



Climate Bonds^{INITIATIVE}

Solar Energy

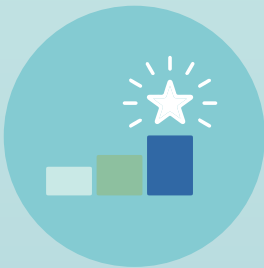
BEST PRACTICE FOR ISSUING GREEN BONDS

SPOTLIGHT ON BRAZIL



Our Standard

Gold-standard labelling that aims to drive the global financial markets towards investments that are consistent with the goal of limiting global temperature rise to 1.5°C above pre-industrial levels.



Ambitious

Ambition is defined from a sectoral perspective by the Climate Bonds Eligibility criteria. Performance should be 1.5 degree aligned, or on a pathway to alignment.



Science-based

Future targets are benchmarked against science-based, technologically feasible pathways, and not against peers.



Assured

External verification before Certification and annually during period of Certification.



Transparent

Requirements on disclosure of Certified instruments/entities.

Show your Credibility

The Climate Bonds Standard and Certification Scheme is a voluntary labelling scheme for debt instruments, investments and entities that address the challenge of climate change, and are aligned with the goals of the Paris Climate Agreement, limiting global warming to 1.5 degrees celsius.

Launched in 2012, our Certification Scheme has been applied to hundreds of debt instruments, amounting to USD 260 billion equivalent as of January 2023.

Globally recognised as best practice, we are now expanding our Certification coverage to general purpose instruments, such as Sustainability-Linked Bonds, as well as Entities and Assets.

Benefits of Certification

1

Our Certified brand increases visibility to investors.

4

An endorsement of the green credentials of the assets/projects.

2

A globally recognised symbol of best practice in green finance.

5

A demonstration to the market that Certified instruments meet highest standards for climate.

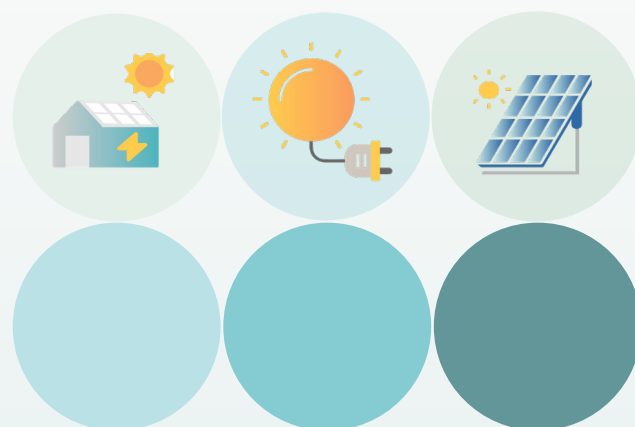
3

Higher demand for Certified issuances compared to similar issuances.

6

Enhanced reputational benefits for issuers, companies, or asset owners.

Ensuring best practice for green bond issuance



The increased global focus on labelled debt has highlighted the need for definitions, guidelines, taxonomies, and scientific criteria to establish standards and give investors greater confidence in the integrity of their investments.

The Brazilian green bond market is expanding and the application of international best practices in the issuance of green and thematic bonds is critical to further grow the market. The Climate Bonds Standard and Certification Scheme, launched in 2012, pioneered the world's first quantitative and qualitative scientific standards for the selection of projects and assets financed by green deals. [The Climate Bonds Sector Criteria](#) are applied worldwide, and provide the market, especially investors, greater transparency and comparability.

Potential for Solar Bonds

Renewable energy is the largest Use of Proceeds (UoP) category in the Brazilian green bond market.

There is huge potential to scale up the number of Certified deals, especially for solar energy.

Of the 18 deals in the local market through August 2022, eight were Certified under Climate Bonds Solar Energy Criteria.

Issuance process for Certified Solar Bonds

For Certification, the issuer must follow the requirements included in the Climate Bonds Standards, which are as follows:

Step 1: Pre-Issuance

Prepare the Certification documents

- A.** Identify eligible uses of proceeds against the [Solar Criteria](#) and prepare the debt.
- B.** Create a green bond framework.
- C.** Engage an approved verifier to write a verification report.



Step 2: Issuance

- A.** Obtain verification report.
- B.** Work with underwriter and/or advisor to engage green + thematic bond investors.
- C.** Engage media.
- D.** List bonds on green bonds platforms (IADB, Nasdaq).
- E.** Issue debt.

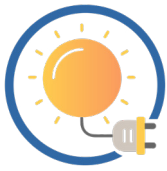


Step 3: Post-Issuance

Follow-up with post-issuance reporting

- A.** Submit a post-issuance verification report from an approved verifier within 12-24 months following the issuance.
- B.** Submit an update report 12 months following the post-issuance verification report, and annually thereafter during the term of the debt. Note that the update report does not require an approved verifier.





Identifying Eligible Solar Energy Project and Assets

- ✓ Onshore electricity generation
- ✓ Onshore solar thermal facilities
- ✓ Onshore solar heat/cool and power cogeneration
- ✓ Wholly dedicated onshore transmission infrastructure, grid connections, and other supporting infrastructure for onshore solar electricity generation facilities including inverters, transformers, energy storage systems and control systems
- ✓ Dedicated operational production, manufacturing or distribution facilities for key components such as solar panels, inverters, etc.

Offshore solar is eligible for Climate Bonds Certification under the [Marine Renewable Energy Criteria](#).

Solar Criteria **Screening Indicators**

Check the definition of projects and assets under the **Solar Criteria** to determine eligibility (Use of Proceeds).

Check the **Solar Energy Criteria Screening Indicators** (Mitigation Threshold) for project evaluation and selection.

Eligibility is conditional to the use of non-solar fuel, that is fossil-fuel back up is limited to 15%. In other words, facilities must have a **minimum of 85% of electricity generated from solar**.

How to evidence

Present project data on energy generation sources in the form of:

- Technical access reports
- Ownership of the project area
- Environmental licensing

Create a Green Bond Framework

The development of a Green Bond Framework is mandatory for the Climate Bonds Certification. It is a public document, produced by the issuer, that aims to inform the market and investors about the key environmental credentials of the Green Bond.

1
Introduction to Issuer, Strategy and Target

2
Use of Proceeds

3
Project Evaluation & Selection

4
Management of Proceeds

5
Annual Report

6
External Review

Engage an approved verifier

The issuer should engage with an approved verifier to verify compliance with the Climate Bonds Criteria and prepare the report, which will be submitted to the Climate Bonds Initiative. In Brazil, these are:



Solar Bond Issuance

The process of taking the bond to the capital market

Structuring the security, preparing the offering document, and registering the offering. The issuer must use the Climate Bonds Certified logo until the maturity of the bond.

Post Issuance Reporting

Annual reporting: Once the post-issuance requirements are met, the issuer needs to prepare an update report at least annually during the life of the bond. The annual report must confirm that the resources are being allocated to the appropriate projects/ assets and that they continue to meet the eligibility criteria.

Example of impact reporting metrics for solar:

Avoided GHG emissions in tons of CO2 equivalent, annual renewable energy generation in MWh/ GWh (electricity) and GJ/TJ (energy), renewable energy capacity built-in MW, renewable energy capacity to be connected to the transmission system in MW, total avoided GHG reduction.

Certified Bond Case Studies

Green FDIC: Solar Photovoltaic Generation

1



Requirements to be met by the project and asset:

Issuer: Grupo Órigo Energia	Size/Year: BRL 184m/ 2021	Instrument Type: FDIC	Scope and Activity: Generation of 100% clean photovoltaic energy with a generation capacity of 10MW and forecast to generate 27 MWh/year.
Use of Proceeds: Installation cost for onshore PV	Framework: Climate Bonds Standard 3.0	Approved verifier: Bureau Veritas	

Projects and assets with PV generation facilities must have a minimum of 85% of electricity generated from PV.

Regarding the analysis of Environmental Compliance, the verifier seeks evidence as to the correct use of legal procedures for vegetation suppression, environmental licensing of projects, land regulation and regulation for connection to the electric system.

Green Debenture: Solar Generation Farms

2



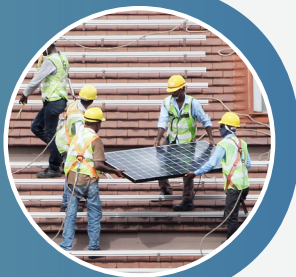
Requirements to be met by the project and asset:

Issuer: AES Tietê Energia	Framework: Climate Bonds Standard 2.1	Scope and Activity: Eight solar farms with a total capacity of 225MW. Five of these are in the Guaibê solar farm, which is currently operational with 150MW. The remainder are in the AGV solar farm, adding 75MW.
Use of Proceeds: Finance and refinance the acquisition of solar farms.	Instrument Type: Debenture	
Size/Year: BRL 820m/ 2019	Approved verifier: Vigeo Eris	

Projects and assets with PV generation facilities must have a minimum of 85% of electricity generated from PV.

Green CRI: Solar Generation Expansion

3



Requirements to be met by the project and asset:

Issuer: Athon Energia S.A.	Framework: Available online	Scope and Activity: Maintain 13 solar energy projects with an installed capacity of 26.47 MWp and forecast to generate 45.38 MWh/year.
Use of Proceeds: Future expenses and reimbursements of solar energy projects.	Instrument Type: CRI	
Size/Year: BRL 80m/ 2021	Approved verifier: Sitawi/NINT	

Projects and assets with PV generation facilities must have a minimum of 85% of electricity generated from PV.

Interested in the Climate Bonds Standard & Certification Scheme? Get in touch!



Begin the Certification process

[Fast-track Certification](#)
[Certification how-to videos](#)
[List of Approved verifiers](#)



Online resources

[Solar criteria overview](#)
[Solar criteria](#)
[Certified Bond Database](#)

Contact: Latin America Team: latam.team@climatebonds.net

Disclaimer: The information contained in this communication does not constitute investment advice in any form and the Climate Bonds Initiative is not an investment adviser. Any reference to a financial organisation or debt instrument or investment product is for information purposes only. Links to external websites are for information purposes only. The Climate Bonds Initiative accepts no responsibility for content on external websites. The Climate Bonds Initiative is not endorsing, recommending or advising on the financial merits or otherwise of any debt instrument or investment product and no information within this communication should be taken as such, nor should any information in this communication be relied upon in making any investment decision. Certification under the Climate Bond Standard only reflects the climate attributes of the use of proceeds of a designated debt instrument. It does not reflect the credit worthiness of the designated debt instrument, nor its compliance with national or international laws. A decision to invest in anything is solely yours. The Climate Bonds Initiative accepts no liability of any kind, for any investment an individual or organisation makes, nor for any investment made by third parties on behalf of an individual or organisation, based in whole or in part on any information contained within this, or any other Climate Bonds Initiative public communication.

