



PRE-ISSUANCE VERIFICATION STATEMENT (ASSURANCE REPORT)

By VIGEO EIRIS

For MASEN's 2016 first Green Bond issuance

Based on Climate Bond Standards version 2.0

SCOPE

MASEN (the “**Issuer**”) is considering the issuance of its first green bond (or “**Bond**”) and intends to use the proceeds to finance the construction of solar energy production facilities in Morocco (see below).

MASEN is a state owned public limited company created in 2010, acting as a strategic player in charge of implementing innovative solutions for renewable energy production in Morocco, initially for solar energy and covering all renewable energies since 2016. Morocco aims at reaching 42% of renewable energy in its production by 2020, and will host the COP 22 in November 2016.

In this context, Vigeo Eiris (the “**Verifier**”) has been commissioned by MASEN, as stated in the engagement contract, to perform the Pre-Issuance Verification of this Bond, as independent third party provider approved by the Climate Bonds Standards Board.

We have conducted our verification from September to October 2016, with the aim of assessing the compliance of MASEN's 2016 first green bond with the Climate Bond Standard version 2.0 for Pre-Issuance requirements and with associated sector standards and technical criteria, as defined on CBI's website.

The work undertaken by Vigeo Eiris to form this verification statement included:

- Planning and management of the verification
- Desk review of the Bond and associated documentation provided by the Issuer
- Interviews of MASEN's managers related with the eligible projects to be financed by this Bond, held at MASEN's headquarter in Rabat (Morocco)
- Assessment of evidences provided by MASEN against the Climate Bond Standards 2.0 (see below)
- Internal quality control on the assurance report and conclusions
- Assessment of MASEN's corporate ESG performance, as well as of its commitments related to the responsible management of the bond proceeds and to the eligible projects against the *Green Bond Principles* requirements : Use of Proceeds, Process for Project Evaluation and Selection, Management of Proceeds, Reporting, External review (see Second Party Opinion)
- Provision of Vigeo Eiris' Assurance Report for CBI (see below), and of a Second Party Opinion for the Issuer

The methodology, criteria, findings and assurances adressed by this Assurance Report are detailed below.

RESPONSIBILITIES OF MASEN AND OF VIGEO EIRIS

The responsibility of Vigeo Eiris is to provide an external and independent assurance on the compliance of MASEN's 2016 green bond with the Climate Bond Standard version 2.0 requirements and associated technical criteria.

This statement relies on the information provided by the Issuer to the Verifier: documentation, interviews with employees, and explanations presented during the assessment, based on the understanding that this information was provided to Vigeo Eiris in good faith. Vigeo Eiris hasn't performed an audit nor other tests to check the accuracy of the information provided by the Issuer. In addition, Vigeo Eiris also conducted a public information review on possible allegations related to MASEN.

The Issuer is fully responsible for attesting the compliance with its commitments as defined in its policies, for their implementation and their monitoring, and for the information provided.

PRE-ISSUANCE VERIFICATION STATEMENT

This Pre-Issuance Verification has been conducted against the Climate Bond Standard (CBS) version 2.0 requirements, in accordance with relevant general principles & professional standards of independent auditing, and in line with the International Standard on Assurance Engagements other than Audits or Reviews of Historical Financial Information (ISAE 3000), based on the limited assurance procedure¹.

The verification included checking whether the provisions of the CBS 2.0 were consistently and appropriately applied and the collection of evidence supporting the verification. The details and areas covered by the verification are summarized in below chapters of this Assessment report.

Based on the evidence, information and explanations provided by the Issuer, nothing has come to our attention that causes us to believe that, in all material respects MASEN's 2016 Green Bond is not in conformance with the Climate Bonds Standard's Pre-Issuance Requirements (version 2.0) and with associated relevant sector technical criteria. This level of assurance applies altogether to the nominated projects and assets, the environmental benefits of the bond, the evaluation and selection process of the projects, the proposed financial accounting system, and the monitoring & reporting system associated to the bond, to be implemented over the term of the bond.

Furthermore, Vigeo Eiris has assessed MASEN's commitments (for its strategy, leadership, means, risk management and reporting) against Vigeo Eiris' exclusive methodology based on a complementary list of international standards on sustainability drivers, Corporate Social Responsibility and related Environmental, Social and Governance (ESG) risks (see Second Party Opinion for details).

This assurance report is valid as of the date of issuance limited to MASEN's first Green Bond

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Fouad Benseddik
Director of Methodology



Laurie Chesné
Head of Green Bond services



Julien Souriau
CSR Consultant

Disclaimer

Transparency on the relation between Vigeo Eiris and the Issuer: Vigeo Eiris has never executed any consultancy activity for the Issuer until so far and no established relationship (financial or others) exists between Vigeo Eiris and the Issuer.

Liability: this Assurance Report is a document prepared by the Verifier that conveys the Verifier's conclusion or opinion as to whether the Bond has conformed to the relevant requirements of the Climate Bond Standard, but it does not provide Climate Bond Certification itself. Providing this assurance does not mean that Vigeo Eiris certifies the tangibility, the excellence or the irreversibility of the projects financed by the Green Bond. No assurance is provided by Vigeo Eiris regarding the financial performance of the Issuer nor of the Bond, nor the value of any investment in the Bond, nor of the environmental footprint of the Bond or the compliance with the commitments taken by the Issuer.

Vigeo Eiris cannot be liable for any loss suffered as a result of information or data provided by the Issuer. Vigeo Eiris is not liable for the induced consequences when third parties use this opinion either to make investments decisions or any kind of business transaction.

Restriction on Distribution and Use of this Assurance Report: at the discretion of the Issuer

¹ see ISAE 3000, pp15-18

VERIFICATION CRITERIA & FINDINGS

The **evidence, information and explanations supporting the Bond issuance** provided by MASEN to Vigeo Eiris were both historical (for projects selection process and nominated projects) and hypothetical or projected (for the expected environmental benefits, the proposed financial accounting system, and the monitoring & reporting system associated to the bond, to be implemented over the term of the bond)

The Issuer showed a high responsiveness in providing information to the Verifier, despite some process and data are not formalised. Vigeo Eiris' level of assurance is reasonable regarding the **completeness, sincerity and reliability of the information provided** by the Issuer.

Summary criteria for assertions of compliance with the Climate Bonds Standards version 2.0

Vigeo Eiris has assessed MASEN's 2016 green bond and the nominated projects and assets against criteria and requirements detailed within the Climate Bonds Standard version 2.0:

- Part A: clauses to be applied for all Climate Bonds (use of proceeds, tracking, reporting)
- Part B: eligible physical asset-types (e.g. solar facilities) that may be linked to a Climate Bond and refers to Technical Eligibility Criteria and tracking requirements for specific asset-types
- Part C: sets out clauses applicable to certain bond structures such as project bonds or asset-backed securities.

PART A: General Requirements

I. Selection of Nominated Projects & Assets

I.1 The Issuer has established, documented and has committed to maintain the decision-making process, which has been used to determine the eligibility of the Nominated Projects & Assets. This includes (see also Second Party Opinion) :

- **Environmental objectives of the bond:** relevant and exhaustive benefits have been identified by the Issuer, with associated key performance indicators. Vigeo Eiris reviewed these environmental objectives and indicators, and considers them to be robust.

Eligible categories	Definition	Environmental objectives	Reporting indicators	Methodology and assumptions
Solar electricity generation facilities	Investment in the construction and development of renewable solar energy production units, which will be built, owned, operated and transferred by Special Purpose Companies (SPC) dedicated to each of the eligible projects, owned at 25% by MASEN	Increase the total renewable energy produced in Morocco	Installed capacity of the renewable energy plant (in MW)	Ex-ante estimation of the capacity of the renewable energy plant Then: nominal capacity of production
			Annual renewable energy produced (in MWh per year)	Ex-ante estimation of annual renewable energy produced Then: total renewable energy produced
		Avoid GHG emissions	Annual GHG emissions avoided (in tCO2e)	Ex-ante estimation of annual Greenhouse Gas (GHG) emissions reduced or avoided (Scope: utilities and energy production, using ACM0002 version 17.0.0 methodology): Then: estimation for the same scope and using the same methodology

- **Process to determine whether the Nominated Projects & Assets meet the eligibility requirements specified in Part B of the CBS:** a relevant and exhaustive process has been defined and implemented to assess and select the nominated projects and assets, in line with MASEN's internal document "Section 5.1.1: Project Identification, preparation and appraisal".

1.2 The Issuer has committed to assess that all proposed Nominated Projects & Assets to be associated with the bond meet the bond's documented objectives as stated under Clause 1.1 and are likely to conform to the relevant eligibility requirements under Part B of the Climate Bonds Standard (see below).

1.3. The Issuer has documented and explained the Nominated Projects & Assets, which are proposed to be associated with the bond and which have been assessed as likely to be Eligible Projects & Assets. The Issuer has established a list of Nominated Projects & Assets, which he committed to keep up-to-date during the term of the bond.

Eligible projects to be financed by the Green Bond

Construction and development of solar electricity production facilities, located in Morocco:

- Laâyoune: a solar energy facility of ~80 MW (to be operated from 2018 onward)
- Boujdour : a solar energy facility of ~20 MW (to be operated from 2018 onward)
- NOOR IV: a solar energy facility of ~70 MW (to be operated from 2018 onward)

1.4. The Issuer has committed that Nominated Projects & Assets will not be nominated to other Climate Bonds unless it is demonstrated by the Issuer that distinct portions of the Nominated Projects & Assets are being funded by different Climate Bonds or that the existing Climate Bond is being refinanced via another Climate Bond.

1.5. The Issuer has committed that the expected Net Proceeds of the bond shall be no greater than the Fair Market Value of the proposed Nominated Projects & Assets.

Vigeo Eiris reviewed the above process and commitments based on the information and documentation provided by the Issuer during the verification, and nothing has come to our attention that causes us to believe that, in all material respects MASEN's 2016 Green Bond is not in conformance with the Climate Bonds Standard's Pre-Issuance Requirements (version 2.0).

2. Internal Processes & Controls

2.1. The systems, policies and processes to be used for the management of bond funds and investments made have been documented by the Issuer and partly disclosed to the Verifier, and include arrangements for the following activities:

- **2.1.1. Tracking of proceeds:** The Issuer has committed that the Net Proceeds of the bond will only be credited to a dedicated sub-account, moved to a dedicated sub-portfolio based on demands for disbursements supported by evidences from the operating companies of the solar facilities, verified by external and independent auditors, and tracked by the Issuer in an appropriate and documented manner (see Second Party Opinion for details)
- **2.1.2. Managing unallocated proceeds:** The Issuer has committed that the balance of unallocated Net Proceeds will remain on the dedicated sub-account and will not finance any other project or product, meeting the requirements in Clause 6.2
- **2.1.3. Earmarking funds to Nominated Projects & Assets:** The Issuer has committed that an earmarking process will be used to manage and account for funding the Nominated Projects & Assets and will enable an estimation of the share of Net Proceeds being used for financing and refinancing.

Vigeo Eiris reviewed the above three arrangements based on the information and documentation provided by the Issuer during the verification, and nothing has come to our attention that causes us to believe that, in all material respects MASEN's 2016 Green Bond is not in conformance with the Climate Bonds Standard's Pre-Issuance Requirements (version 2.0).

3. Reporting Prior to Issuance

3.1. The Issuer shall disclose in the Bond Disclosure Documentation:

- 3.1.1. The investment areas, into which the Nominated Projects & Assets fall. In this case: *solar energy production*
- 3.1.2. The intended types of temporary investment instruments for the management of unallocated proceeds in accordance with Clause 2.1.2.: In this case: *Non applicable, as it will be managed in cash*
- 3.1.3. The approach the Verifier has taken to verify the pre-issuance procedures. In this case: *Assurance procedure*
- 3.1.4. Whether periodic Assurance Engagements will be undertaken during the term of the bond to reaffirm conformance to the Climate Bonds Standard, and the expected frequency of any periodic Assurance

Engagement, in addition to the mandatory post-issuance Assurance Engagement which must be undertaken following issuance of the Climate Bond. In this case: no engagement beyond CBI requirements.

Vigeo Eiris reviewed the above commitments based on the information and documentation provided by the Issuer during the verification, and nothing has come to our attention that causes us to believe that, in all material respects MASEN's 2016 Green Bond is not in conformance with the Climate Bonds Standard's Pre-Issuance Requirements (version 2.0).

Part B: Eligible Projects & Assets

Clause 9 – Taxonomy: MASEN has committed to use the proceeds of the bond to finance three nominated projects and assets as **solar energy production facilities**, falling under the following CBI's Climate Bond Taxonomy: **Energy/Solar**.

Clause 10 - Sector specific technical standards : MASEN has committed that the nominated projects and assets will comply with the associated sector **Climate Bond Solar Standards** and associated **solar eligibility criteria** defined by the CBI Climate Bonds Standard & Certification Scheme - Sector Criteria for Solar (version 2.0). In particular, the Issuer committed that:

- The projects will consist in Solar energy generation facilities, and in other supporting infrastructure for solar electricity generation facilities
- Each project will have 100% of its electricity generated from solar energy resources, and will therefore go beyond CBI's minimum requirement of 85% of electricity produced from solar energy.

Vigeo Eiris reviewed the above commitments based on the information and documentation provided by the Issuer during the verification, and nothing has come to our attention that causes us to believe that, in all material respects MASEN's 2016 Green Bond is not in conformance with the Climate Bonds Standard's Pre-Issuance Requirements (version 2.0).

Part C: Requirements for Specific Bond Types

The applicable Requirements differ between Bond Types, and address specific risks related to each Bond Type. In this case the category "**Use of Proceed Bond**" applies.

11. Project Holding

11.1. The Issuer of the bond has committed to continue to hold Nominated Projects & Assets which have Fair Market Value at least equal to the original principal amount of the bond at the time of issuance. Additional Nominated Project & Assets may be added to, or used to substitute or replenish, the portfolio of Nominated Project & Assets as long as the additional Nominated Project & Assets are eligible under Part B of the Climate Bonds Standard and the bond's environmental objective as set out in Clause 1.1.

12. Settlement Period

12.1. The Issuer has committed to demonstrate that the Net Proceeds of the bond have been distributed to the Nominated Projects & Assets within 24 months of the issuance of the bond.

12.2. The Issuer has committed that where full distribution of the Net Proceeds is not achieved within 24 months of the issuance of the bond, the Issuer shall demonstrate that:

12.2.1. The surplus or undistributed funds have been invested in Eligible Projects & Assets not otherwise nominated for a specific Climate Bond.

12.2.2. The Issuer has made temporary investments of surplus or undistributed funds in conformance with the provisions of Clause 6.

13. Earmarking

13.1. The Issuer of the Bond has committed to maintain the earmarking process to manage and account for funding the Nominated Projects & Assets as disclosed under Clauses 2.1 and 2.1.3.

Vigeo Eiris reviewed the above commitments based on the information and documentation provided by the Issuer during the verification, and nothing has come to our attention that causes us to believe that, in all material respects MASEN's 2016 Green Bond is not in conformance with the Climate Bonds Standard's Pre-Issuance Requirements (version 2.0).

VIGEO EIRIS'S ASSESSMENT SCALES

Performance evaluation	
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.
Convincing	Convincing commitment; significant and consistent evidence of command over the issues. Reasonable level of risk management.
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	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.

Levels of assurance	
Reasonable	Able to convincingly conform to the prescribed principles and objectives of the evaluation framework
Moderate	Compatibility or partial convergence with the prescribed principles and objectives of the evaluation framework
Limited	Lack or unawareness of, or incompatibility with the prescribed principles and objectives of the evaluation framework