers thanks to sustainable ICT portfolio	569,003	529,665	888,130	892,812
Offsetting with GoO (electricity and district heating / green electricity)	58,168	48,650	46,593	45,214
Offsetting with CER (emissions from operations)	–	–	39,107	38,950
Total enabling effects and directed actions	627,172	578,315	973,830	976,976

The reductions in energy consumption and emissions resulting from increased energy efficiency and savings

measures (4.2.1a) are already included and not calculated a second time here.

5.3 Difference between savings and emissions (net balance)

Table 10: Difference between savings and emissions

Target 2025	2018	2019	2020	2021
Savings by customers thanks to the sustainable ICT portfolio (enabling effects)	569,003	529,665	888,130	892,812
Emissions (without Fastweb, with HKN offsets)	437,491	355,790	310,341	288,516
Difference savings to emissions	131,512	173,875	577,788	604,297

The difference between savings and emissions is 602,420 tonnes of CO₂ eq., and amounts to 1.30% of total emissions in Switzerland (as last published by the Federal Office for the Environment (FOEN) in 2021).

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

5.4 Summary of target achievement

Table 11: Target achievement

Partnership	Target agreement	Status 2021	Target year	Target
Swisscom	CO ₂ reduction scope 1 to 3	-6.4%	2030	-47%
Swisscom	Energy efficiency (savings measures over total energy consumption, not weighted)	4.8%	2030	43%
EnAW	Energy efficiency (savings measures over total energy consumption, weighted)	39.3%	2022	35%
EnAW	CO ₂ intensity of heating fuels (CO ₂ emissions as a proportion of total CO ₂ emissions ¹ and CO ₂ savings)	-8.8%	2022	-8%
EnAW	CO ₂ intensity of fuels (CO ₂ emissions as a proportion of total CO ₂ emissions ¹ and CO ₂ savings)	-36.5%	2022	-24%
VBE	Energy efficiency (savings measures over total energy consumption, not weighted) ¹	49.1%	2030	18%
Science-based target	CO ₂ reduction Scope 1	0.06%	2030	-74.9%
Science-based target	CO ₂ reduction Scope 2	-100.0%	2030	-100%
Science-based target	CO ₂ reduction Scope 3	-8.3%	2030	-45.7%

¹ Data from previous year (external reports)

The targets for 2022 agreed with the EnAW were already achieved by the end of December 2020, two years earlier than planned. The indicators of the EnAW and the VBE

are consistent with the values for 2020 defined by the partners of the target agreements, as the indicators for 2021 will not be available until March 2022.

5.5 Summary of CO₂ intensities

Table 12: CO₂ intensities

Tonnes CO ₂ eq. or To/unit	Unit	2017	2018	2019	2020	2021
CO ₂ Scope 1	Tonnes	18,471	16,289	16,448	14,420	14,429
CO ₂ Scope 2 ("market-based")	Tonnes	948	1,052	–	–	–
CO ₂ intensity of energy	Tonnes / TJ	9.8	8.6	8.1	7.1	7.5
CO ₂ intensity turnover	Tonnes / mio. CHF	2.05	1.87	1.83	1.67	1.68
CO ₂ intensity EBITDA	Tonnes / mio. CHF	5.6	5.1	4.7	4.1	4.0

The intensities are calculated based on the verified indicators and published in Swisscom's sustainability reports or annual reports. Only Scope 1 and 2 emissions related to operations are considered. The revenue is

Swisscom's revenue in Switzerland. The CO₂ intensity of Swisscom's energy mix is declining. This is a direct result of the efficiency and emission reduction programmes implemented in recent years, particularly in buildings.

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

Table 13: Impact of projects

ICMA GBP categories	impact indicator	2020	2021
Energy efficiency	Annual direct energy savings (in MWh)	55,200	25,200
	Efficiency increase (%) compared to the new base year (2020)	–	4.8
	Annual GHG emissions according to Scopes 1 and 2 (in tonnes CO ₂ eq.)	14,420	14,429
	GHG intensity (tonnes CO ₂ eq. / TJ)	7.1	7.5
Renewable energy	GHG intensity (tonnes CO ₂ eq. / CHF million)	1.67	1.68
	Annual additional photovoltaic capacity (kW)	158	60
	Annual GHG emissions avoided (tonnes CO ₂ eq.)	432	377
Clean transport	Number of vehicles PW (#)	1,723	1,727
	Share of vehicles in energy efficiency categories (A + B)	87.3	87.8
	GHG emissions Scope 1 Mobility (tonnes CO ₂ eq. per year)	7,648	7,369

The above table specifies the environmental impact of the projects realised in 2021. The indicators are consis-

tent with the handbook 'Harmonised Framework for Impact Reporting' (ICMA 2019) and the GRI standards.

6. Explanations and assumptions

6.1 Base year

The base year for Scope 1 and 2 emissions is now 2020. Swisscom has energy data for the base year, which have 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 CO₂ emissions.

6.2 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 shall 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: No significant changes in the scope of consolidation or in ownership or control in 2021.

Scope 2: A significant change in the emission factor for electricity has been identified in 2021. This change alters the emissions by more than 10% (compared to the emissions of the same year, subject to the change). A recalculation for the base year (2020) was performed. The recalculated emissions are marked with a note (“restated”) in the respective tables.

Scope 3: Following a significant change in the emission factor for electricity in 2021, a recalculation of the emissions based on this new factor (cat. 3 and cat. 11) was carried out for the base year. The recalculated emissions are marked with a note (“restated”) in the respective tables. The Scope 3 emissions included in Category 3 are based on electricity with guarantees of origin (‘market-based’ approach).

6.3 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.

- fuel for heating of buildings that are owned, under ‘operational control’ or rented. The reduction measures only apply to the company’s own operations and to the operation of buildings under ‘operational control’, not to rental properties.
- fuel for emergency power systems
- refilling of refrigerants

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 into account under Scope 2.

Swisscom takes the following categories into account under Scope 3:

- **Category 1:** Purchased goods
- **Category 2:** Capital goods
- **Category 3:** Provision of energy (electricity, vehicle and heating fuels)
- **Category 4:** Upstream transportation and distribution from places of origin to distribution centres in Switzerland
- **Category 5:** Waste generated in operations
- **Category 6:** Business travel (flights, rail travel and journeys to meetings in private cars)
- **Category 7:** Employee commuting
- **Category 8:** Leased assets (retail space including shops which are located outside Swisscom buildings – 75% of Swisscom Shops or 102 shops)
- **Category 9:** Downstream transportation and distribution from distribution centres in Switzerland to customers (according to estimates based on the previous year)
- **Category 11:** Use of sold products
- **Category 12:** Disposal of terminals
- **Category 15:** Investments and/or the subsidiary Fastweb in Italy

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.

6.4 Biomass, removal and CO₂ sinks

As in previous years, Swisscom did not make use of any forms of CO₂ removal or CO₂ sinks within the operational scope of the company in 2021. It has 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 again and the emissions are calculated. Swisscom uses numerous wooden telephone masts in mountain regions. Some of the masts have a long service life. These telephone masts can be considered CO₂ sinks, but only partially meet the criteria of additionality.

6.5 Greenhouse gas inventory according to ISO 14064

A greenhouse gas inventory according to ISO 14064 includes the emissions of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆) and, since 2013, nitrogen trifluoride (NF₃). This selection is consistent with the requirements of the Kyoto Protocol. Swisscom reports on its emissions in aggregated form of the CO₂ equivalents for CO₂, CH₄ and N₂O. Emissions from refrigerants are listed separately. The emission sources are as follows:

Combustion:

- **CO₂**: combustion of fossil fuels (heating and mobility) or from the processes to produce electricity (biogenic CO₂ from biomass combustion – i.e. from wood heating – continues to remain at a marginal level)
- **CH₄**: combustion of fossil fuels (heating and mobility)
- **N₂O**: combustion of fossil fuels (heating and mobility)

Cooling:

- **HFC**: losses of refrigerants from cooling systems
- **PFC**: losses of refrigerants

The following greenhouse gases are not included in the inventory:

- **SF₆**: These emissions are beyond the control of Swisscom. SF₆ is used as an insulation medium in electrical transformers and electrical switchboards. The installations are operated by the power utility companies.
- **Others**: The emissions from fire extinguishers are negligible or non-existent (halon).
- **NF₃**: Emissions from the production of LCD monitors (displays) are not currently included in the inventory due to a lack of clarity regarding their detection.

6.6 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.

6.7 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 CO₂ eq. (5th Assessment Report IPCC 2013).

Other sources of emissions such as emissions from fire extinguishers are negligible, non-existent (halon) or outside Swisscom's control (SF₆).

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 CO₂ 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 on the basis of the data provided for the individual scopes by ecoinvent version 3.1 and version 3.7 from 2018 onwards. From 2019, the emission factors for electricity are based on the individual scopes published in a supplement to the above-mentioned study.

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

Emission factors for Scope 3 emissions:

For Scope 3 emissions in the year under review, Swisscom uses the emission factors from the ecoinvent life cycle inventory database version 2.2 for mobility, as is shown in the mobitool, or, wherever possible, version 3.7, the currently valid version at the time the emission factors were reviewed (summer 2021).

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 3.7 by treeze Ltd (methodology for determin-

- ing 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 3.7.
 - **Emissions from the provision of district heating (Category 3, Table 3):** In 2021, the respective emission factors were calculated based on ecoinvent version 3.7 data.
 - **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 3.7 and various external studies, as well as Swisscom's own data.

6.8 References

6.8.1 Other reports

- **Swisscom Annual Report 2021:** www.swisscom.ch/de/about/investoren/berichte.html
- **Swisscom Sustainability Report 2021:** www.swisscom.ch/de/about/investoren/berichte.html
- **Swisscom Climate Reports 2020:** reports.swisscom.ch/download/2020/de/swisscom_klimabericht_2020_de.pdf
- **Carbon Disclosure Project (CDP):** www.cdp.net

6.8.2 Regulations and guidelines

- **Swiss Federal Act** of 23 December 2011 on the Reduction of Greenhouse Gas Emissions (CO₂ Act); SR 641.71; fedlex.data.admin.ch/eli/cc/2012/855
- **Ordinance** of 30 November 2012 on the Reduction of CO₂ 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

6.8.3 References for emission factors

- **FOEN:** 'CO₂ emission factors for greenhouse gas inventory in Switzerland' fact sheet (15 April 2019) [www.bafu.admin.ch/dam/bafu/de/dokumente/klima/fachinfo-daten/CO₂_Emissionsfaktoren_THG_Inventar.pdf.download.pdf/CO₂_Emissionsfaktoren.pdf](http://www.bafu.admin.ch/dam/bafu/de/dokumente/klima/fachinfo-daten/CO2_Emissionsfaktoren_THG_Inventar.pdf.download.pdf/CO2_Emissionsfaktoren.pdf)
- **ecoinvent life cycle inventory database version 2.2 (2010) and version 3.7:** 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 3.7)
- **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-Strommix-Schweiz-2018-v2.01.pdf.download.pdf/Umweltbilanz-Strommix-Schweiz-2018-v2.01.pdf
- **SFOE:** Swiss wood energy statistics, 2018 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). Joséphine Zumwald, 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

6.8.4 Other references

- **Information on the topic of target agreements to boost energy efficiency and reduce CO₂ emissions:** www.zv-energie.admin.ch/zve/de/home.html
- **EnAW (Energy Agency of the Swiss Private Sector):** enaw.ch
- **VBE ('Exemplary in energy' initiative):** www.energie-vorbild.admin.ch/vbe/en/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
- **MeteoSchweiz climate change scenarios in 2018:** www.meteoswiss.admin.ch/home/climate/climate-change-in-switzerland/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/

7. Recommendations of the TCFD

7.1 Climate change carries risks and affords opportunities

Swisscom takes into account the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) of the Financial Stability Board (FSB) in the areas of governance and strategy. It publishes qualitative information on its approach to risk adjustment and mitigation and on its corresponding conclusions.

In December 2020, the Federal Council commissioned the Federal Department of Finance (FDF) to work with other departments to develop a binding transposition of the recommendations of the TCFD for major Swiss companies. During the year under review, the Federal Council agreed on corresponding key parameters and commissioned the FDF and other federal agencies to collaborate on the preparation of a consultation draft by summer 2022. Swisscom plans to implement the recommendations of the TCFD once the consultation has been concluded. It will continue to develop the quantitative aspects relating to risks and the relevant metrics.

7.2 The recommendations of the TCFD

7.2.1 Governance

Environmental and climate protection is part of Swisscom's corporate responsibility. The governance of this responsibility is described in the Sustainability Report on page 18. 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 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.

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 2030 Sus-

tainability 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 a new CR Champion function that monitors and implements the sustainability measures in the respective business areas.

7.2.2 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 CO₂ emissions on the customer side thanks to the use of products from the portfolio are explained in sections 1 and 4 of this report. Further detailed information on the sustainable portfolio can be found under 'Ready 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 CO₂ 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 more efficient network and terminal devices). Swisscom supports its customers in this process by working with its suppliers to develop more energy-efficient devices or devices for which a standby profile can be configured on request. See section 4 of this report for more 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 CO₂ Act was approved. As certain provisions of the CO₂ Act have not been replaced by new provisions, they are no longer in force. As a result, Swiss CO₂ 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 more and 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. Berne, 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. In this context, the proactive positioning of Swisscom can create trust and enhance its reputation.

In the year under review, Swisscom endeavoured to more accurately depict 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 the temperature rises above the specified temperature range of the electronic devices and systems used.

Methodical approach: 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. It takes into account the two CO₂ 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 CO₂ emission scenarios. This allows Swisscom to determine the number and location of sites that could suffer from excessively high temperatures in the future.

In the year under review, Swisscom 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. Due to the importance of electricity for its activities, Swisscom must take greater account of the climate-related risks in the electricity sector, particularly as it plans to source 100% of its energy consumption from electrical energy.

Methodical approach: Collection and analysis of information from open sources (desk research). Swisscom has reliable information on European power generation scenarios (covering Switzerland) and their suitability to meet demand. The Mid-term Adequacy Forecast (MAF)

2020 deals with the climate-related physical risks for the years 2021, 2023 and 2025 under a low-carbon scenario. For Switzerland, the MAF 2020 shows that the probability of an adequacy problem is extremely low. The adequacy study carried out by the Swiss Federal Office of Energy in 2019 reached a similar conclusion. The study on the security of electricity supply in Switzerland, which was published by the Swiss Federal Electricity Commission (ElCom) in July 2020, has made a more precise forecast. It concludes 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)

7.2.3 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 to prevent the occurrence of risks and their corresponding impact. Climate risks can be mitigated partly by reducing CO₂ 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.

7.2.4 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 (CO₂ 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. Section 5 summarises the services provided by Swisscom.

7.3 Conclusions

Swisscom is well positioned. It has the necessary methods, management systems and resources as well as appropriate governance. Full implementation of the recommendations of the TCFD is planned for the 2022 financial year.

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

8. Contact and further questions

Swisscom Group
Communications & Responsibility
Corporate Responsibility
3050 Berne

Contact: Saskia Günther/Pascal Salina

Team mailbox: corporate.responsibility@swisscom.com

9. Verification



Greenhouse Gas Verification Statement Number
CCP.ISO1406401(1500615)2022/01/31

The inventory of Greenhouse Gas emissions in the period
01/01/2021 – 31/12/2021 for
Swisscom AG

Alte Tiefenastrasse 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:

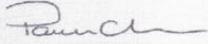
60'244 t CO₂ equivalent
(Scope 1+2; gross location-based scope 2 emissions)

14'429 t CO₂ equivalent
(Scope 1+2; gross market-based scope 2 emissions)

275'962 t CO₂ equivalent
(Scope 3 emissions)

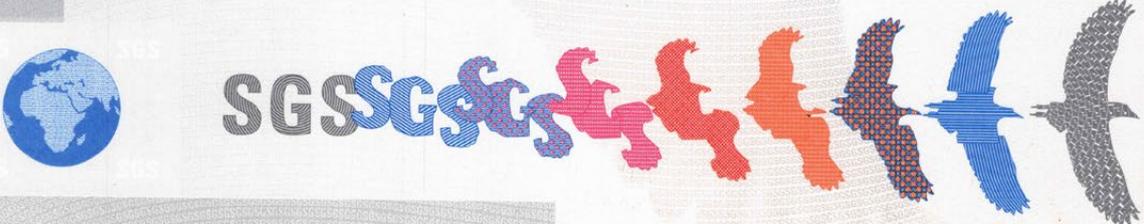
For the following activities
Network and transmission infrastructure for telecommunication operation,
data centre and administration of Swisscom AG in Switzerland

Lead Assessor: Daniel Aegerter
Technical Reviewer: Peter Simmonds

Authorised by:

Pamela Chadwick
Business Manager]
SGS United Kingdom Ltd

Verification Statement Date 28th January 2022

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)2022/01/31

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 (CO₂) equivalent emissions as provided by Swisscom, Alte Tiefenastrasse 6, in their GHG Assertion in the form of a Greenhouse Gas Emissions Report covering CO₂ 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 01/01/2021 – 31/12/2021.

SGS conducted a third-party verification following the requirements of ISO 14064-3:2006 of the provided CO₂ equivalent assertion in the period November 2021 to January 2022.

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 19/04/2021.

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 CO₂ 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 CO₂ 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: CO₂, N₂O, CH₄ 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: 01/01/2021 – 31/12/2021
- 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 CO₂ equivalent emissions are as declared by the organization's CO₂ 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 01/01/2021 – 31/12/2021 disclosing Scope 1 and 2 emissions of 60'244 metric tonnes of CO₂ 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 60'422 tonnes CO₂ equivalent represents mandatory reportable emissions according to boundaries as defined by ISO 14064-1. A further 275'962 tonnes CO₂ 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 01/01/2021 to 31/12/2021, and in addition to scope 1 and 2 emissions of 60'422 metric tonnes CO₂ equivalent (including scope 2 location-based emissions), is a disclosure of emissions of 14'429 tonnes CO₂ 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 01/01/2021 to 31/12/2021 is the claim of carbon neutrality of the operations by purchase of Emission Reduction Certificates (ERC). SGS confirms that the purchase of ERC 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).

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 CO₂ equivalent assertion is materially correct and is a fair representation of the CO₂ 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 CO₂ equivalent emissions for the period 01/01/2021 – 31/12/2021 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 CO₂ equivalent assertion is not materially correct and is not a fair representation of the CO₂ equivalent data and information.

This statement shall be interpreted with the CO₂ 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.