



THE BIOENERGY CRITERIA

Climate Bonds Standard



What are the Climate Bonds Standard Bioenergy Criteria

The Bioenergy Criteria lay out the requirements that bioenergy assets and/or projects must meet to be eligible for inclusion in a Certified Climate Bond. The bond must also meet other requirements of the overarching Climate Bonds Standard in order to receive Certification. This document gives an overview of the Criteria; for full details [see the Bioenergy Criteria document](#).

What underpins the Sector Criteria

The guiding principle for all Sector Criteria under the Climate Bonds Standard is that Certified assets and projects must be in line with limiting global warming to no more than 2°C, ideally 1.5°C, and support climate resilience of the asset and surrounding environment.

The Criteria embed transformative steps for rapid decarbonisation not incremental improvements.

Why Certify a bioenergy related bond using the Climate Bonds Standard?

Certification allows issuers to demonstrate to the market that their bond meets

industry best practice for climate integrity, management of proceeds and transparency.

It indicates to investors that proper environmental due diligence has been done on the assets. This enables them to easily identify and invest in low carbon and climate resilient bioenergy assets/projects with genuine climate benefits.

This is important for bioenergy assets and projects, as if done badly, the bioenergy can have high greenhouse gas (GHG) emissions, and/or a negative impact on the resilience of ecosystems to climate change through changes to water quality, biodiversity, soil carbon, etc.

It's therefore critical to ensure bioenergy assets and projects financed by green bonds are low carbon and enable greater climate adaptation and resilience in a world of unavoidable climate change, in line with the Paris Agreement.

Other benefits of issuing a Certified Climate Bond include; investor diversification (issuers should find they attract new investors by Certifying), greater investor engagement, investor stickiness (investors buying Certified Climate Bonds tend to buy and hold), and strengthened reputation

(Certifying shows commitment to delivering low carbon infrastructure).

How will the Criteria assist in growing the green bond market

The rapid growth of the green bond market over the past 4 years has been met with questions around the environmental credentials of green bonds.

In the absence of clear and widely accepted definitions and standards around what is green, many investors have raised concerns about 'greenwashing', a practice in which bond proceeds are allocated to assets that have little environmental value. This could shake confidence in the market and hamper efforts to finance the green economy transition.

The Bioenergy Criteria provide clear and robust definitions on what is low carbon and climate resilient bioenergy, indicating to potential issuers and the market what types of bioenergy projects should be included in green bonds.

Will your asset/project meet the Bioenergy Criteria? It's an easy two-step

STEP 1

Comply with Mitigation Requirement

- A. Meet the established GHG emissions threshold; and
- B. Demonstrate woody carbon stocks maintained or enhanced (if applicable); and
- C. Reduce the risk of indirect land use impact (iLUC).

For facilities producing biomass/biofuel as a final product, the biomass/biofuel produced needs to meet GHG emissions thresholds in terms of gCO₂e/MJ.

For facilities producing electricity from biomass/biofuel, the electricity generated needs to have GHG emissions no greater than 100gCO₂e/kWh.

For heating/cooling, and co-generation facilities using biofuel/biomass, the biofuel/biomass being used needs to meet specific GHG emissions thresholds in terms of gCO₂e/MJ, and the facilities are required to meet energy efficiency thresholds.

STEP 2

Comply with Adaptation & Resilience Requirement

- A. Conducting climate risk assessment and have an adaptation plan where appropriate - assessed via the Adaptation and Resilience Checklist; and
- B. Complying with best practice standards such as RSB, RTRS, FSC, ISCC Plus.



The Criteria apply to a variety of bioenergy assets and projects

An expanded role of bioenergy is required for the transition to a low carbon economy as a lower GHG alternative to fossil fuel based energy. Bioenergy plays an important role in decarbonising electricity, heating/cooling, and transport sectors.

The Bioenergy Criteria cover facilities producing biofuel/biomass for electricity, heating/cooling and transport; energy generation facilities including electricity, heating/cooling and cogeneration facilities; and dedicated supporting infrastructure.

Note that the Bioenergy Criteria do not cover production of input feedstocks such as energy crops. The production of bioenergy feedstock using land will be covered under the Forestry/Agriculture Criteria.

Why requirements about mitigation, and adaptation & resilience?

Bioenergy assets and projects have GHG emissions over various points in their lifecycle, from land conversion and management for feedstock production, transport and distribution, and the energy or fuel production process. However they can also lead to reduction in carbon sequestration and indirect land use change (iLUC), resulting in further GHG emissions. It is important to set GHG emission thresholds for bioenergy assets/projects in order for the sector to deliver actual and sufficient emission reductions.

Bioenergy production can also impact on the resilience of ecosystems to climate

change through changes to water quality, biodiversity and soil carbon, etc. Pressure on natural resources such as land and water may further create food security issues. And conversely, climate change can influence the resource potential and cultivation of feedstocks through changes in temperature and water availability. Therefore, there is a need to set up requirements to ensure that bioenergy is being produced in such a way that is not damaging the resilience of the ecosystem, and is resilient to climate change.

Mitigation Requirement: meeting GHG emissions thresholds, and addressing risks of carbon stock reduction and iLUC

The Mitigation Requirement makes sure that bioenergy assets and projects deliver sufficient GHG emissions reduction required by the low carbon economy.

Issuers are required to conduct a life cycle assessment (LCA) of GHG emissions from their bioenergy facility to demonstrate that they meet the appropriate GHG emissions threshold for that type of facility. Details of these thresholds can be found in the [Criteria Document](#).

For forest-based biomass (woody biomass), issuers are required to identify the feedstock source, and provide a forest management plan to demonstrate that the forest management unit where the feedstock is sourced is managed with the aim of retaining or increasing carbon stocks.

To demonstrate low iLUC risk, issuers should either: get Certification from the RSB low iLUC optional module; or provide evidence to demonstrate that they meet the criteria under the module.

Adaptation & Resilience Requirement: checklist and best practice standards

The Adaptation & Resilience Requirement aims to ensure bioenergy production is climate resilient. It consists of:

- Adaptation and Resilience checklist: issuers must address the list with appropriate evidence to verify that the climate risk assessment has been done, and adaptation plan established when appropriate.
- Adherence to approved best practice standards: issuers are required to get certification either under one of the approved best practice standards; or under a similar standard/scheme and prove the robustness of the standard.

Additionally, issuers are encouraged to disclose the impact of their operations on food security.

The Criteria are developed by leaders in the water sector

We convened a Technical Working Group (TWG) and an Industry Working Group (IWG), to develop the Bioenergy Criteria.

We worked closely with the TWG to develop these Criteria based on their expertise. The IWG provided feedback on the Criteria.

Leaders across the academic, NGO, issuer, investor and verifier worlds were represented across the two groups. Full membership details can be found on our [website](#).

Technical Working Group and Industry Working Group members include:



Utrecht University



上海牧溢投资咨询有限公司
Shanghai Mu Yi Investment Advisors Ltd.



Spatial Informatics Group



Full member list can be found on our [website](#).

Further information sources

Want to Certify, or just know more? Take a look at these documents:

- [1. The Bioenergy Criteria Document](#) full requirements of the Criteria
- [2. The Bioenergy Criteria Background Paper](#) full details of the TWG and IWG discussions
- [3. Climate Bonds Standard V2.1](#) full requirements of the Climate Bonds Standard

For more information: Go to www.climatebonds.net Email lily@climatebonds.net

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