



SECOND PARTY OPINION¹

ON THE SUSTAINABILITY OF THE REPUBLIC AND CANTON OF GENEVA'S GREEN BOND

October 2019

SCOPE

Vigeo Eiris was commissioned to provide an independent opinion (thereafter “Second Party Opinion” or “SPO”) on the sustainability credentials and management of the Green Bond² (“Bond”) to be issued by the Republic and canton of Geneva (the “Canton”, the “State” or the “Issuer”).

Our opinion is established according to Vigeo Eiris’ Environmental, Social and Governance (“ESG”) exclusive assessment methodology and to the ICMA’s Green Bond Principles (“GBP”) voluntary guidelines, edited in June 2018.

Our opinion is built on the review of the following components:

- 1) **Issuer:** we assessed the Issuer’s level of integration of ESG factors in its commitments and ESG strategy and the Issuer’s management of potential stakeholders-related ESG controversies.
- 2) **Issuance:** we assessed the characteristics of the Green Bond, including its coherence with the Issuer’s environmental commitments, the Bond’s potential contribution to sustainability and its alignment with the four core components of the GBP 2018.

Our sources of information are multichannel, combining data from (i) information gathered from public sources, press content providers and stakeholders, (ii) information provided by the Issuer through documents and interviews conducted with Issuer’s managers involved in the Bonds issuance, held *on site*.

We carried out our due diligence assessment from September 4th to October 7th, 2019. We consider that we were provided with access to all the appropriate documents and interviewees we solicited. We consider that the information made available enables us to establish our opinion with a reasonable level of assurance on its completeness, precision and reliability.

VIGEO EIRIS’ OPINION

Vigeo Eiris is of the opinion that the Republic and canton of Geneva’s Framework is aligned with the four core components of the Green Bond Principles 2018.

We express a reasonable assurance³ (our highest level of assurance) on the Issuer’s commitments and on the contribution of the contemplated Bond to sustainability.

1) Issuer (see Part I):

- ▶ In October 2019, the level of integration by the Republic and Canton of Geneva of ESG factors into its commitments and strategy is considered reasonable.
- ▶ As of today, the Issuer is not facing any stakeholder-related ESG controversies related to its operations or the CEVA Project.

2) Issuance (see Part II):

The Issuer has described the main features of the Green Bond in its Framework (dated 30 September 2019) and has undertaken to make this document publicly available on its website⁴ before the Bond’s issuance date, in line with good market practices.

We consider that the proposed Bond is consistent with the Issuer’s strategic priorities and commitments with respect to sustainable development and its sectoral challenges.

¹ This opinion is to be considered as the “Second Party Opinion” described in the GBP voluntary guidelines (June 2018 Edition) edited by the International Capital Market Association (www.icmagroup.org).

² The “Green Bond” is to be considered as the bond to be potentially issued, subject to the discretion of the Issuer. The name “Green Bond” has been decided by the Issuer: it does not imply any opinion from Vigeo Eiris.

³ The definitions of Vigeo Eiris’ scales of assessment are detailed in the Methodology section.

⁴ <https://www.ge.ch/>

Use of Proceeds

- ▶ The net proceeds of the Bond will be exclusively used to refinance a single Project, namely a portion of the construction costs of the Cornavin - Eaux-Vives - Annemasse (CEVA) railway link. The Selected Project is clearly defined within the Framework and dedicated documents.
- ▶ The Selected Project is likely to contribute to the following environmental objective: the mitigation of climate change. This objective is formalized in the Issuer's Framework and is considered to be clearly defined and relevant.
- ▶ The Selected Project has the potential to offer clear environmental benefits. An area for improvement would be to estimate ex-ante quantified environmental targets. The Issuer commits to communicate to the investors the benefits of the Bond as part of the annual reporting exercise. It should be noted that the Selected Project also has the potential to offer social co-benefits in terms of mobility and economic development of the canton.
- ▶ The Selected Project is likely to contribute to two United Nations' Sustainable Development Goals (SDGs): SDG 11. Sustainable Cities and Communities and SDG 13. Climate action.
- ▶ The Issuer has communicated transparently in its Framework that the refinancing share will be 100%. The proceeds are already fully invested, and the Issuance will allow the Project to be refinanced at the moment of the commissioning date (opening of the railway line on December 15th, 2019). The use of funds covers expenses incurred since the beginning of the project (in 2005).

Process for Projects Evaluation and Selection

- ▶ The governance and processes for decision-making and evaluation of the Selected Project are formalized in the Issuer's Framework. We consider the process to be reasonably structured, transparent and relevant.
- ▶ The process is based on explicit and relevant eligibility criteria.
- ▶ The identification and management of the environmental and social risks associated with the Project Selected by the Issuer are considered good.

Management of Proceeds

- ▶ The rules for the management of proceeds are clearly defined. We consider that they allow for a documented and transparent allocation process.

Reporting

- ▶ The commitments and reporting processes are considered good, covering both the allocation of funds and the environmental benefits expected from the Selected Project.
- ▶ The reporting, results and impact indicators are considered clear and relevant.

The Issuer has committed that its Green Bond will be supported by external reviews:

- A pre-issuance consultant review: the hereby Second Party Opinion delivered by Vigeo Eiris, covering all the features of the Bonds, based on pre-issuance assessment and commitments, to be made publicly available by the Issuer on its website⁵, at the date of issuance.
- An annual verification: an external verification performed by a third-party auditor, covering (i) the management of the funds (control of internal methods of allocation and allocation of funds) and (ii) the reporting on the environmental impacts of the Project, annually and up to two years after the commissioning of the Project (opening of the railway line).

This Second Party Opinion is based on the review of the Framework and information provided by the Issuer, according to our exclusive assessment methodology and to the GBP voluntary guidelines (June 2018)

Paris, October 7th, 2019

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⁵ <https://www.ge.ch/>

Disclaimer

Transparency on the relation between Vigeo Eiris and the Issuer: Vigeo Eiris has carried out one mission for the Republic and canton of Geneva in November 2017. No established relationship (financial or other) exists between Vigeo Eiris and the Issuer.

This opinion aims at providing an independent opinion on the sustainability credentials and management of the Bond, based on the information which has been made available to Vigeo Eiris. Vigeo Eiris has neither interviewed stakeholders out of the Issuer's employees, nor performed an on-site audit nor other test to check the accuracy of the information provided by the Issuer. The accuracy, comprehensiveness and trustworthiness of the information collected are a responsibility of the Issuer. Providing this opinion does not mean that Vigeo Eiris certifies the effectiveness, the excellence or the irreversibility of the assets to be financed by the Bond. The Issuer is fully responsible for attesting the compliance with its commitments defined in its policies, for their implementation and their monitoring. The opinion delivered by Vigeo Eiris neither focuses on the financial performance of the Bond, nor on the effective allocation of its proceeds. Vigeo Eiris is not liable for the induced consequences when third parties use this opinion either to make investments decisions or to make any kind of business transaction.

Restriction on distribution and use of this opinion: the opinion is provided by Vigeo Eiris to the Issuer and can only be used by the Issuer. The distribution and publication are at the discretion of the Issuer, submitted to Vigeo Eiris approval.

DETAILED RESULTS

Part I. ISSUER

The Issuer is the Republic and Canton of Geneva, within the Swiss Confederation.

Level of integration by the Issuer of ESG factors into its commitments and strategy

In October 2019, the level of integration by the Republic and Canton of Geneva of ESG factors into its commitments and strategy is considered reasonable.

Pillar	Comments	Opinion
Environmental	<p>We obtain a reasonable assurance concerning the Issuer's ability to integrate relevant environmental factors into its strategy.</p> <p>In 2001, Geneva was the first Swiss canton to adopt an Agenda 21 and a law on public action for sustainable development, which was subsequently repealed and updated in 2016. The "Cantonal Concept of Sustainable Development 2030", adopted by the State Council in 2017, completes the law by detailing the canton's strategy for 2030. In this document, the Issuer defined guidelines and strategic priorities for action in the field of sustainable development and the State Council adopted an action plan and associated indicators in June 2019.</p> <p>The canton has formalized several quantified objectives related to its environmental responsibilities:</p> <ul style="list-style-type: none"> - Carbon neutrality by 2050 (equivalent to 1t/CO2/per person) - 40% reduction in greenhouse gas (GHG) emissions by 2030 (baseline year: 1990) - Achieve a 70% recycling rate for urban waste by 2020 - Extension of the lifespan of consumer goods in an objective of circular economy with a target to reduce the volume of waste and associated CO2 emissions by 70 kt CO2e by 2030 (baseline year: 1990) - Reduce transport-related GHG emissions by 32% by 2030 (baseline year: 1990) - In addition, the Issuer discloses targets regarding the reduction of water and energy consumption in its own buildings and for recycling waste on its construction sites. 	Reasonable
	<p>The State also adopted a multimodal strategy "Mobility 2030" in 2013 concerning long-term mobility and a medium-term management plan (covering a period of ten years). The management plan is divided into four pillars (public transport, road network, soft mobility and parking). Cycling facilities and pedestrian paths (soft mobility) are planned by the State to provide a complete and secure network for the transport of people within the canton and with neighboring regions.</p> <p>In addition, the Issuer has a responsible water management policy but does not communicate associated quantified objectives.</p> <p>The Issuer is currently developing a biodiversity strategy, which will include quantified targets.</p> <p>With regard to the integration of environmental factors into its supply chain, the Issuer's objective is to achieve 100% of public and invited tenders incorporating sustainable development criteria by 2023.</p>	Limited
	<p>The Issuer is currently developing a biodiversity strategy, which will include quantified targets.</p> <p>With regard to the integration of environmental factors into its supply chain, the Issuer's objective is to achieve 100% of public and invited tenders incorporating sustainable development criteria by 2023.</p>	Weak
Social	<p>We obtain a reasonable assurance on the Issuer's ability to integrate relevant social factors into its strategy.</p> <p>The Issuer is transparent about its policy regarding employees' career management. In addition, with regard to occupational safety, a Federal Coordination Commission has promulgated measures called the "Doctors and Other Occupational Safety Specialists" Directives. All companies in the canton are affected by these directives and the cantonal administration is also subject to them. Quantified objectives have been defined:</p>	Reasonable

	<ul style="list-style-type: none"> - Entities with an occupational accident and disease frequency of more than 50 cases per 1000 FTEs (Full-Time Equivalents) should aim to reduce this frequency by 20% in 5 years - Entities with an occupational accident and disease frequency of less than 50 cases per 1000 FTE should aim to reduce this frequency by 10% in 5 years - Entities with an absenteeism rate greater than 9 days per FTE should aim to reduce this rate by 10% over 5 years - Entities with an absenteeism rate of less than 9 days per FTE should aim to reduce this rate by 5% over 5 years. <p>The Geneva Constitution and the legislative framework in place are guaranteeing the respect of fundamental human rights (Dignity, Right to life and integrity, Personal freedom, Protection of the private sphere, Guarantee of ownership of work) and respect for labor rights (Freedom of association, Right to strike, Freedom of opinion and expression). In addition, the Swiss Charter for Diversity at Work covers all categories of non-discrimination and applies to all work situations: interviews, conditions, remuneration, promotion, training, etc.</p>	Limited
		Weak
Governance	<p>We obtain a reasonable assurance regarding the Issuer's ability to integrate Responsible Governance matters into its operations.</p> <p>In order to support participation in elections and polls, the State of Geneva has set up an electronic and postal voting system. The participation rate in the last local elections was 45.3%.</p> <p>The cantonal political system allows any citizen to appeal any bill adopted by the Great Council by proposing an optional cantonal referendum to request that a law or other act creating expenses be submitted to a popular vote (deadline to submit is 40 days from the publication of the act). The number of signatures required to submit an optional referendum is proportional to the number of voters in the canton (2%). In addition, any citizen may propose a new popular initiative (request to amend the Geneva Constitution or submission of a bill to the Great Council). The number of signatures required to submit a popular initiative is proportional to the number of voters in the canton (3% for the constitutional initiative and 2% for the legislative initiative).</p> <p>The State Council meets every week and a "Press Briefing" is organized after each meeting and the conclusions are published on the Canton's website.</p> <p>The Audit Committee is composed of three magistrates, a risk manager, a representative of the internal audit department and the Director of the State's Finance department. The Issuer's Internal Audit Service has the following responsibilities: evaluating governance processes, risk management and control processes; monitoring performance indicators; making recommendations to improve the effectiveness of systems; and reporting on actions taken to correct identified weaknesses.</p> <p>In order to monitor the measures voted on and the effectiveness of the use of public funds in projects, an investment management tool (GE-Invest) is in place. This tool was developed by the State of Geneva, for the State of Geneva. All capital expenditures are integrated into this management tool.</p>	Reasonable
		Limited

	<p>The State publishes an annual Environmental Performance Report of the State of Geneva, which has been subject to internal control.</p> <p>The territorial development of the canton of Geneva is one of the themes of the Cantonal Concept of Sustainable Development 2030, in which the following objectives are defined: (i) ensure urban planning that respects the principles of a compact, multipolar and green agglomeration, (ii) meet present and future needs in terms of housing, equipment and reception areas for economic activities, (iii) pursue a spatial planning policy based on a multimodal transport design that allows better urban functioning, improves air quality, reduces noise pollution and reduces CO2 emissions, and (iv) ensure optimal use of the land and enhance the quality and richness of rural areas and landscapes.</p> <p>Social cohesion is one of the themes of the Cantonal Concept of Sustainable Development 2030, which defines the following objectives: access to fundamental rights, economic, social and cultural well-being.</p>	<p>Weak</p>
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Management of stakeholders-related ESG controversies

As of today, the Issuer is not facing any stakeholder-related ESG controversies related to its operations or the CEVA Project.

Part II. ISSUANCE

Coherence of the Issuance

Context note: According to the Intergovernmental Panel on Climate Change (IPCC), transport is the second largest source of global Greenhouse Gas Emissions after electricity production. Transport is responsible for 23% of all energy-related CO₂ emissions worldwide and 14% of total greenhouse gas emissions⁶.

In its “Roadmap for a Single European Transport Area”⁷, the European Commission estimates that a reduction in emissions from the transport sector of at least 60% by 2050 (compared to 1990 levels) is necessary to limit climate change below 2 degrees. Among the levers identified to achieve these objectives, the Commission stresses that priority must be given to rail transport over car and air transport. In particular, the Roadmap encourages the tripling of the existing rail network in Europe by 2030 and the guarantee that most medium-distance passenger transport will be by rail by 2050.

We consider that the proposed Obligation is consistent with the Issuer's strategic priorities and commitments with respect to sustainable development and its sectoral challenges.

In 2012, a new cantonal constitution was adopted confirming the canton's role in the fight against climate change and notably greenhouse gas emissions. In 2017, the State Council adopted the Cantonal Concept of Sustainable Development 2030, which defines the strategic priorities for Sustainable Development by 2030.

The Cantonal Climate Plan was adopted in 2015 (part 1 of the Cantonal Climate Plan) and updated in 2017 (part 2). The two overall objectives of the plan are:

- Reduce by 2030 greenhouse gas (GHG) emissions by 40% compared to 1990 (reduction);
- Anticipate and manage the effects of climate change on Geneva's territory (adaptation).

Part 2 of the Cantonal Climate Plan (also called *Plan to reduce greenhouse gas emissions and adapt to climate change* for the 2018-2022 phase) includes six areas and various associated strategic axes:

- Buildings: reduce the dependence of buildings on fossil fuels and promote renewable energies.
- Mobility: promote low-carbon mobility.
- Consumer goods: promote more energy-efficient production and consumption patterns.
- Urban planning: taking climate change into account in spatial development.
- Health: to protect the population from the adverse effects of climate change.
- Natural areas/biodiversity: protecting water, biodiversity, agriculture and forests from climate change.

The CEVA railway link project, which aims to promote low-carbon mobility, is therefore in line with the Cantonal Climate Plan and the canton's sustainable development objectives. The canton reports that in 2012, mobility-related GHG emissions were responsible for 19% of the total GHG emissions of the canton of Geneva and are mainly due to individual motorized traffic and freight transport, which represent nearly 97% of the emissions of the mobility sector. The Cantonal Climate Plan 2030 announces that the reduction of emissions will have to be achieved through the reduction of journeys made by private motorized transport, in particular through a modal shift towards soft mobility and public transport, as well as through the optimization of freight transport.

By issuing a green bond to refinance a Low Carbon Mobility Project, the Issuer is in line with its sustainable development strategy and commitments and addresses the main challenges of the sector.

⁶ Sims R. et al., « Transport ». In: “Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change”, 2014.

⁷ European Commission, « Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system », COM (2011)144, 28/03/2011

Use of proceeds

The net proceeds of the Bond will be exclusively used to refinance a single Project, namely a portion of the construction costs of the Cornavin - Eaux-Vives - Annemasse (CEVA) railway link. The Selected Project is clearly defined within the Framework and dedicated documents.

The Selected Project is likely to contribute to the following environmental objective: the mitigation of climate change. This objective is formalized in the Issuer's Framework and is considered to be clearly defined and relevant.



The Selected Project has the potential to offer clear environmental benefits. An area for improvement would be to estimate ex-ante quantified environmental targets. The Issuer commits to communicate to the investors the benefits of the Bond as part of the annual reporting exercise. It should be noted that the Selected Project also has the potential to offer social co-benefits in terms of mobility and economic development of the canton.

The Issuer has communicated transparently in its Framework that the refinancing share will be 100%. The proceeds are already fully invested, and the Issuance will allow the Project to be refinanced at the moment of the commissioning date (opening of the railway line on December 15th, 2019). The use of funds covers expenses incurred since the beginning of the project (in 2005).

Project category	Definition	Expected objectives and benefits	Vigeo Eiris analysis
Low Carbon Mobility	<p>Expenditure on the construction of the CEVA railway line: Cornavin (Switzerland) - Eaux-Vives (Switzerland) - Annemasse (France), while serving the main centers of activity in Geneva.</p> <p>The line built is 16km long, including 14km on the Swiss territory.</p> <p>Construction work began in 2011 and the commissioning of the "Léman Express" Regional Express Network (RER) on the Cornavin - Eaux-Vives - Annemasse (CEVA) route is planned for 15 December 2019.</p>	<p>Climate change mitigation</p> <p><i>Avoidance of CO2 emissions</i></p> <p><i>12% reduction in road traffic on the territory of the Geneva canton</i></p> <p>Improving mobility and economic promotion of the Franco-Vaud-Geneva region</p> <p><i>80% of Geneva's inhabitants live less than 1.5 km from a Léman Express station</i></p> <p><i>86% of the jobs in the Canton of Geneva are located less than 1.5 km from a Léman Express station</i></p>	<p>The definition of the Project is clear. Environmental and social objectives are clearly defined and relevant. Environmental and social benefits are clearly defined.</p>

The State of Geneva and the Confederation share the costs of the project for the part on the Swiss territory.

The Selected Project is likely to contribute to two United Nations' Sustainable Development Goals (SDGs): SDG 11. Sustainable Cities and Communities and SDG 13. Climate action.

Project Selected	SDG identified	SDG targets
CEVA railway link	SDG 11. Sustainable cities and communities 	11.2 - <i>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.</i>
	SDG 13. Climate action 	NA

Process for Projects Evaluation and Selection

The governance and processes for decision-making and evaluation of the Selected Project are formalized in the Issuer's Framework. We consider the process to be reasonably structured, transparent and relevant.

The evaluation and selection process is structured and clearly defined.

The evaluation and selection of eligible projects is based on relevant internal expertise, with well-defined roles and responsibilities.

- First, the State Council validates the 10-year investment plan. The investment plan is composed of voted laws, bills submitted to the Grand Council and bills defined as first priority by the Council of State. Each investment project is then submitted to the vote of the Great Council in the form of a draft law.
- For the selection of the Project for the Green Bond issue, a working group within the finance and human resources department reviewed the projects included in the canton's investment plan. A selection of projects worth more than CHF 50 million was then made. This selection has been limited to projects commissioned since the end of 2017 or which will be commissioned by the end of 2020. The working group then selected a significant project in the field of mobility (the CEVA project).
- In order to validate the selected project, the agreement of the infrastructure department (in charge of project monitoring and implementation) was also required.

The traceability and verification of project selection and evaluation are ensured throughout the process:

- The Project has been publicly documented (draft laws) and the traceability of selection decisions is guaranteed by the working Group's decision-making process, based on public information.
- As soon as they are approved, the projects are integrated into an internal monitoring tool (GE-Invest) and quarterly monitoring is mandatory (qualitative and financial monitoring). The GE-Invest tool enables the monitoring of the project's stages, progress, actions, status and associated dates and stakeholders.
- The Steering Committee of the CEVA project, on behalf of the State Council, submits an annual report to the Parliamentary Committee of the Grand Council on the progress of the project. In addition, a report entitled "CEVA Quarterly⁸" is presented to the said commission on a quarterly basis. This report is then published on CEVA's website to inform the general public of the progress of the work, the budget and the latest news on the construction site by geographical section.

The process is based on explicit and relevant eligibility criteria.

- As part of the multi-year planning, the State Council sets up pre-selection committees for investments (mobility, buildings and information and communication systems). These commissions are responsible for issuing notifications to the State Council regarding the order of priority of investments and establish selection criteria. The criteria must consider at least the degree of constraint (legal, technical or usage constraint resulting from a major need of the population), the relevance of the needs, the circle of beneficiaries (number of beneficiaries), the maturity of the project, the environmental impacts (economic prosperity, environmental quality and social solidarity) and the financial performance (analysis of expected savings, avoided expenses or generated revenues).

⁸ Projet CEVA, Documentation, CEVA Trimestriel - <https://www.ceva.ch/category/documentation/ceva-trimestriel/>

The identification and management of the environmental and social risks associated with the Project Selected by the Issuer are considered good.

Environmental risks

Environmental management and eco-construction: Before the project, an environmental impact assessment (EIA) was carried out for the CEVA project. The EIA covers 18 areas such as noise, vibrations and sound, groundwater or surface water, fauna and flora, natural environments and forests. The report analyses the situation with and without CEVA and describes the environmental impacts of the project and details the protection or compensation measures to be taken. These are the environmental obligations and conditions laid down in the authorization procedure. In addition, a report entitled "Environmental Monitoring of the Implementation Phase" is published every six months to monitor environmental loads, the site and other environmental areas as well as a summary of environmental non-conformities. The report is composed of environmental engineering offices, which have been preparing and monitoring all relevant environmental measures for construction, ensuring compliance with environmental protection requirements and standards since 2009. An environmental management system is in place and covers the various environmental aspects mentioned below.

The canton has allocated the control of the worksites to the various technical services (including the General Direction of Water, the General Direction of Nature and Landscape, the General Direction of Geology, Soil and Waste and the Service for Air, noise and non-ionizing radiation). If, during an inspection, a cantonal technical service finds significant defects, it will set a reasonable period of time for the site managers to solve the issue. At the end of the deadline, the cantonal technical service carries out a control visit.

Management of energy consumption and reduction of associated emissions: We have limited information on energy consumption management and the reduction of polluting emissions on construction sites. Their management could be an area for improvement.

Construction site water management: The CEVA project must comply with the General Water Evacuation Plan and the Regional Water Evacuation Plan. Polluted and accidental water must be connected to the appropriate collectors of the City of Geneva's public water purification system and non-polluted water must be connected to the non-polluted water collector of the public water purification system. The construction site water is "washed" in settling installations (heavy and dirty elements fall to the bottom of the basin) and filtration (the water passes through columns filled with coal and/or sand that retain the dirty elements), installed on each site. The project defined PH levels to be respected in the water. Regular controls are carried out directly by the General Directorate of Water and through systems set up by third parties. The reasonable use of water on construction sites does not seem to be formalised, which would be an area for improvement.

Prevention and control of local pollution (noise, vibrations, dust, soil): Measures are in place to minimize local pollution during the construction phases. Work periods are defined and limited to minimize noise pollution and information to residents is provided. The level of dust in the air is monitored and analyzed using a particle collection device and continuously operating measuring stations.

The train traffic during the operating phase can cause vibrations and solid sound (perceived by the human ear as a muffled rumble, as it comes from the transmission of vibrations in the ground and buildings built above). Models were used to predict the sensitive areas of the CEVA route in accordance with current standards and anti-vibration devices were installed under the rail over the entire CEVA route.

Waste management: During the construction period, waste was sorted on site or in specific facilities. In total, 2 million cubic meters of material were excavated and about 30% were directly reused on site. The balance of the valuations was used on other sites, exported or processed in special landfills.

Biodiversity protection: The issuer is reporting on several measures concerning biodiversity protection in the areas affected by CEVA's work. These measures concern in particular fauna (various shelters created during the construction period and the Greenway is intended to recreate favorable environments), flora (rare or endangered species have been identified, harvested and will be replanted in the same areas), forests (trees will be replanted on the same areas at the end of the works or in other sectors, in line with the Federal Law on Nature Protection) and natural areas (measures to replant indigenous hedges, grasslands and grass slopes). In addition, the redevelopment of the interfaces around stations is the subject of development competitions initiated by the Office de l'Urbanisme du canton de Genève. Some structures come into contact with groundwater (superficial or deeper). Tests were carried out at the end of 2005 to ensure the reliability of the planned construction methods. The results ruled out any damage to groundwater and confirmed the planned measures. The groundwater tables concerned by the project are regularly monitored (water levels and chemical quality) through a network of more than 50 control points. Measures have also been put in place to preserve aquatic and terrestrial wildlife.

Social risks

Respect for fundamental human and labor rights: The respect of cantonal legislation applies to this project and is monitored by the Cantonal Office for Labor inspection and Relations, including regarding the respect for fundamental human and labor rights.

Health and safety management: A General Safety Coordination Plan has been formalized concerning the organization of the construction site and in particular the safety directives. Before the start of the construction site, each company selected on the project formalizes a Health and Safety Plan which contains all the information related to the application of the General Safety Coordination Plan on their part of the site. A Company Safety Manager is responsible for preventing accidents on each work section batch (approximately 20 divided into 6 zones) through "safety quarter hour" and regular audits. In addition, a Representative Safety Manager (RSM) is in charge at each zone level to supervise and coordinate the work packages in the zone, by supporting the Safety Manager and the Construction department. RSMs also carries out regular audits. A Safety Coordinator for the Project Manager ensures the overall supervision of the project in collaboration with the various Company Safety Managers, Representative Safety Managers and other official services (Site Inspectorate, SUVA, OCIRT, SIS, police, etc.). On the project, the early identification of risks makes it possible to implement preventive protection measures. The implementation of these measures is subject to daily audits and additional measures are sometimes implemented during the construction work, if necessary. Any incident or accident is analyzed in order to draw conclusions and implement corrective measures at the accident site and other CEVA work areas.

Quality of working conditions: A Tripartite CEVA Work Support Unit (CATTTC) was set up in 2010, with the objective of implementing and monitoring mechanisms to ensure that working conditions are monitored and strictly respected (during the submission, award or execution of the service and in particular in the event of subcontracting). In addition, in 2014, an agreement to strengthen controls on CEVA sites was put in place and led to the hiring of two additional inspectors dedicated to controls on CEVA sites during the construction period. In total, eight inspectors are in charge of the controls, two of them being permanently on site. The number of anomalies detected was halved between 2014 and 2018.

Responsible relations with suppliers and subcontractors: The Public Procurement Regulation specifies the applicable provisions, including non-discrimination, effective competition, renunciation of rounds of negotiations, respect for working conditions, payment of wages and social security contributions, equality between women and men. In addition, in compliance with public procurement contracts, the CEVA Tripartite Work Support Unit (CATTTC) is responsible for ensuring that batches are set up in accordance with the production capacity of regional service providers, without mixing competencies. In addition, Resolution 811 relating to the Extension works of the Geneva railway junction (2016) requires the involvement of the Geneva social partners in the construction process at all stages of the awarding of the works (constitution of batches, conditions for participation, tendering, analysis of the admissibility of tenders).

Safety of residents and users: Safety workers cooperate with public services to plan interventions, and safety measures are in place to minimize risks to users (during construction work on highways, roads, bicycle paths, sidewalks), particularly with regard to rubble falls or machine output. In addition to preventive measures, the accessibility of emergency services is organized on the working site perimeter.

Commitments to the economic and social development of the area where the site is located and local consultation: Measures are in place at construction site level to promote dialogue with local stakeholders. "Residents information notes" are published on CEVA's website for the various sections of the CEVA route. Open days were organized to "allow the general public to discover the project and measure progress". Quarterly CEVA documents are published providing information on the schedule, financing, progress and updates on the construction site. A telephone number and an e-mail address are also available for residents, merchants, future users and other stakeholders to ask questions, all of which are answered by CEVA.

Management of Proceeds

The rules for the management of proceeds are clearly defined. We consider that they allow for a documented and transparent allocation process.

The allocation and management of the proceeds are overall clearly defined:

- The canton of Geneva has set up a centralized cash flow management system (cash-pooling).
- The funds will not be subject to temporary investments, as they will immediately be allocated to refinancing the CEVA project, whose construction expenses have already been made.
- A financial monitoring system is in place. The internal management control tool "GE-Invest" enables the identification and management of the project, including the financial aspects. This tool allows to list and track the expenses associated with each project. The annual audit of the accounts is carried out by an external auditor.

Traceability and verification of both tracking method and allocation of the proceeds, are ensured throughout the process:

- The finance and human resources department is responsible for monitoring the allocation of funds to the Project using the "*GE-Invest*" internal management control system (nature of the allocations and allocation of expenses by project).
- The monitoring of funds is integrated into the canton's annual financial information and into the financial statement publications' process.
- The Court of Auditors acts as an external auditor for the audit of the canton's accounts, of which Green Bond issuances are part of.

Reporting

The reporting process and commitments appear to be good, covering both the funds allocation and the environmental benefits of the Selected Project.

The processes for monitoring, data collection, consolidation, validation and reporting are clearly defined by the Issuer in internal documentation.

- The reporting is carried out annually and published at the same time as Geneva State's accounts.
- Financial indicators are collected and monitored by the finance and human resources department and extra-financial indicators are collected by the departments in charge of the project (infrastructure department)
- All indicators are consolidated by the finance and human resources department, which is also responsible for the controls performed.
- The reporting is then sent to the external auditor, who issues a certificate. This certificate, as well as the reporting, are published in the State's accounts.
- A space dedicated to Green Bonds is reserved on the website of the Canton's finance and human resources department.

The Issuer commits to report annually and until the full allocation of funds for the financial indicators and annually and up to two years after the commissioning of the project for performance and impact indicators.

The Issuer commits to transparently communicate to the investors concerned by the Bond and at Selected Project level (for the part financed by the Canton of Geneva):

- Allocation of proceeds: the selected reporting indicators on the fund's allocation are relevant.

Reporting indicators
<ul style="list-style-type: none"> - Allocated proceeds (%) - Status of the project - Share of co-financing (%)

- Environmental benefits: the selected reporting indicators are relevant.

Project Category	Outcome indicators	Impact Indicators
Low Carbon Mobility	<ul style="list-style-type: none"> - <i>Kilometers of rail installed (Km)</i> - <i>Train-kilometer (Kms travelled by all trains on the CEVA route)</i> - <i>Annual frequency (No. of passengers per year)</i> 	<ul style="list-style-type: none"> - <i>Ex-post estimation of CO2 emission avoidance per year (unit: tonne equivalent CO2/ year)</i>

The allocation of funds, environmental indicators and methodology for calculating the indicators will be included in the annual reporting on the canton's accounts.

The reporting to investors will be reviewed by the canton's external auditor.

ESG controversies that may arise during the implementation phase of the Project are communicated to the State Council and to the public. Their management is the responsibility of the State Counsellor in charge of the CEVA project.

METHODOLOGY

In Vigeo Eiris' view, Environmental, Social and Governance (ESG) factors are intertwined and complementary. As such they cannot be separated in the assessment of ESG management in any organization, activity or transaction. In this sense, Vigeo Eiris writes an opinion on the Issuer's Corporate Social Responsibility as an organization, and on the process and commitments applying to the intended issuance.

Vigeo Eiris' methodology for the definition and assessment of the corporate's ESG performance is based on criteria aligned with public international standards, in compliance with the ISO 26000 guidelines, and is organized in 6 domains: Environment, Human Resources, Human Rights, Community Involvement, Business Behavior and Corporate Governance. Our evaluation framework of the material ESG issues have been adapted, based on our generic Waste & Water Utilities' ESG assessment frameworks and on specific issues considering the Issuer's business activity.

Our research and rating procedures are subject to internal quality control at three levels (analysts, heads of cluster sectors, and internal review by the audit department for second party opinions) complemented by a final review and validation by the Direction of Methods. Our SPO are also subject to internal quality control at three levels (consultants in charge of the mission, Production Manager, and final review and validation by the Direction). A right of complaint and recourse is guaranteed to all companies under our review, following three levels: first, the team linked to the company, then the Direction of Methods, and finally Vigeo Eiris' Scientific Council.

All employees are signatories of Vigeo Eiris' Code of Ethics, and all the consultants have also signed its add-on covering financial rules of confidentiality.

Part I. ISSUER

NB: The ESG performance of the Issuer has not been assessed following the complete process of rating and benchmark developed by Vigeo Eiris. In this SPO, the assessment has been limited to the integration of ESG factors in the Issuer's commitments and strategy, i.e. the content, visibility and ownership of its ESG policies.

Level of Issuer's ESG strategy

The assessment of the Issuer's ESG performance has focused only on the Leadership items from Vigeo Eiris' ESG rating methodology.

Management of stakeholder-related ESG controversies

A controversy is an information, a flow of information, or a contradictory opinion that is public, documented and traceable, allegation against an Issuer on corporate responsibility issues. Such allegations can relate to tangible facts, be an interpretation of these facts, or constitute an allegation on unproven facts.

Vigeo Eiris reviewed information provided by the Issuer, press content providers and stakeholders (partnership with Factiva Dow Jones: access to the content of 28,500 publications worldwide from reference financial newspapers to sector-focused magazines, local publications or Non-Government Organizations). Information gathered from these sources is considered as long as they are public, documented and traceable.

Vigeo Eiris provides an opinion on companies' controversies risks mitigation based on the analysis of 3 factors:

- **Frequency:** reflects for each ESG challenge the number of controversies faced. At corporate level, this factor reflects on the overall number of controversies faced and scope of ESG issues impacted (scale: Isolated, Occasional, Frequent, Persistent).
- **Severity:** the more a controversy will relate to stakeholders' fundamental interests, will prove actual corporate responsibility in its occurrence, and will have adverse impacts for stakeholders and the company, the highest its severity. Severity assigned at corporate level will reflect the highest severity of all cases faced by the company (scale: Minor, Significant, High, Critical).
- **Responsiveness:** ability demonstrated by an Issuer to dialogue with its stakeholders in a risk management perspective and based on explanatory, preventative, remediating or corrective measures. At corporate level, this factor will reflect the overall responsiveness of the company for all cases faced (scale: Proactive, Remediate, Reactive, Non- Communicative).

The impact of a controversy on a company's reputation reduces with time, depending on the severity of the event and the company's responsiveness to this event. Conventionally, Vigeo Eiris' controversy database covers any controversy with Minor or Significant severity during 24 months after the last event registered and during 48 months for High and Critical controversies.

Part II. ISSUANCE

The Framework has been evaluated by Vigeo Eiris according to the GBP 2018 and to our methodology based on international standards and sector guidelines applying in terms of ESG management and assessment.

Use of proceeds

The definition of the Eligible Projects and of their sustainable objectives and benefits are a core element of Green/Social/Sustainable Bonds or Loans standards. Vigeo Eiris evaluates the definition of the Eligible Categories, as well as the definition and the relevance of the aimed sustainability objectives. We evaluate the definition of the expected benefits in terms of assessment and quantification. In addition, we evaluate the potential contribution of Eligible Projects to the United Nations Sustainable Development Goals' targets.

Process for evaluation and selection

The evaluation and selection process has been assessed by Vigeo Eiris regarding its transparency, governance and relevance. The eligibility criteria have been assessed regarding their explicitness and relevance vs. the intended objectives of the Eligible Projects. The identification and management of the ESG risks associated with the Eligible Projects are analyzed based on material issues considered in Vigeo Eiris' ESG assessment methodology based on international standards and sector guidelines applying in terms of ESG management and assessment.

Management of proceeds

The rules for the management of proceeds and the allocation process are evaluated by Vigeo Eiris regarding their transparency, coherence and efficiency.

Reporting

Monitoring process and commitments, reporting commitments, reporting indicators and methodologies are defined by the Issuer to enable a transparent reporting on the proceeds allocation and tracking, on the sustainable benefits (output and impact indicators) and on the responsible management of the Eligible Projects financed by the issuance. Vigeo Eiris has evaluated the reporting framework regarding its transparency, exhaustiveness and relevance.

VIGEO EIRIS' ASSESSMENT SCALES

Performance evaluation		Level of assurance	
Advanced	Advanced commitment; strong evidence of command over the issues dedicated to achieving the objective of social responsibility. Reasonable level of risk management and using innovative methods to anticipate emerging risks.	Reasonable	Able to convincingly conform to the prescribed principles and objectives of the evaluation framework
Good	Convincing commitment; significant and consistent evidence of command over the issues. Reasonable level of risk management.	Moderate	Compatibility or partial convergence with the prescribed principles and objectives of the evaluation framework
Limited	Commitment to the objective of social responsibility has been initiated or partially achieved; fragmentary evidence of command over the issues. Limited to weak level of risk management.	Weak	Lack or unawareness of, or incompatibility with the prescribed principles and objectives of the evaluation framework
Weak	Commitment to social responsibility is non-tangible; no evidence of command over the issues. Level of insurance of risk management is weak to very weak.		



Vigeo Eiris is an independent international provider of environmental, social and governance (ESG) research and services for investors and public & private organizations. We undertake risk assessments and evaluate the level of integration of sustainability factors within the strategy and operations of organizations.

Vigeo Eiris offers a wide range of services:

- ▶ **For investors:** decision making support covering all sustainable and ethical investment approaches (including ratings, databases, sector analyses, portfolio analyses, structured products, indices and more).
- ▶ **For companies & organizations:** supporting the integration of ESG criteria into business functions and strategic operations (including sustainable bonds, corporate ratings, CSR evaluations and more).

Vigeo Eiris is committed to delivering client products and services with high added value: a result of research and analysis that adheres to the strictest quality standards. Our methodology is reviewed by an independent scientific council and all our production processes, from information collection to service delivery, are documented and audited. Vigeo Eiris has chosen to certify all its processes to the latest ISO 9001 standard. Vigeo Eiris is an approved verifier for CBI (Climate Bond Initiative). Vigeo Eiris' research is referenced in several international scientific publications.

With a team of more than 240 experts of 28 different nationalities, Vigeo Eiris is present in Paris, London, Brussels, Milan, Montreal, Hong Kong, Casablanca, Rabat and Santiago.

The Vigeo Eiris Global Network, comprising 4 exclusive research partners, is present in Brazil, Germany, Israel and Japan.

For more information: www.vigeo-eiris.com