

ELECTRICAL UTILITIES CRITERIA

Climate Bonds Standard

Why Electrical Utilities Criteria are necessary

Electricity generation is a major source of carbon emissions, responsible today for 40% of the global total. Decarbonisation of the power sector is not only essential to reduce GHG emissions but also a key factor in decarbonising the whole energy sector that accounts for more than 70% of GHG global emissions.



End-use green electrification in buildings, transport, and industry will transition the economy to achieve the Paris Agreement goal of limiting global temperatures to 1.5 degrees above preindustrial levels.

Criteria Scope

The Electricity value chain includes generation, distribution and transmission, market, and end use. Producing low-carbon electricity will decarbonise the generation segment and enable the decarbonisation of the end-use sector via electrification. Additionally, transmission and distribution need to be updated and integrated to connect green generation (sometimes intermittent) with consumption (expected to be increased with electrification of the energy system).

Electrical Utilities Criteria cover generation including all emissions from the generation process and those related to the electricity purchased from the grid for distribution or trading in the market.

Grids and Storage Criteria extend to transmission and distribution, and Energy Sector Criteria (Steel, Buildings, Low-Carbon Transport, Hydrogen, etc.) apply to end use.



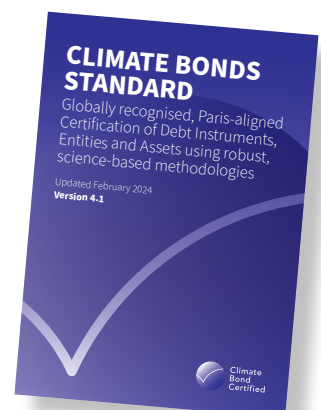
What can be Certified

The following can be Certified under these Criteria following the update of the overarching [Climate Bonds Standard](#):

- **Entities (electrical utilities) and sustainability-linked debt (SLD)** issued by those entities under Section 3 of the Criteria;
- **Use-of-Proceeds (UoP)** bonds financing mitigation measures (e.g., carbon capture and storage (CCS), carbon capture utilisation and storage (CCUS), and co-firing) under Section 4 of the Criteria.



The [Climate Bonds Standard](#) provides any cross-sectoral requirements for UoP, SLD, asset or entity Certification which must be met in addition to the electrical utilities-specific requirements described in this document.



Entities Certification

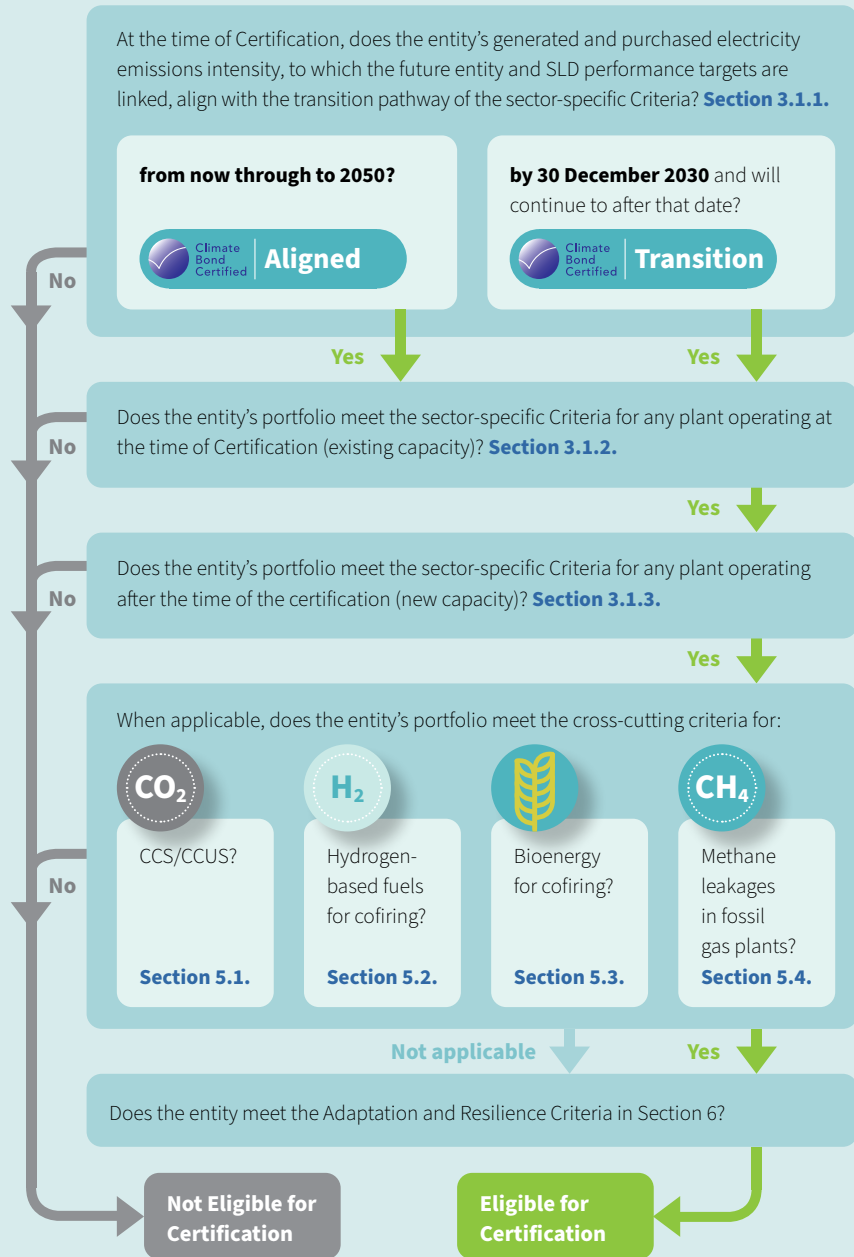
Mitigation Criteria

Mitigation Criteria cover all the emissions related to the electricity produced, traded or distributed in three steps:



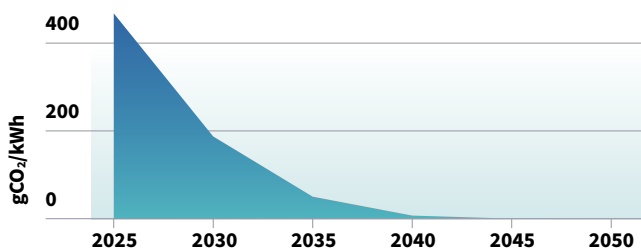
- **Step 1.** Meeting an electricity transition pathway (Section 3.1.1 of the Criteria).
- **Step 2.** Technologies Criteria for non-combustion but relevant emissions (Section 3.1.2 and 3.1.3 of the Criteria).
- **Step 3.** Cross-cutting criteria to cover life cycle CO₂ and CH₄ emissions related to electricity generation and the environmental impacts associated to the use of bioenergy in power plants (Section 5 of the Criteria).

Summary of the Criteria



STEP 1. Meeting the pathway

Emissions reduction pathway



STEP 2. Technologies Criteria. Fossil fuel capacity.

Mitigation Criteria for fossil fuel existing capacity			
		Advanced economies	Emerging economies
Coal	Phasing-out unabated plants	2030	2040
	IF NOT: Co-firing with 100% low-carbon fuels	2035	2040
	CCS retrofit with a carbon capture rate of 90%		
Fossil Gas. Cross-Cutting	Phasing-out unabated plants	2040	2040
	IF NOT: Co-firing with 100% low-carbon fuels	2040	2040
	CCS retrofit with a carbon capture rate of 90%		
Oil	Phasing-out unabated plants	2030	2040

No new fossil generation capacity

Transition pathway of the sector-specific Criteria

Year	2025	2030	2035	2040	2045	2050
Emissions intensity (gCO ₂ /kWh)	460	186	48	3	0	0

STEP 2. Low-carbon capacity.

LCA emission intensity threshold (gCO ₂ /kWh)			
Generation technology	Existing plants	New plants	Other environmental impacts
Solar and Wind	Automatically eligible	Automatically eligible	N/A
Hydropower	100 gCO ₂ e/kWh	50 gCO ₂ e/kWh	Meet Criteria
Geothermal	100 gCO ₂ e/kWh	50 gCO ₂ e/kWh	Meet Criteria
Bioenergy	100 gCO ₂ e/kWh	50 gCO ₂ e/kWh	Meet Criteria

STEP 3. Cross-Cutting Criteria.

To cover other life cycle GHG emissions related to the electricity generation and environmental impacts associated to the use of bioenergy, the Electrical Utilities Criteria require cross-cutting criteria for:



- **CO₂ leakages in CCS/U systems.** CO₂ emissions thresholds in transport and storage of CO₂ captured and criteria for CO₂ utilization when used in products instead of stored.
- **Low-carbon fuels.** Emissions intensity thresholds for hydrogen/hydrogen derived fuel used for cofiring in fossil fuel power plants covering the emission embedded in processing and transportation.
- **Bioenergy.** Criteria for the use of biomass in electricity generation: This criteria provide 1) emissions threshold for processing and transportation of biomass. 2) environmental impacts related to the biomass sources allowed, use of biomass indirect land use, food security and adaptation.
- **Methane emissions.** Requirements for detection and reparation of methane leakages in fossil gas power plants.

Adaptation and Resilience Criteria.

The entity is required to complete a risk assessment they have undergone or will undergo including the identified, planned, and implemented measures to manage and mitigate the climate risks, without harming the resilience of the surroundings. It should:



- **Understand and identify the context:** Boundaries and interdependencies.
- **Address climate risks:** Identify climate risks and address them by undertaking risk-measures and adopting management plans ensuring that the entity is robust and fit-for-purpose in the face of uncertainty.
- **Address resilience benefits:** Deliver resilience benefits over and above identified risks.
- **Undertake regular (re)evaluation** of climate resilience performance, adjusting for risk reduction measures over time as needed.

Hydropower, geothermal, and bioenergy assets must undergo specific assessment to tackle their potential environmental impacts.

UoP CERTIFICATION

Electrical Utilities Criteria also include Certification for UoP bonds to finance decarbonisation measures in fossil fuel power plants.

Two measures are eligible when meeting the Criteria:




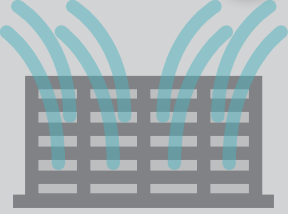
- **CCS/U in**
- **Cofiring with low-carbon fuels.**

Cross-cutting for	Thresholds	Alignment
% leakages for mass of CO ₂ transported	5%	EU Taxonomy
Hydrogen production and delivery emission intensity	From 3 kgCO ₂ e/kg H ₂ in 2023 to 0 kgCO ₂ e/kg H ₂ in 2050	CBI
Biomass production, transport and distribution emission intensity	5.5 gCO ₂ /MJ biomass produced and transported	CBI

Carbon capture and storage or utilisation


Required: 90% of carbon capture rate

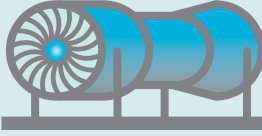




Cofiring with low-carbon fuels

Required: Cofiring rate of 100%.





Further information sources: Want to Certify, or just know more?

Take a look at these documents:

Electrical utility Criteria Document:

Summary of the Criteria for issuers and verifiers

<https://www.climatebonds.net/standard/electricity-utilities>



Electrical utility Criteria Background Document:

Technical Background and summary of Criteria development process

<https://www.climatebonds.net/standard/electricity-utilities>

Climate Bonds Standard: CBI's Certification process,

Pre- and post-issuance requirements and a suite of sector eligibility and guidance documents

<https://www.climatebonds.net/standard/the-standard>



For certification go to <https://www.climatebonds.net/certification>



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