

Second-Party Opinion

Swisscom Green Bond Framework



Evaluation Summary

Sustainalytics is of the opinion that the Swisscom Green Bond Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2018. This assessment is based on the following:



USE OF PROCEEDS The eligible categories for the use of proceeds Energy efficiency, Renewable energy, Clean Transportation, are aligned with those recognized by the Green Bond Principles 2018. Sustainalytics considers that the eligible categories will lead to positive environmental impacts and advance the UN Sustainable Development Goals, specifically SDGs 7 & 11.



PROJECT EVALUATION / SELECTION Swisscom's internal process in evaluating and selecting projects is managed by Swisscom's Green Bond Committee, formed by representatives from Corporate Treasury, Group Communications & Responsibility, Investor Relations and Group Controlling. The Green Bond Committee ensures that the selected Eligible Green Projects align with the eligibility criteria outlined in the Framework. Sustainalytics considers the project selection process to be aligned with market practice.



MANAGEMENT OF PROCEEDS Swisscom's processes for management of proceeds is handled by the Corporate Treasury. Proceeds will be tracked using a Treasury Management System. Swisscom will strive to achieve a level of allocation for the Eligible Green Project Portfolio which matches or exceeds the balance of net proceeds from its outstanding Green Bonds. The balance unallocated proceeds, if any, will be managed following Swisscom's liquidity and cash management policies. This is in line with market practice.



REPORTING Swisscom intends to report allocation proceeds on its website on an annual basis until full allocation. Allocation reporting will include the total amounts allocated to eligible projects, the share of refinancing vs financing and the balance of unallocated proceeds. In addition, where feasible, Swisscom is committed to reporting on relevant impact metrics. Sustainalytics views Swisscom's allocation and impact reporting as aligned with market practice.

Evaluation date	March 13, 2020
Issuer Location	Bern, Switzerland

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For inquiries, contact the Sustainable Finance Solutions project team:

Evan Bruner (Amsterdam)
Project Manager
evan.bruner@sustainalytics.com
(+31) 20 205 0027

Phoebe Wang (Amsterdam)
Project Manager
phoebe.wang@sustainalytics.com
(+31) 20 205 00 44

Jean-Claude Berthelot (Amsterdam)
Client Relations
susfinance.emea@sustainalytics.com
(+44) 20 3880 0193

Introduction

Swisscom Group (“Swisscom” or the “Company”) is a major telecommunications provider headquartered in Worblaufen, Switzerland. Swisscom is majority owned by the Swiss government. Swisscom holds a market share of 60% for mobile, 67% for broadband and 33% for television in Switzerland.

Swisscom has developed the Swisscom Green Bond Framework (the “Framework”) under which it intends to issue multiple green bonds and use the proceeds to finance and/or refinance, in whole or in part, existing and/or future projects that aim to improve the efficiency of the telecommunications network in Switzerland and enable opportunities for facilitating energy efficiency savings through the implementation of 5G networks, Internet of Things and other related telecommunications infrastructure. The Framework defines eligibility criteria in three areas:

1. Energy efficiency
2. Renewable energy
3. Clean Transportation

Swisscom engaged Sustainalytics to review the Swisscom Green Bond Framework, dated February 2020 and provide a second-party opinion on the Framework’s environmental credentials and its alignment with the Green Bond Principles 2018 (GBP).¹ This Framework has been published in a separate document.²

As part of this engagement, Sustainalytics held conversations with various members of Swisscom’s management team to understand the sustainability impact of their business processes and planned use of proceeds, as well as management of proceeds and reporting aspects of Swisscom’s Green Bond Framework. Sustainalytics also reviewed relevant public documents and non-public information.

This document contains Sustainalytics’ opinion of the Swisscom Green Bond Framework and should be read in conjunction with that Framework.

¹ The Green Bond Principles are administered by the International Capital Market Association and are available at <https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>

² The Swisscom Green Bond Framework is available on Swisscom’s website at: <https://www.swisscom.ch/en/about/investors/financing.html>

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on the Swisscom Green Bond Framework

Sustainalytics is of the opinion that the Swisscom Green Bond Framework is credible and impactful and aligns with the four core components of the GBP 2018. Sustainalytics highlights the following elements of Swisscom's Green Bond Framework:

- Use of Proceeds:
 - The eligible categories – Energy Efficiency, Renewable Energy, Clean Transportation – are aligned with those recognized by the GBP 2018 and are considered to provide environmental benefits by enabling energy efficiency, increasing renewable energy capacity and reducing emissions of the transport sector
 - Within the Energy Efficiency category, Swisscom may finance a variety of activities related to (i) network development, (ii) network operations, (iii) Internet of Things (IoT) networks, products and solutions, as well as (iv) energy efficiency improvements within buildings.
 - Network development investments aim to reduce the overall energy consumption or increase the energy efficiency of the network itself and may include a range of projects that reduce energy demand, including fibre-to-the-home (FTTH), All-IP (Internet Protocol) and 5G as well as projects to increase virtualization, such as the installation of virtual services to replace the use of multiple servers in data centers.
 - Network operations investments are aimed at reducing the energy need for cooling, increasing cooling efficiency and phasing out coolants with a high Global Warming Potential (GWP). Swisscom may install energy-efficient heating and/or cooling units that depend on refrigerants containing fluorinated greenhouse gases (F-gases). Sustainalytics notes that refrigerant management is crucial in addressing global warming and acknowledges Swisscom's commitment to promote those systems/units that contain refrigerants with low GWP and zero ozone depleting potential (zero-ODP).³
 - Investments into IoT networks are aimed at enabling IoT applications by building out the network, including rolling out Low Power Networks (LPNs), which enable highly energy-efficiency data transmissions that improves the battery life for IoT sensors and the implementation of IoT products and solutions includes rolling out smart metering, smart logistics, smart cities, smart communities, etc. For a further discussion on the potential impact of IoT to enable energy efficiency, please refer to Section 3.
 - Additionally, Swisscom may invest into energy efficiency improvements of its operational buildings. Sustainalytics recognizes the importance of improving building efficiency and positively notes Swisscom's establishment of a 30% energy efficiency thresholds for these investments.
 - Renewable Energy investments may include the installation of off-grid energy solutions, including solar panel installation or biomass heating. Swisscom has indicated that for any potential financing of biomass operations must comply with the criteria outlined in the EU Taxonomy,⁴ which Sustainalytics views positively.
 - Clean Transportation projects will be aimed at reducing the carbon footprint of the Company's fleet, for example by replacing diesel cars with electric vehicles as well as introducing tools and technology to optimize route management of field services. Sustainalytics positively views investments into zero-carbon transportation and improvements in transportation logistics.
- Project Evaluation and Selection:
 - The project evaluation and selection process is carried out on at least an annual basis by Swisscom's Green Bond Committee (the "Committee"), formed by representative from Corporate Treasury, Group Communications & Responsibility (GCR), Investor Relations and Group Controlling. GCR is responsible for the selection of eligible projects aligned with the

³ Swisscom only uses fresh-air cooling or machine cooling with cooling agent HFO-1234ze with a GWP of 6 (compared to the previous refrigerant R-134a with a GWP of 1430)

⁴ European Commission, "Sustainable finance: TEG final report on the EU taxonomy", (2020), at: https://ec.europa.eu/knowledge4policy/publication/sustainable-finance-teg-final-report-eu-taxonomy_en

Swisscom Green Bond Framework

- Framework eligibility criteria. The Committee ensures that the selected projects are aligned with the criteria as well as Swisscom's internal standards and regulations.
- Sustainalytics considers this process to be in line with market practice.
 - Management of Proceeds:
 - Swisscom will manage the green bond proceeds in a portfolio approach and management of proceeds will be overseen by Corporate Treasury. Any green bonds issues will be tracked using the Swisscom Treasury Management System. Internal budgeting and accounting systems will be used to identify project costs, which are then marked against the green bonds position in the Treasury Management System. Swisscom will strive to achieve a level of allocation for the eligible green project portfolio which matches or exceeds the balance of net proceeds from outstanding green bonds. Unallocated proceeds will be managed according to Swisscom's internal liquidity and cash management policies.
 - Sustainalytics considers this process to be in line with market practice.
 - Reporting:
 - Swisscom will report on allocation of proceeds annually, on its website, until full allocation of the net proceeds. Allocation reporting will include the total amount of investments and expenditures in the eligible green projects' portfolio, the share of financing vs refinancing and the balance of unallocated proceeds, if any. Additionally, where feasible, Swisscom will report on the environmental impact of the projects funded with the green bond proceeds or refer to existing sustainability reporting. Swisscom aligns its environmental indicators with ICMA's Harmonized Framework for Impact Reporting.⁵ For a list of potential impact indicators, see Appendix 1.
 - Sustainalytics considers this process to be in line with market practice.

Alignment with Green Bond Principles 2018

Sustainalytics has determined that the Swisscom Green Bond Framework aligns to the four core components of the GBP 2018. For detailed information please refer to Appendix 1: Green Bond/Green Bond Programme External Review Form.

Section 2: Sustainability Performance of Swisscom/ Sustainability Strategy of Swisscom

Contribution of framework to issuer's sustainability strategy and performance

Having incorporated the UN Sustainable Development Goals into its sustainability strategy, Swisscom identifies three focus areas that contribute to the environment and society, namely (i) energy efficiency and climate protection, (ii) people inclusion, and (iii) contribution to a sound economic framework.⁶ Under these focus areas, Swisscom engages with local communities, regional governments, and the federal government to support initiatives related to its network and data services. For instance, Swisscom commits to provide stable and secure access to internet, and free access to internet at all schools in Switzerland.⁷ One of Swisscom's intended financing projects under this Framework, IoT networks, has the potential to provide stable and secure connectivity, and energy efficiency savings.

Swisscom actively tracks and reports on its sustainability performance and strategy via two annual reports, the *Sustainability Report* and *Climate Report*.^{8,9} Swisscom's Sustainability Report takes a broader view on its performances and targets in areas including corporate responsibility, energy efficiency and climate protection, employee engagement, supply chain, and other stakeholder related topics. Swisscom's Climate Report discloses further details of its environmental strategies and performance with disclosures on environmental indicators such as energy consumption, CO₂ emissions (tonnes), CO₂ intensity, and environmental target achievement summary, among others. Swisscom's sustainability reporting follows the Global Reporting Initiatives (GRI) standards, while the climate reporting follows ISO 14064 standards and the Greenhouse Gas

⁵ ICMA, "Impact Reporting", (2019), at: <https://www.icmagroup.org/green-social-and-sustainability-bonds/impact-reporting/>

⁶ Information retrieved from Swisscom Green Bond Framework 2020

⁷ Swisscom Sustainability Report 2019: <https://reports.swisscom.ch/en/2019/report/sustainability-report/sustainability-strategy/sustainability-strategy-2025>

⁸ Swisscom Sustainability Report 2018: https://reports.swisscom.ch/download/2018/en/swisscom_nachhaltigkeitsbericht_gesamt_2018_en.pdf

⁹ Swisscom Climate Report 2019: https://reports.swisscom.ch/download/2019/en/swisscom_klimabericht_2019_en.pdf

Protocol (GHG).¹⁰ Both reporting systems are independently verified by third-party, Société Générale de Surveillance (SGS).

To further contribute to its business-related CO₂ emission reductions, the Company actively engages with its supply chain partners. As part of the “Investors” and “Supply Chain” projects in the Carbon Disclosure Project (CDP),¹¹ Swisscom collaborates with the Joint Audit Cooperation¹²(JAC) and seeks environmental related disclosure from its supply chain partners for collaborative CO₂ emission reductions target setting and action planning.¹³

In 2016, Swisscom set carbon reduction targets verified and approved by the Science Based Targets Initiative (SBTi).¹⁴ This included CO₂ reductions under scope 1, 2, and 3 by 2020 from 2013 levels. While Swisscom set a 10% reduction target under scope 1, Swisscom achieved a 31.6% reduction by 2019, exceeding their target.¹⁵ The CO₂ reduction targets for scope 2 and 3 have also been achieved by 2019.¹⁶ Swisscom confirms that new targets for 2025 are currently being reported to SBTi, recognizing that further reductions are still possible.¹⁷ As stated in Swisscom’s Climate Report 2019, these new 2025 targets will be in line with a 1.5 degree scenario.

In the Swisscom Climate Report 2019, the Company provides the following environmental targets beyond 2020:¹⁸

- Under the partnership with EnAW, the energy agency for Swiss private sector, between the years 2013 and 2022, Swisscom commits to an 8% reduction in CO₂ intensity of heating fuels, and a 24% reduction in CO₂ intensity of non-heating fuels.
- The Company plans to reduce 850,000 tonnes of emissions from customers, and emit 400,000 tonnes from operations and supply chain by 2025 compared to 2013 levels.¹⁹ The targeted reduction from customers is expected from Swisscom’s green portfolio of information technology (ICT) products and services, such as telepresence, collaborative communications (UCC), cloud solutions, or machine to machine/IoT applications using low power network, whereas the reduction from operations is from projects financed under this Framework.
- Swisscom has set a goal of 35% energy efficiency target from 2016 to 2020, to further the target beyond 2020, Swisscom added an additional 24% as the energy efficiency goal between 2020 and 2025.

Based on Swisscom’s active environmental reporting, along with its verified environmental targets, Sustainalytics is of the opinion that Swisscom is well positioned to issue green bonds in line with its sustainability strategy, and this issuance will further advance the Company’s sustainability performance.

Well positioned to address common environmental and social risks associated with the projects

While Sustainalytics recognizes the positive environmental impact Swisscom’s green bond proceeds will contribute to, Sustainalytics also acknowledges that these projects may have environmental and social risks, such as human rights challenges in the supply chain for raw materials critical to the ICT industry, health and safety risks associated with telecommunication network infrastructure construction and maintenance, exposure to data privacy, security and surveillance privacy risks.

As a risk mitigation mechanism, Swisscom incorporated the following policies and procedures to mitigate potential environmental, social, and privacy risks associated with the use of proceeds:

- Swisscom implemented Supply Chain Risk Management (SCRM360) system that filters and monitors, among others, environmental and social risk levels from its suppliers. With the Company’s collaboration

¹⁰ Greenhouse Gas Protocol is an internationally recognized organization that establishes global standardization for greenhouse gas measurement, management, and reporting for private and public sectors: <https://ghgprotocol.org/>

¹¹ Carbon Disclosure Project is an NGO that focuses on providing a global disclosure system for investors, private and public sectors for managing their environmental impacts: <https://www.cdp.net/en>

¹² Joint Audit Cooperation (JAC), an collaborated association of telecom operators aiming to verify, assess, and develop the Corporate social responsibility practices of suppliers in the information technology industry: <http://jac-initiative.com/>

¹³ Swisscom Climate Report 2019: https://reports.swisscom.ch/download/2019/en/swisscom_klimabericht_2019_en.pdf

¹⁴ Science Based Targets Initiative is a collaboration between Carbon Disclosure Project, UN Global Compact, World Resource Institute, and the World Wide Fund for Nature aiming at supporting companies setting ambitious and meaningful greenhouse gas reduction goals: <https://sciencebasedtargets.org/>

¹⁵ Swisscom Climate Report 2019: https://reports.swisscom.ch/download/2019/en/swisscom_klimabericht_2019_en.pdf

¹⁶ Idem

¹⁷ Idem

¹⁸ Swisscom Climate Report 2019: https://reports.swisscom.ch/download/2019/en/swisscom_klimabericht_2019_en.pdf

¹⁹ In 2013, Swisscom has avoided 285,900 tonnes of CO₂ emissions and emitted 456,700 tonnes of CO₂ emissions (scope 1 to 3).

with JAC, Swisscom works with its suppliers to understand their environmental and social risks, and aims to improve the social working conditions of two million people in its supply chain by 2025 through supply chain engagement. In its 2019 Climate Report, Swisscom states that it will join the Action Exchange Program (AEP) as part of its participation in the CDP, and further define specific development plans with individual suppliers in 2020.²⁰

- Regarding the potential risks associated to raw material supply, Swisscom actively collaborates with the Global e-Sustainability Initiative (GeSI)²¹ for supporting the Responsible Mining Initiative (RMI) and Responsible Business Alliance (RBA). These organizations monitor the origins of conflict minerals. Swisscom also enforces its corporate policy on human rights throughout its supply chain by prioritizing suppliers that can demonstrate commitments to follow Swisscom's policy requirement for social responsibility.²² Regular assessment on suppliers' social responsibility performances with on-site audits are also conducted on a regular basis.²³
- Swisscom's occupational health and safety policy is applied to Swisscom's employees, contractors, customers, and anyone that is affected by Swisscom's business activities. The policy, as certified by Swiss Federal Coordination Commission for Occupational Safety, is comparable to the internationally recognized standards OHSAS 18001,²⁴ and ISO 45001:2018.²⁵
- For addressing risks concerning customer privacy, security, and surveillance privacy, Swisscom complies with the Swiss Federal Act on Data Protection,²⁶ within which the processing and disclosure of personal data are addressed and regulated.²⁷ The Company discloses its Online Privacy Statement²⁸ in order to address Swisscom's data processing practices, such as the types of data collected, technologies used for collecting data, and use of cookies, among others. Swisscom's *Data Protection Notice (EEA)*²⁹ further explains in detail its practices of data processing, the legal basis for data processing, and the rights of those concerned to their data processing following the General Data Protection Regulation (GDPR)³⁰ of the EU.

Given the above, Sustainalytics considers Swisscom to be well positioned for mitigating the potential environmental and social risks associated with the use of proceeds under this Framework.

Section 3: Impact of Use of Proceeds

All three use of proceeds categories are recognized as impactful by GBP. Sustainalytics has focused on one below where the impact is specifically relevant in local context.

The opportunities for IoT and network development in enhancing energy efficiency

Following the Paris Agreement, Switzerland committed to halve its greenhouse gas (GHG) emissions by 2030 compared to 1990 levels. In addition, they have set long term ambitious targets to reduce emissions to zero by 2050.³¹ According to the International Energy Agency (IEA)'s statistics, GHG emissions in Switzerland in 2018 decreased by 12.2% compared to 1990 levels.³² Recognizing the need to further reduce its GHG emissions in order to meet Paris Agreement commitments, Switzerland laid out a 2050 Climate Strategy in

²⁰ Swisscom Climate Report 2019: https://reports.swisscom.ch/download/2019/en/swisscom_klimabericht_2019_en.pdf

²¹ Global e-Sustainability Initiative is a strategic partnership of the Information and Communication Technology (ICT) sector that promotes effective industry action and innovation to manage ICT-related risks and drive the innovation towards low carbon solutions.

²² Swisscom 2018 Sustainability Report (2018): <https://reports.swisscom.ch/en/2018/report/sustainability-report/fair-supply-chain/supplier-risk-management/audits/working-conditions-target>

²³ Swisscom Procurement Policy (2014): https://www.swisscom.ch/dam/swisscom/en/purchasing/documents/pdf/Einkaufspolicy_2014_online-EN.pdf.res/Einkaufspolicy_2014_online-EN.pdf

²⁴ OHSAS18001 Occupational Health and Safety Management (OHS): <https://www.bsigroup.com/en-GB/ohsas-18001-occupational-health-and-safety/>

²⁵ ISO45001:2018 Occupational Health and Safety: <https://www.iso.org/iso-45001-occupational-health-and-safety.html>

²⁶ The Swiss Federal Council, Federal Act on Data Protection (2019), at: <https://www.admin.ch/opc/en/classified-compilation/19920153/index.html>

²⁷ Swisscom, Privacy Statement, at: <https://www.swisscom.ch/en/about/privacy-statement.html>

²⁸ Swisscom, Online Privacy Statement (2016), https://www.swisscom.ch/content/dam/swisscom/nl/rechtliches/res/online-datenschutzerklaerung_en.pdf

²⁹ Swisscom, Data Protection Notice (EEA) (2018), at: <https://www.swisscom.ch/content/dam/swisscom/de/res/public/rechtliches/data-protection-notice-eea-swisscom-1805-en.pdf>

³⁰ European Commission, EU Data Protection Rules, https://ec.europa.eu/info/priorities/justice-and-fundamental-rights/data-protection/2018-reform-eu-data-protection-rules/eu-data-protection-rules_en

³¹ Federal Council aims for a climate-neutral Switzerland by 2050 (2019), Switzerland Federal Council:

<https://www.admin.ch/gov/en/start/documentation/media-releases.msg-id-76206.html>

³² International Energy Agency (IEA) Country Profile – Switzerland: <https://www.iea.org/countries/Switzerland>

2019. Following the 2050 Climate Strategy, Switzerland identified areas of focus within the energy sector, including increasing energy efficiency. The guidelines for energy efficiency improvements include a 43% reduction target in average energy consumption per capita by 2035 compared to 2000 levels.³³

As a network enabler, Internet of Things (IoT) is a system of interrelated devices that interconnects devices, software, or data, enabling advanced services that are only possible with the interactions among these devices and data. This interaction among devices and data further enables improvements in efficiency and reliability, which also enhances overall energy efficiency for end users.³⁴ Available applications under IoT, and financed under this framework include Lower Power Network (LPN), smart metering, and smart communities, among others. Swisscom's intended financing in these applications under the Framework can support users to achieve significant energy efficiency gain.³⁵ For instance, as indicated in the publication from the European Consumer Organization on smart metering, the accessibility of real-time energy consumption data for both the supply and demand of energy, energy suppliers and consumers can better manage and control their energy distribution and consumption. This can increase overall energy efficiency through enhanced optimization of energy distribution and consumption.³⁶

Swisscom engages with multiple partners and regional governments in Switzerland to support the application of IoT technologies, including Smart City initiatives. Swisscom provides the required network connectivity across smart city connected devices, supplies data for analysis, and implements network connected solutions (such as smart waste containers).³⁷ Through this enhanced network connectivity, city councils are able to collect city related energy data for planning. This includes planning for city heating networks which includes GHG emissions estimates for city infrastructure renovation planning.³⁸

In addition, projects that reduce energy demand and increase virtualization of the network offer further energy efficiency savings potential. For example, the Company's investments into improved network architecture, including Fibre-to-the-Home (FTTH), All-IP (Internet Protocol),³⁹ 5G and data virtualization can lead to increases in overall network efficiency. In regards to FTTH, a study conducted by Pricewaterhouse-Coopers and Ecobilan calculated that the "environmental impact of the deployment of a typical FTTH network will be positive within 15 years on average".⁴⁰ All-IP can create energy efficiency gains by phasing out old, analog TDM platforms and porting the ICT-traffic over to All-IP.⁴¹ Moreover, 5G networks, which offer up to 10 times more peak speed with 90% less energy used per bit than 4G networks, supports the implementation of IoT and further enables its potential to offer energy-efficiency savings for a variety of industrial applications such as smart grid.⁴² Finally, regarding data centre energy consumption, the energy saving potential through data centre virtualization can be optimized by consolidating applications run on multiple servers into one via virtualization. Through virtualization of data centres, it has been demonstrated that up to 20% energy consumption can be saved.^{43,44}

Based on this context, Sustainalytics is of the opinion that Swisscom's investments into the expansion of the IoT network and improved network efficiency can contribute to reduced energy consumption of telecommunications networks and further enable energy efficiency savings of industry. As such, Sustainalytics views Swisscom's investments as contributing to Switzerland's national goals and contributing to the transition towards a low-carbon economy.

³³ Energy Strategy 2050 once the new energy act is in force (2018), SWISS FEDERAL OFFICE OF ENERGY:

<https://www.bfe.admin.ch/bfe/en/home/policy/energy-strategy-2050.html>

³⁴ Internet of Things: Challenges and Opportunities (2014), Mukhopadhyay, S. C., & Suryadevara, N. K. To be retrieved from

<https://researchers.mq.edu.au/en/publications/internet-of-things-challenges-and-opportunities>

³⁵ Low Power Network (LPN) is a generic term used for indicating wireless network that allows long range communications at a low bit rate which demands lower power than other conventional network, such as mobile network, satellite, or Wifi: <https://www.paessler.com/it-explained/lpwa>

³⁶ Empowering Consumers Through Smart Metering (2011), The European Consumer Organization: <https://www.beuc.eu/publications/2012-00369-01-e.pdf>

³⁷ Swisscom Smart City: <https://www.swisscom.ch/en/about/company/innovation/smart-city.html#/>

³⁸ Smart City Winterthur projects: <https://smartcitywinterthur.ch/projekte/>

³⁹ Swisscom, "All IP", (2020), at : <https://www.swisscom.ch/en/about/company/portrait/network/all-ip.html>

⁴⁰ FTTH Council, "What Fibre to the Home can do for your community", (2014), at:

https://www.ftthcouncil.eu/documents/Publications/Primer_UpdateMay2014_FINAL.pdf

⁴¹ Aclara, "Why Utilities Must Migrate from TDM to IP", (2019), at: <https://blog.aclara.com/why-utilities-must-migrate-from-tdm-to-ip/>

⁴² DATA Makes Possible by Western Digital, "5G vs. 4G – A Side-by-Side Comparison", (2019), at: <https://datamakespossible.westerndigital.com/5g-vs-4g-side-by-side-comparison/>

⁴³ Jin, Y. et al. (2012), "Energy efficiency and server virtualization in data centers: An empirical investigation", at:

https://www.researchgate.net/publication/254031125_Energy_efficiency_and_server_virtualization_in_data_centers_An_empirical_investigation

⁴⁴ Sustainalytics notes that in order to achieve such energy savings, it is crucial to have a clear understanding and precise modeling of server energy usage in data centers.

Alignment with/contribution to SDGs

The Sustainable Development Goals (SDGs) were set in September 2015 and form an agenda for achieving sustainable development by the year 2030. This green bond advances the following SDG goals and targets:

Use of Proceeds Category	SDG	SDG target
Energy efficiency	7. Affordable and clean energy	7.3 By 2030, double the global rate of improvement in energy efficiency
Renewable energy	7. Affordable and clean energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
Clean Transportation	11. Sustainable cities and communities	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

Conclusion

Swisscom has developed the Swisscom Green Bond Framework under which it will issue green bonds and the use of proceeds to finance improved energy efficiency in network development, network operations and expansion of the IoT networks, products and solutions in Switzerland, as well as renewable energy and clean transportation projects. Sustainalytics is of the opinion that these projects and activities will contribute to the Company's internal sustainability strategy, Swiss national climate targets and the UN SDGs

The Swisscom Green Bond Framework outlines a process by which proceeds will be tracked, allocated, and managed, and commitments have been made for reporting on the allocation and impact of the use of proceeds. Furthermore, Sustainalytics believes that the Swisscom Green Bond Framework is aligned with the overall sustainability strategy of the company and that the green use of proceeds categories will contribute to the advancement of the UN Sustainable Development Goals. Additionally, Sustainalytics is of the opinion that Swisscom has adequate measures to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects funded by the use of proceeds.

Based on the above, Sustainalytics is confident that Swisscom is well-positioned to issue green bonds and that the Swisscom Green Bond Framework is robust, transparent, and in alignment with the four core components of the Green Bond Principles 2018.

Appendices

Appendix 1: Green Bond / Green Bond Programme - External Review Form Section 1. Basic Information

Issuer name:	Swisscom Group
Green Bond ISIN or Issuer Green Bond Framework Name, if applicable: <i>[specify as appropriate]</i>	Swisscom Green Bond Framework
Review provider's name:	Sustainalytics
Completion date of this form:	March 13, 2020
Publication date of review publication: <i>[where appropriate, specify if it is an update and add reference to earlier relevant review]</i>	

Section 2. Review overview

SCOPE OF REVIEW

The following may be used or adapted, where appropriate, to summarize the scope of the review.

The review assessed the following elements and confirmed their alignment with the GBPs:

- | | |
|--|--|
| ☒ Use of Proceeds | ☒ Process for Project Evaluation and Selection |
| ☒ Management of Proceeds | ☒ Reporting |

ROLE(S) OF REVIEW PROVIDER

- | | |
|---|--|
| ☒ Consultancy (incl. 2 nd opinion) | ☐ Certification |
| ☐ Verification | ☐ Rating |
| ☐ Other (please specify): | |

Note: In case of multiple reviews / different providers, please provide separate forms for each review.

EXECUTIVE SUMMARY OF REVIEW and/or LINK TO FULL REVIEW (if applicable)

Please refer to Evaluation Summary above.

Section 3. Detailed review

Reviewers are encouraged to provide the information below to the extent possible and use the comment section to explain the scope of their review.

1. USE OF PROCEEDS

Overall comment on section (*if applicable*):

The eligible categories for the use of proceeds Energy efficiency, Renewable energy, Clean Transportation, are aligned with those recognized by the Green Bond Principles 2018. Sustainalytics considers that the eligible categories will lead to positive environmental impacts and advance the UN Sustainable Development Goals, specifically SDGs 7 & 11.

Use of proceeds categories as per GBP:

- | | |
|--|--|
| ☒ Renewable energy | ☒ Energy efficiency |
| ☐ Pollution prevention and control | ☐ Environmentally sustainable management of living natural resources and land use |
| ☐ Terrestrial and aquatic biodiversity conservation | ☒ Clean transportation |
| ☐ Sustainable water and wastewater management | ☐ Climate change adaptation |
| ☐ Eco-efficient and/or circular economy adapted products, production technologies and processes | ☐ Green buildings |
| ☐ Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBPs | ☐ Other (<i>please specify</i>): |

If applicable please specify the environmental taxonomy, if other than GBPs:

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section (*if applicable*):

Swisscom's internal process in evaluating and selecting projects is managed by Swisscom's Green Bond Committee, formed by representatives from Corporate Treasury, Group Communications & Responsibility, Investor Relations and Group Controlling. The Green Bond Committee ensures that the selected Eligible Green Projects align with the eligibility criteria outlined in the Framework. Sustainalytics considers the project selection process to be aligned with market practice.

Evaluation and selection

- | | |
|---|---|
| ☒ Credentials on the issuer's environmental sustainability objectives | ☒ Documented process to determine that projects fit within defined categories |
|---|---|

- | | |
|--|--|
| ☒ Defined and transparent criteria for projects eligible for Green Bond proceeds | ☐ Documented process to identify and manage potential ESG risks associated with the project |
| ☒ Summary criteria for project evaluation and selection publicly available | ☐ Other (<i>please specify</i>): |

Information on Responsibilities and Accountability

- | | |
|--|--|
| ☒ Evaluation / Selection criteria subject to external advice or verification | ☐ In-house assessment |
| ☐ Other (<i>please specify</i>): | |

3. MANAGEMENT OF PROCEEDS

Overall comment on section (*if applicable*):

Swisscom's processes for management of proceeds is handled by the Corporate Treasury. Proceeds will be tracked using a Treasury Management System. Swisscom will strive to achieve a level of allocation for the Eligible Green Project Portfolio which matches or exceeds the balance of net proceeds from its outstanding Green Bonds. The balance unallocated proceeds, if any, will be managed following Swisscom's liquidity and cash management policies. This is in line with market practice.

Tracking of proceeds:

- | |
|---|
| ☒ Green Bond proceeds segregated or tracked by the issuer in an appropriate manner |
| ☒ Disclosure of intended types of temporary investment instruments for unallocated proceeds |
| ☐ Other (<i>please specify</i>): |

Additional disclosure:

- | | |
|---|---|
| ☐ Allocations to future investments only | ☒ Allocations to both existing and future investments |
| ☐ Allocation to individual disbursements | ☒ Allocation to a portfolio of disbursements |
| ☒ Disclosure of portfolio balance of unallocated proceeds | ☐ Other (<i>please specify</i>): |

4. REPORTING

Overall comment on section (*if applicable*):

Swisscom intends to report allocation proceeds on its website on an annual basis until full allocation. Allocation reporting will include the total amounts allocated to eligible projects, the share of refinancing vs financing and the balance of unallocated proceeds. In addition, where feasible, Swisscom is committed to reporting on relevant impact metrics. Sustainalytics views Swisscom's allocation and impact reporting as aligned with market practice.

Use of proceeds reporting:

- | | |
|--|--|
| ☐ Project-by-project | ☒ On a project portfolio basis |
| ☐ Linkage to individual bond(s) | ☐ Other (<i>please specify</i>): |

Information reported:

- | | |
|---|--|
| ☒ Allocated amounts | ☐ Green Bond financed share of total investment |
| ☐ Other (<i>please specify</i>): | |

Frequency:

- | | |
|---|--------------------------------------|
| ☒ Annual | ☐ Semi-annual |
| ☐ Other (<i>please specify</i>): | |

Impact reporting:

- | | |
|--|--|
| ☐ Project-by-project | ☒ On a project portfolio basis |
| ☐ Linkage to individual bond(s) | ☐ Other (<i>please specify</i>): |

Frequency:

- | | |
|---|--------------------------------------|
| ☒ Annual | ☐ Semi-annual |
| ☐ Other (<i>please specify</i>): | |

Information reported (expected or ex-post):

- | | |
|--|--|
| ☐ GHG Emissions / Savings | ☐ Energy Savings |
| ☐ Decrease in water use | ☐ Other ESG indicators (<i>please specify</i>): |

Energy efficiency

- Annual direct energy savings (in MWh)
- Increase of efficiency (%) against base year (2013)
- Annual GHG emissions scope 1 and 2 (in tons CO₂eq)
- GHG intensity (tons CO₂eq / denominator).

Denominator = TJ und turnover Switzerland in CHF

Renewable energy

- Annual additional energy capacity (kW)
- Annual GHG emissions avoided (tons of CO₂eq)

Clean transportation

- Number of vehicles (#) and energy efficiency categories of the fleet (A, B, ...)
- GHG emissions scope 1 mobility (tons of CO₂eq per year)

Means of Disclosure

- | | |
|---|---|
| ☐ Information published in financial report | ☐ Information published in sustainability report |
| ☐ Information published in ad hoc documents | ☒ Other (please specify): Annual Report |
| ☐ Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review): | |

Where appropriate, please specify name and date of publication in the useful links section.

USEFUL LINKS (e.g. to review provider methodology or credentials, to issuer's documentation, etc.)

<https://www.swisscom.ch/en/about/investors/financing.html>
<https://www.swisscom.ch/en/about/company/sustainability.html>

SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE**Type(s) of Review provided:**

- | | |
|--|--|
| ☐ Consultancy (incl. 2 nd opinion) | ☐ Certification |
| ☐ Verification / Audit | ☐ Rating |
| ☐ Other (please specify): | |

Review provider(s):**Date of publication:****ABOUT ROLE(S) OF INDEPENDENT REVIEW PROVIDERS AS DEFINED BY THE GBP**

- i. Second Party Opinion: An institution with environmental expertise, that is independent from the issuer may issue a Second Party Opinion. The institution should be independent from the issuer's adviser for its Green Bond framework, or appropriate procedures, such as information barriers, will have been implemented within the institution to ensure the independence of the Second Party Opinion. It normally entails an assessment of the alignment with the Green Bond Principles. In particular, it can include an assessment of the issuer's overarching objectives, strategy, policy and/or processes relating to environmental sustainability, and an evaluation of the environmental features of the type of projects intended for the Use of Proceeds.
- ii. Verification: An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or environmental criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria. Assurance or attestation regarding an issuer's internal tracking method for use of proceeds, allocation of funds from Green Bond proceeds, statement of environmental impact or alignment of reporting with the GBP, may also be termed verification.

Swisscom Green Bond Framework

- iii. Certification: An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against a recognized external green standard or label. A standard or label defines specific criteria, and alignment with such criteria is normally tested by qualified, accredited third parties, which may verify consistency with the certification criteria.
- iv. Green Bond Scoring/Rating: An issuer can have its Green Bond, associated Green Bond framework or a key feature such as Use of Proceeds evaluated or assessed by qualified third parties, such as specialized research providers or rating agencies, according to an established scoring/rating methodology. The output may include a focus on environmental performance data, the process relative to the GBP, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material environmental risks.

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Sustainalytics is a leading independent ESG and corporate governance research, ratings and analytics firm that supports investors around the world with the development and implementation of responsible investment strategies. With 13 offices globally, the firm partners with institutional investors who integrate ESG information and assessments into their investment processes. Spanning 30 countries, the world's leading issuers, from multinational corporations to financial institutions to governments, turn to Sustainalytics for second-party opinions on green and sustainable bond frameworks. Sustainalytics has been certified by the Climate Bonds Standard Board as a verifier organization and supports various stakeholders in the development and verification of their frameworks. In 2015, Global Capital awarded Sustainalytics "Best SRI or Green Bond Research or Ratings Firm" and in 2018 and 2019, named Sustainalytics the "Most Impressive Second Party Opinion Provider". The firm was recognized as the "Largest External Reviewer" by the Climate Bonds Initiative as well as Environmental Finance in 2018, and in 2019 was named the "Largest Approved Verifier for Certified Climate Bonds" by the Climate Bonds Initiative. In addition, Sustainalytics received a Special Mention Sustainable Finance Award in 2018 from The Research Institute for Environmental Finance Japan and the Minister of the Environment Award in the Japan Green Contributor category of the Japan Green Bond Awards in 2019.

For more information, visit www.sustainalytics.com

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