



SECOND OPINION¹ ON THE SUSTAINABILITY OF REPUBLIC AND CANTON OF GENEVA'S GREEN BOND²

To be issued in November 2017

SCOPE

Vigeo Eiris was commissioned to provide an independent opinion on the sustainability credentials and management of the Green Bond (the "Bond") considered to be issued by the Republic and Canton of Geneva ("the canton" or the "Issuer"). Our opinion does not cover the issuer's ESG risk profile. It is aligned with the Green Bond Principles voluntary guidelines ("GBP").

The opinion is based on the review of the two following components:

- Issuer: document-based evaluation on the level of commitment to the relevant sustainable development principles and objectives, and review of stakeholders' feedback.
- Issuance: analysis of the coherence of the Bond framework with the canton's strategy and commitments, and evaluation of the Bond framework, including but not limited to:
 - Analysis of the process for categorisation and selection of projects eligible to the use of proceeds, and the process for evaluation of their environmental and social risks and impacts.
 - Assessment of the reporting systems dedicated to information, monitoring and control related to funds allocation, management and impacts of financed projects.

Vigeo Eiris' sources of information are gathered from our rating database, the canton, press content providers and stakeholders, complemented by interviews with involved departments, held at the the canton's offices in Geneva (Switzerland). Vigeo Eiris has carried out its due diligence from October 3rd to October 26th 2017.

We were able to access to all appropriate documents and to meet all solicited people. We consider that the provided information enables us to establish our opinion with a reasonable level of assurance on their completeness, precision and reliability.

VIGEO EIRIS' OPINION

Vigeo Eiris confirms that the Bond considered by the canton is a "Green Bond" with positive contribution to sustainable development, aligned with the Green Bond Principles.

Vigeo Eiris reaches a reasonable³ level of assurance (best level achievable) on the Bond's contribution to sustainability

• **Issuer**: the canton displays advanced level of commitment in the Environmental and Social pillars, and a good level of commitment in the Governance pillar. The canton faces two controversies⁴ regarding Social and Governance factors, and which are not related to the selected projects. The severity ranges from minor to significant. The company is overall remediative: it reports transparently, cooperated with interested parties and provided corrective measures for both cases.

- Level of Evaluation: Advanced, Good, Limited, Weak.
- Level of Assurance: Reasonable, Moderate, Weak.

¹ Second Opinion – Green Bond Principles: This opinion is to be considered as the "Second Party Opinion" described by the Green Bond Principles (2017 edition in the "External Review" section). The Green Bond Principles include the Voluntary Process Guidelines for Issuing Green Bonds (see: www.icmagroup.org/Regulatory-Policy-and-Market-Practice/green-Bonds/).

² The "Green Bond" is to be considered as the potential forthcoming Bond, which issuance is subject to market conditions.

³ Definition of Vigeo Eiris' scales of assessment (as detailed on page 9 of this document):

⁴ The opinion delivered on stakeholder-related ESG controversies is not a conclusion on the creditworthiness of the canton or its financial obligations.



- Issuance: The Issuer's Green Bond framework is coherent with its main environmental strategic priorities and
 is considered to be good in its processes for categorization, allocation and monitoring of the projects (see Part
 II):
 - The net proceeds of the Bond issuance will be used to finance and refinance Eligible Projects which contribute to climate change mitigation, in line with two of the 17 United Nations Sustainable Development Goals (the "UN SDGs"). Objectives and expected environmental benefits associated with the Eligible Projects are visible, precise and relevant.
 - The process for evaluation and selection of Eligible Projects is clearly defined and good in terms of transparency, governance and relevance of defined eligibility criteria.
 - The rules for the management of proceeds are clearly defined by the Issuer and would enable a documented and transparent allocation process.
 - The Issuer is committed to report annually and publically. The reporting commitments and process are good, covering the fund allocation and environmental benefits of selected projects (outputs and impacts), reaching an overall reasonable level of assurance on the Issuer's capacity to report on the Green Bond's use and impacts.

EXTERNAL REVIEW

The canton's Green Bond issuance is supported by external reviews, provided by:

- <u>Consultant review</u>: the hereby Vigeo Eiris' review ("Second Party opinion"), as sustainability consultant, on the sustainability credentials of the Green Bond, based on pre-issuance commitments and covering all the bond dimensions, i.e. issuer's level of commitments, projects (use of proceeds and ESG integration) and reporting (processes and indicators).
- <u>Verification</u>: an post-issuance external verification:
 - An annual financial audit on the allocation of proceeds to Eligible Projects and the tracking of the proceeds, until full allocation of the proceeds.
 - An audit of the reported outputs and impacts indicators, until three years after projects have started operating.

This Opinion is valid as of the date of issuance limited to the canton's 2017 first Green Bond.

Paris, October 27th 2017

Muriel CATON Director of Vigeo Eiris Enterprise

Federico PEZZOLATO Senior CSR Consultant

Paul COURTOISIER Sustainable Bonds services

Disclaimer

Transparency on the relation between Vigeo Eiris and the Issuer: Vigeo Eiris has not executed any audit or consultancy activity for the Republic and Canton of Geneva.

This opinion aims to explain for investors why the Green Bond is considered as sustainable and responsible, based on the information which has been made available to Vigeo Eiris and which has been analyzed by Vigeo Eiris. Providing this opinion does not mean that Vigeo Eiris certifies the materiality, the excellence or the irreversibility of the projects financed by the Green Bond. the canton 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 is neither focuses on financial performance of the Green 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. The opinion delivered on stakeholder-related ESG controversies is not a conclusion on the creditworthiness of the canton or its financial obligations.

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 is at the discretion of the Issuer, submitted to Vigeo Eiris approval.



DETAILED RESULTS

Part I. ISSUER

Level of the canton's commitments to sustainable development

As of October 2017, the overall canton's level of commitment to sustainable development is considered to be advanced.

Domain	Comments	Opinion		
Environment	The canton's commitments in the Environmental pillar are advanced. Its environmental strategy is comprehensive, with objectives and annual action plans. The canton's main strength lies in its 10-year Cantonal Sustainable Development Concept 2030. It incorporates objectives and strategic focus area to protect biodiversity and limit the negative environmental impacts associated with energy consumption, transportation, waste generation and local nuisances. The canton has adopted policies on all the issues under review: Environment 2030, Cantonal Climate Plan 2030, General Energy Design and Environmental Management System.			
				The canton is committed to integrating environmental factors in the procurements through its Purchasing policy of its central purchasing center.
	Of note, the canton has an Environmental Management System, implements appropriate mesures to address environmental issues and regularly publishes reports on environmental matters, in particular a report dedicated to the canton's environmental performance, and a territorial carbon footprint.	Weak		
	Social	The canton's commitments in Social pillar are advanced.		
Regarding Human Resources, the canton has developed relevant policies for labor relations, career management, remuneration, training, and health and safety. Its commitments in the Human Rights domain are good, based on the principles of the Geneva Constitution and its Human Resources Policy.				
The commitments in the Community Development domain are advanced, covering all the issues under review: economic development, employment, vocational training and the promotion of sustainable territorial planning, as well as social cohesion. The Cantonal Master Plan 2030 includes a				
concept of cantonal planning that sets out the principles for the future organization of the territory by 2030. The Cantonal Sustainable Development Concept 2030 includes a chapter dedicated to territorial development. To ensure its territorial attractiveness, the canton promotes access to schools and early childhood services, health systems, housing, public transport, water, energy and economic activities. and support for socially and economically disadvantaged people as well as for people with				
disabilities. The canton is committed to integrating social factors in the procurements through its Purchasing policy of its central purchasing center.		Weak		
Governance	The canton's commitments in the Governance pillar are good. The canton is transparent on the measures of participatory democracy adopted (online publication of the minutes and of all the			
	materials of the activity of the canton) and on the system of selection of its leaders. Noteworthy, participatory bodies have been created and the participation of the population is solicited			
	on a regular basis (popular constitutional and legislative initiatives, referendum). The internal control system provides for the presence of an independent auditor (Court of Auditors).			
	With regards to Business Behavior, the canton has comprehensive policies to ensure the respect of suppliers in procurements.	Weak		



Stakeholders feedback

Domain	Desciption	Frequency	Severity	Responsiveness	
Social	In 2015 and 2016, the Swiss Federal Court accepted the appeals of three detainees from the Champ-Dollon prison, finding that their imprisonment was unlawful because of their conditions of detention (cells of less than 4 square meters).	Persistent	Critical	The canton is remediative. The reported controversies date back to 2013-2015, when the prison population increased, notably as a result of legislative evolutions. Subsequently, the canton built and	
		Frequent	High		
		Occasional	Significant		
		Isolated	Minor	planned the construction of new prisons.	
Governance	The canton implemented 53% of the voluntary recommendations issued by the Court of Auditors between July 2014 and June 2015. In the past years, 70% of recommendations had been implemented.	Persistent	Critical	The canton is remediative.	
		Frequent	High	According to the canton, the decrease in the percentage of recommendations implementation is due to two specific presents which have been identified	
		Occasional	Significant		
		Isolated	Minor	projects which have been identified.	

Part II. ISSUANCE



Coherence of the issuance

The canton's Green Bond framework is coherent with its sustainable development policy, roles, budget strategy and treasury needs, and appears to contribute to the achievement of its commitments and objectives. As a result, we have a reasonable assurance on the canton's willingness and capacity to integrate relevant issues in terms of environmental responsibility.

The issuer's level of commitment in the Environment domain is good, with strengths in the management of energy and of atmospheric emissions.

The Cantonal Sustainable Development Concept 2030 was adopted on 30 August 2017 by the Council of State. It specifies the priority strategic guidelines and objectives in terms of sustainable development, articulated around 8 key thematic fields of action:

- 1. Patterns of production and consumption,
- 2. Territorial development,
- 3. Climate change,
- 4. Natural resources,
- 5. Economic and financial system,
- 6. Training and innovation,
- 7. Social cohesion and
- 8. Health of the population.



The Cantonal Sustainable Development Concept 2030 is consistent with the Geneva Constitution, which includes sustainable development within the guiding principles of public action, and makes reference to the United Nations Sustainable Development Goals (UN SDGs). The Cantonal Sustainable Development Concept 2030 consolidates existing commitments, including: Cantonal Environmental Protection Concept 2030, Cantonal Master Plan 2030, Cantonal Economic Strategy 2030, Cantonal Climate Plan 2030 and Cantonal Health Promotion and Prevention Concept 2030.

In this context, the canton committed to reduce its greenhouse gas emissions by 40% between 1990 and 2030 and to anticipate and manage the effects of climate change on the cantonal territory.

The Green Bond of the canton is likely to play a significant role in channelling investments and expenditures towards projects which help support climate change mitigation and environmental protection. The Eligible Category targeted by the Green Bond proceeds would positively impact the environmental performance of the canton, particularly with regard to the energy performance of buildings.

Use of proceeds

Vigeo Eiris estimates that the definition of the Eligible Projects is clear and that the objectives and expected environmental benefits associated with the Eligible Projects are visible, precise, measurable and relevant.

Vigeo Eiris considers that the Eligible Projects' contribution to sustainable development is positive, due to described expected environmental benefits associated with Eligible Projects on climate change mitigation, which have been described and will be assessed annually and/or quantified by the Issuer though its reporting.

In line with its environmental and social policies, as well as its role, the canton will finance and refinance, in whole or in part, Eligible Projects corresponding to High Energy Performance buildings ("HPE") in the field of health services and medical research. As such, three projects have already been selected.

Eligible Projects include expenditures related to recent and/or future investment projects resulting from the canton's ten-year Investment Plan. "Recent" means projects in operation since 2015, and "future" means projects that will be in operation by 2019 at the lastest.

These projects are carried out by the canton on its territory and for several beneficiaries, in particular local authorities and users of the buildings (patients and their families, hospitals staff, etc.).

The selection criteria and expected environmental benefits have been defined and evaluated in the table below. In addition, social benefits are also expected due to the typology of Eligible Projects.



Eligible Category	Definition	Objectives	Target projects	Sustainability benefits	Vigeo Eiris' analysis
Construction of High Energy Performance buildings	Expenditures related to the buildings energy efficiency	Enhance buildings energy efficiency	University Medical Center ("Centre Médical Universitaire") – stages 5 and 6 Gustave Julliard Hospital Maternity hospital – stage 3.3	Climate change mitigation Energy savings and reduction of greenhouse gas emissions	 The definition is clear and the content is relevant, in line with the canton's strategy. The types of equipment, works and eligible technologies are clearly defined. The objectives are visible, precise, measurable and relevant.

In addition, Vigeo Eiris considers that the Eligible Category are in line with the two following UN Sustainable Development Goals:



UN SDG 7. Affordable and clean energy

The UN SDG 7 consists in ensuring access to affordable, reliable, sustainable and modern energy for all, with targets by 2030 on substantially increasing the share of renewable energy in the global energy mix, improving energy efficiency, and facilitating the access to clean energy research and technology, including energy efficiency.

By using the Green Bond proceeds to (re)finance defined Eligible Projects, the Issuer is contributing to the UN SDG 7, with regards to the above-mentioned targets.



UN SDG 13. Climate action

The UN SDG 13 consists in taking urgent action to combat climate change and its impacts, with targets by 2030 on strengthening resilience and adaptive capacity to climate-related hazards and natural disasters, and improving education, awareness-raising, human and institutional capacities on climate change mitigation, adaptation, impact reduction and early warning.

By using the Green Bond proceeds to (re)finance defined Eligible Projects, the Issuer is contributing to the UN SDG 13, with regards to the above-mentioned targets.



Process for projects evaluation and selection

The Green Bond evaluation and selection process is considered to be good in terms of transparency, governance and relevance of defined eligibility criteria, and aligns with the Green Bond Principles guidelines.

Vigeo Eiris considers that the evaluation and selection process of the Eligible Projects is clearly defined.

- The process relies on relevant eligibility criteria, enabling to select projects according to the following elements:
 - Projects that come from the canton's Decennial Investment Planning.
 - Projects that cost more than CHF 50 million.
 - Projects that are High Energy Performance buildings.
 - Projects that fall into the field of health services and medical research.
- The process for evaluation and selection of Eligible Projects is reasonably structured. The process is based on relevant internal expertise with well-defined roles and responsibilities, with a Working Group within the Finance Department in charge of project selection.
- The traceability is ensured throughout the process. All Eligible Projects have been publicly documented through bills and the Working Group decisions are recorded.

Beyond the Green Bond Principles guidelines, in line with international standards, the integration of ESG factors into project management is good, and systematically includes an analysis of the potential impacts of the contemplated projects on the economy (e.g. realization on the basis of choices of economic and constructive optimization), the social and environmental aspects (e.g. energy efficiency).

- A needs assessment has been conducted for each project as part of the preliminary impact assessment.
- For the selected projects, Vigeo Eiris recommends to increase transparency on the integration of ESG factors into management and internal control systems (e.g. ecodesign, responsible procurement criteria, health and safety for construction sites).

Management of proceeds

Vigeo Eiris considers that the canton's rules for management of proceeds are clearly defined and would enable a documented and formalized transparent allocation process.

The net proceeds of the Bond will be managed by the issuer within its treasury liquidity portfolio. Vigeo Eiris recommended that treasury does not include carbon-intensive activities or controversial activities.

The issuer will allocate the proceeds of the Green Bond to Eligible Projects. The proceeds will be used to finance recent and future projects corresponding to existing, current and/or future investments.

- Traceability of funds and expenses necessary for the realization of projects: the project management of the construction of the selected projects is ensured by the canton (by the Office of the Buildings).

Operational and financial monitoring of Eligible Projects will be carried out by the Finance Department through the canton's investment information system. The canton's accounting system allows each expenditure to be allocated to the target project.

The Finance Department will monitor the funds allocated to Eligible Projects with internal control through the general framework for the management, supplemented by an external auditor – the Court of Auditors – review. This tracking is integrated in the annual financial information as well as in the process of publication of the financial statements.

Finally, in the event of inappropriate use of proceeds and/or material non-compliance in ESG matters, the canton is committed to replace the concerned project with another Eligible Project in compliance with the Green Bond framework, without however being limited to the field of health services and medical research.

Monitoring & Reporting

Vigeo Eiris considers that the canton's overall reporting commitments and processes are good, leading to a reasonable level of assurance on its capacity to regularly report on the Green Bond use of proceeds and its environmental benefits.

The canton is committed to report transparently on:

- The use of proceeds, annually and until full allocation of the proceeds.
- The environmental benefits, annually and up to three years after the projects' entry into service.



Use of proceeds	Environmental benefits
 Percentage of funds allocated per project Share of financing versus refinancing Completion stage of each project 	Outputs - Heating requirement index of buildings - Electricity consumption - Percentage of green roofs Impacts - - Ex-post estimates of avoided CO ₂ emissions at canton level

For all Eligible Projects, the canton may select alternative and/or additional qualitative or quantitative indicators as considered appropriate to disclose relevant performances or details on the projects.

The issuer is committed to report on the proceeds allocation, performance indicators and the calculation methodologies, through the canton's annual report on the accounts which will be publicly accessible on the canton's website⁵. The reporting will be verified annually by an external auditor.

At project level, Vigeo Eiris recommended strengthening the monitoring and reporting on ESG management, as well as the ex-post estimation of the avoided CO2 emissions.



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 objectives, management and reporting of the projects to be (re)financed by this transaction.

Vigeo Eiris' methodology to define and to assess corporate's ESG performance is based on criteria aligned with public international standards, in compliance with the ISO 26000 guidelines, and organized in 6 domains: Environment, Human Resources, Human Rights, Community Development, Procurement and Services, and Governance. The evaluation framework has been customized regarding material issues, based on the Local Authorities assessment frameworks, projects specificities and emerging issues.

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 will be considered as long as they are public, documented and traceable. Vigeo Eiris has reviewed documents and websites of the Issuer (including but not limited to "Green Bond framework", "Cantonal Sustainable Development Concept 2030", selected projects "bills"), related to the Bond evaluation and interviewed members from several departments of the Issuer.

Our analysis procedure is subject to internal quality control complemented by a final review and validation by the Direction of Methods. All collaborators are signatories of Vigeo Eiris' Code of Ethics.

Part I. ISSUER

The canton's performance in terms of corporate responsibility have not been subjected to Vigeo Eiris Rating's complete process of rating and benchmark. Vigeo Eiris Enterprise has evaluated the issuer's level of commitments to sustainable development on the basis of public and confidential information provided by the issuer and has reviewed the opinions and positions of the stakeholders collected from public documentation.

Vigeo Eiris hasn't interviewed stakeholders out of the canton's employees, nor performed an audit nor other test to check the accuracy of the information provided by the issuer. The correctness, comprehensiveness and trustworthiness of the information collected is a responsibility of the canton.

Level of the canton's commitments to sustainable development

The canton has been evaluated by Vigeo Eiris on its level of commitments to sustainable development, based on the relevance of its leadership (content, visibility and ownership) on 24 relevant ESG drivers organized in the 6 sustainability domains in accordance with our evaluation framework for local authorities.

Scale for assessment of level of commitment: Advanced, Good, Limited, Weak.

Stakeholder feedback

Our review of stakeholders feedback consists in a review of allegations. 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 provides an opinion on companies' controversies risks mitigation based on the analysis of 3 factors:

- <u>Severity</u>: 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).
- <u>Responsiveness</u>: 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).
- <u>Frequency</u>: 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).

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 Green Bond framework has been evaluated by Vigeo Eiris in compliance with the Green Bond Principles and our methodology based on international standards and sector guidelines applying in terms of ESG management and assessment.

Use of proceeds

The use of proceeds requirements are defined to ensure that the funds raised are used to finance and/or refinance Eligible Projects and are traceable within the issuing organization. Each project endorsed shall comply with at least one of the Eligible Projects category definition in order to be considered as an Eligible Project. Vigeo Eiris evaluates the relevance, visibility, and measurability of the associated environmental and/or social objectives. The sustainability purpose of the Green Bond related Eligible Projects has been precisely defined, with regard to the Issuer's commitments, and assessed based on the described and estimated benefits of Eligible Projects. The contribution of Eligible Projects to sustainable development is evaluated based on the United Nations Sustainable Development Goals.

Process for project evaluation and selection

The evaluation and selection process has been assessed by Vigeo Eiris regarding its transparency, governance and efficiency. The relevance and exhaustiveness of selection criteria and associated supporting elements integrated in the Green Bond framework, and the coherence of the process are analysed based on material issues considered in Vigeo Eiris' methodology.

Management of proceeds

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

Reporting

Reporting indicators, processes and methodologies are defined by the Issuer to enable annual reporting on fund allocation, environmental benefits (output and impact indicators) and on the responsible management of the Eligible Projects financed by the Green Bond proceeds, collected at project level and potentially aggregated at Bond level. Vigeo Eiris has evaluated the relevance of the reporting framework according to three principles: transparency, exhaustiveness and effectiveness.

- Scale of assessment for processes and commitments: Weak, Limited, Good, Advanced.
- Scale of level of assurance on Issuer's capacity: Reasonable, Moderate, Weak.







Vigeo Eiris is a global provider of environmental, social and governance (ESG) research to investors and public and private corporate. The agency evaluates the level of integration of sustainability factors into organisations' strategy and operations, and undertakes a risk assessment to assist investors and companies' decision-making

Vigeo Eiris offers two types of services through separate business units

- **Vigeo Eiris rating** offers databases, sector-based analyses, ratings, benchmarks and portfolio screening, to serve all ethical and responsible investment strategies.
- **Vigeo Eiris enterprise** works with organisations of all sizes, from all sectors, public and private in order to support them in the integration of ESG criteria into their business functions and strategic operations.

Vigeo Eiris methodologies and rating services adhere to the strictest quality standards and have been certified to the independent ARISTA® standard. Vigeo Eiris is an approved verifier for CBI (Climate Bond Initiative). Vigeo Eiris' research is referenced in several international scientific publications.

Vigeo Eiris is present in Paris, London, Boston, Brussels, Casablanca, Milan, Montreal, Santiago, Stockholm and Tokyo and has a team of 200. The agency works with partners through its Vigeo Eiris Global Network.

For more information: www.vigeo-eiris.com