



CEC Renewables Limited
2023 Green Bond Annual Impact Report



“Providing sustainable grid connected renewable energy solutions and adding to the diversification of renewable energy sources in Zambia.”



Sustainable Energy Partner

A member of the CEC Group of Companies

www.cecinvestor.com

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Summary

CEC Renewables began its green bond journey in 2023, with the registration of a \$200 million programme of which \$53.5 million was successfully issued on 21 December 2023. The issued Green Bond is aimed at development of 2 assets intended to bolster the addition and augmentation of solar PV generation capacity within the Zambian electricity grid with battery storage as appropriate.

The issuance of the Green Bond is an integral part of the Company's sustainability strategy.

CEC Renewables has ambitions to generate about 300MW of renewable energy, specifically solar energy in the next 5 years, with just over 200MW envisaged to be funded by the existing green bond programme.

The green bond programme is registered with the Securities and Exchange Commission of Zambia (SEC) and listed on Lusaka Stock Exchange.

CEC Renewables Limited has adopted the ICMA Green Bond Principles (GBP) and committed to report on both the allocation of the net proceeds from the Green Bond and their environmental impact on an annual basis by way of a green impact report effective 2023.

Through this report we seek to enhance transparency and disclosure and promote integrity in the development of the Green Bond market by clarifying the approach for issuance of the Green Bond. In so doing we hope to aid investors by promoting availability of information necessary to evaluate the environmental impact of their Green Bond investments.



Who We Are and What We Do

CEC Renewables Limited is a wholly owned subsidiary of CEC PLC incorporated on 28th October 2022. The Company's principal activity is renewable energy generation.

The Company currently has an installed capacity of 94MWp of Photovoltaic (PV) solar power with the 34MWp Riverside plant commissioned in February 2023 and the 60MWp Solar plant in Itimpi (Garneton area) of Kitwe District commissioned in April 2024.

CEC Renewables is providing grid connected renewable energy solutions that are integrated to the existing grid of the parent company in line with industry standards for quality, reliability, safety, functionality, and simplicity of operations while complying with sustainability obligations.

To ensure that safe and environmentally sound systems deliver the expected outcome, modern technology, industry best practices and engineering designs aimed at mitigating or eliminating negative impact on the environment are employed at all levels from construction through operation to decommissioning. CEC Renewables plays a pivotal role in driving the CEC Group's sustainable agenda.



2 PPA'S
25 YEARS



34MW
RIVERSIDE SOLAR PLANT
COMMISSIONED FEBRUARY 2023



60MW
ITIMPI SOLAR PLANT
COMMISSIONED APRIL 2024



174,328
SOLAR PANELS



USD 200 million
GREEN BOND PROGRAMME



17
TRANSFORMER STATIONS



374
INVERTERS



1
CUSTOMER

How We Approach Sustainability

Our Customer

Our success depends on our customer. Our strength lies in working closely with them to create value and trust.

By choosing our renewable energy solutions, our client unlocks not only sustainable power sources but also a pathway to environmental responsibility, cost efficiency, and a brighter, greener future for generations to come.

Our People

We would not exist without our people. We have provided a work environment that is safe and satisfying, while also fostering optimal productivity.

We aim to create an environment where all employees can make positive contribution, develop their careers and actualize their full potential.

Our Shareholders

We aim to be an innovative, dependable and sustainable investment proposition, focused on generating shareholder value.

We do this by investing in renewable generation assets that guarantee long term financial benefits and operating them in a cost-efficient manner. This is demonstrated by financial growth in the key financial metrics such as profitability, cash generation and asset base, all of which are essential to creating a sustainable long term economically viable business.

Our Communities

Our renewable energy solar plants contribute to building resilient and thriving communities by reducing carbon emissions, creating local job opportunities, and fostering a cleaner, healthier environment for all. We engage with the community on continual basis, looking for opportunities to partner and add value in environment in which we operate.

Our Suppliers

We nurture strong partnerships with our suppliers, elevating our capacity to deliver an exceptional service. Our focus remains on attaining cost efficiencies, expediting service delivery, enhancing service standards for all stakeholders, and optimizing internal resources. These pursuits are harmonized with our overarching sustainability mission. As part of this commitment, we expect our suppliers to integrate sustainability into their daily operations for good and services they provide.

Environment

Our dedication to environmental stewardship is evident in every aspect of our operations. From minimizing our carbon footprint through renewable energy generation to implementing eco-friendly practices across our supply chain, we prioritize sustainability at every turn. Through innovative initiatives and ongoing commitment, we strive to preserve and protect our planet for future generations, ensuring a greener, more sustainable world for all.

The CEC Renewables Limited Green Bond Framework



CEC Renewables Limited acknowledges that a Green Bond serves as a potent means to direct investments towards projects showcasing clear climate and environmental advantages, consequently bolstering progress towards attaining the SDGs.

Through the issuance of Green Bonds, CEC Renewables Limited aims to synchronise its funding approach with its broader corporate mission which encompasses their sustainability objectives and long-term aspirations.

“THE FRAMEWORK LISTS ELIGIBLE ASSETS THAT MEET THE COMPANY’S OVERALL OBJECTIVE TO PROMOTE AFFORDABLE AND RENEWABLE ENERGY.”

This Green Bond Framework is in alignment with the four pillars of the International Capital Markets Association (“ICMA”) Green Bond Principles 2021.

The selection criteria for the eligible green asset categories is aligned to the EU Taxonomy.



CEC Renewables Green Bond Framework Core Pillars

The CEC Renewables Green Bond Committee has the responsibility to govern the Green Bond Framework. This committee is comprised of the CEC-R Board members that will be committed to promoting sustainability and environmental responsibility. The committee members also include two CEC Group Senior Management team members who assist the CEC Renewables management team execute the sustainability vision of the Board. The Committee is also responsible for approving the allocation of the green bond proceeds and the environmental impact reporting of the green bond portfolio.

In line with the EU's taxonomy, the Green Bond Framework (GBF) stands on four core pillars:

1. Use of Proceeds

The net proceeds of the GBF will be exclusively used to finance or refinance in whole or in part eligible assets with clear environmental benefits ("Eligible Green Assets") in the following category, together forming the "Eligible Green Asset Portfolio": Renewable Energy.

3. Management of Proceeds

CEC-R allocates the net proceeds from its Green Bond to an Eligible Green Asset Portfolio, selected in accordance with the Eligibility Criteria presented on the right. Currently the portfolio consists of existing assets (34MW Riverside and 60MW Itimpi) and upcoming expansion of Itimpi to 180MW with possible storage.

CEC-R fully allocates the proceeds within 12 months after the issuance date of the Green Bond.

Pending the allocation or reallocation, as the case maybe, of the net proceeds to Eligible Green Assets, CEC-R will invest the balance of the net proceeds, at its own discretion, into bank deposits, until the allocation to new Eligible Green Assets. In doing so, it will seek to priorities ESG focused instruments, such as green deposits.

4. Reporting

CEC-R will report on the allocation of net proceeds and related impact annually until the proceeds of the Green Bond have been fully allocated. The report will include:

a. Allocation Reporting

This discloses the aggregated amount of allocation of the net proceeds to the Eligible Green Assets, the balance of any unallocated proceeds invested in bank deposits and the proportion of net proceeds used for financing vs refinancing.

b. Impact Reporting

CEC-R will report on the environmental impacts of the Eligible Green Assets funded with the Green Bond proceeds through a dedicated impact report. The impact reporting will provide a brief description of the Eligible Green Assets, Capacity of renewable energy production connected in the grid (in MW), Estimated avoided CO₂ emissions (in Tco₂ Per Year).

2. Project Evaluation and Selection

In order to ensure the transparent and rigorous evaluation of projects through our green bond program, we have established a dedicated Green Bond Committee. The committee is responsible for the selection of projects for refinancing through this Green Bond issuance which is a crucial aspect of our sustainability commitment at CEC Renewables Limited.

Below are the key considerations and criteria used in selecting the assets for refinancing through the proceeds of the Green Bond:

a. Environmental Impact

The project must demonstrate a significant reduction in carbon emissions/carbon emissions avoided and generate clean and renewable energy, contributing to the reduction of Zambia's reliance on fossil fuels.

b. Social Benefits

The assets have /will have a proven track record of positive impacts on local communities, including job creation, skills development, or other social initiatives and adhere to stringent health and safety standards.

c. Economic Viability

The selected projects have demonstrated/will demonstrate long term financial viability, ensuring continued efficient operation and positive returns.

d. Regulatory Compliance

These assets possess all required permits and have consistently complied with local and national environmental regulations. Additionally, the projects should seamlessly integrate into the existing electricity grid infrastructure owned by ZESCO and CEC, ensuring reliable energy supply to our customers and compliance with the grid requirements in Zambia.

External Review.

a. Second Party Opinion

An independent review of the portfolio of Eligible Green Assets, as well as the alignment of CEC-R's Green Bond Framework with ICMA's Green Bond Principle 2021 was conducted, and a Second Party Opinion was given and is appended to this report.

b. Annual Limited Assurance on the Allocation Reporting

CEC-R will obtain a limited assurance report by its auditor on the allocation of the Green Bond proceeds.

Green Bond Asset Portfolio

Renewables Energy Demand in Zambia

Zambia as a sovereign has a low energy resource diversification with almost total dependency on large hydropower power plants. As of 2022, hydropower accounted for 96% of Zambia's renewable energy capacity and solar power accounted for only 3%. Over the past two decades, droughts in southern Africa have significantly reduced the electrical output in the region and Zambia's hydropower plants in particular, which has induced power crises and increased dependence on expensive, fossil fuel-based generation.

Solar energy therefore becomes a critical resource to meet the country's growing energy demands in a sustainable manner. This is in line with the Zambia Integrated Resource Plan, whose overall objective is to develop a long-term plan for sustainable investment in electricity generation, transmission, and distribution infrastructure. CEC Renewables limited is strategically positioned to add Renewable Energy, specifically Solar, to the Zambian grid and cushion the shortfall being experienced as result of the droughts.

As at the date of report, CEC Renewables Limited has two operational solar asset, 34 MW Riverside Solar Plant and 60 MW Itimpi Solar Plant-Phase 1. The plants have both been funded through the issuance of a Green Bond.

Asset Portfolio Impact

The impact reporting on the eligible green assets uses impact indicators consistent with those recommended by the Handbook and Framework for Harmonized Impact Report published by ICMA in June 2019.

The impact reported is based on actual results for the operational eligible green asset and ex-ante estimates for assets still under construction once completed and operating at normal capacity.

The eligible category for the use of proceeds, Renewable Energy, is aligned with those recognized by the Green Bond Principles. The investment in Solar PV plants by CEC-R in the eligible category will lead to positive environmental impacts and advance the UN Sustainable Development Goals, specifically SDG 7, Affordable and Clean Energy aimed at substantially increasing the share of renewable energy in the global energy mix. On the social spectrum, over 1900 jobs were created, through the various contractors engaged to construct the eligible assets and once fully operational they will create over 80 permanent jobs,

The table below summarizes the environmental impacts of the Eligible Green Assets funded with the Green Bond proceeds.



Plant name	: Riverside Solar Plant
Location	: Kitwe Zamba
Date commissioned	: 15 February 2023
Plant capacity	: 34 MW
Actual annual generation 2023	: 46.6 MWh
Estimated annual CO₂ emissions avoided.	: 22,630 tons

Plant name	: Itimpi Solar Plant
Location	: Kitwe Zamba
Date commissioned	: 10 April 2024
Plant capacity	: 60 MW
Estimated annual generation	: 126 MWh
Estimated annual CO₂ emissions avoided.	: 44,000 tons

Green Bond Proceeds Allocation



“The net proceeds from the Green Bond programme first tranche of \$53.5 million is exclusively used to finance and refinance the two eligible renewable energy generation above valued at \$70 million once completed and operational. The balance of \$16.5 million has been funded through equity from the holding company Copperbelt Energy Corporation PLC as indication of their commitment to driving the Green and Sustainable agenda of the energy industry in the country and the region.”

Approved Sources and Uses

Uses	USD'000
Refinancing	
Shareholder loan and Interest	32,962
Financing	
Debt Service Reserve Account	4,212
Financing Fees	1,843
Riverside Milestone Payment	1,734
Itimpi Milestone Payments	10,097
2024 Riverside and Itimpi Capex	2,690
Total	53,538

Green Bond Funds Allocated December 2023

Bond issue inflow	USD'000
Green Bond	53,538
Total issue inflow	53,538
Application of Funds	
Refinancing	
CEC PLC Loan Repayment December 2023	(29,862)
Financing	
Financing costs December 2023	(283)
Total outflow	(30,145) ✓
Unallocated Green Bond Funds	23,393

As at 31 December 2023, of the allocated funds, \$29.86 million had been settled towards the shareholder loan and related interest expense, additionally, \$283k was paid in financing costs which had been invoiced by year end.

The balance of \$19.36 million will be applied as set out in the table to the left, in the use of proceeds schedule in 2024, with \$4.04million being held as retention payment for the Itimpi EPC to be paid out in Q1 2025.

Management has a policy in place for segregating and tracking the proceeds in an appropriate manner. As at the date of this report the funds awaiting application are held in a call account earning a return in line with market practice. ✓

CEC Renewables intends to fully allocate the proceeds within 12 months after the issuance date of the Green Bond*.

✓ – allocated proceeds subjected to an independent limited assurance by PricewaterhouseCoopers Inc.

* There is an exemption for the EPC retention fees, which can only be paid 12 months after the Commercial Operation Date which may occur after the Issuance Date

Contact Us For More Information

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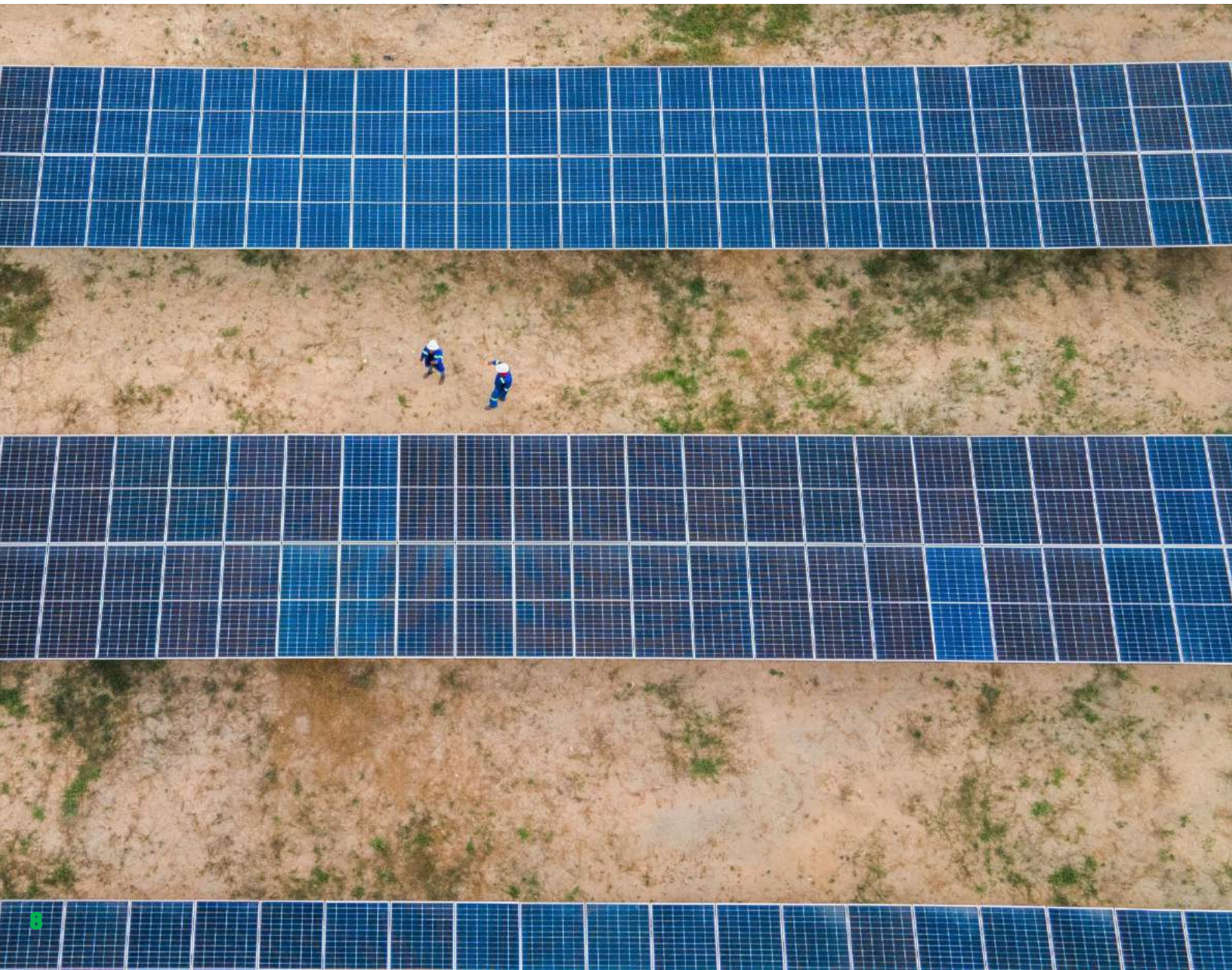
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Independent Auditor's limited Assurance Report on the Selected Sustainability Information in CEC Renewables Limited's 2023 Green Bond Annual Impact Report

To the Directors of Copperbelt Energy Corporation PLC

We have undertaken a *limited* assurance engagement in respect of the selected sustainability information, as described below, and presented in the 2023 Green Bond Annual Impact Report of CEC Renewables Limited (the 'Company', "*CEC-R*" or "*you*") for the year ended 31 December 2023 (the Report). This engagement was conducted by a multidisciplinary team including environmental and assurance specialists with relevant experience in sustainability reporting.

Subject Matter

We have been engaged to provide a limited assurance conclusion in our report on the following selected sustainability information, marked with a '✓' on the relevant pages in the Report. The selected sustainability information described below have been prepared in accordance with the Company's reporting criteria that accompanies the sustainability information on the relevant pages of the Report (the accompanying reporting criteria).

Selected Sustainability Information	Unit of measurement	Boundary	Page number
Alignment with the use of proceeds eligibility criteria outlined in the CEC Renewables Green Bond Framework For all bonds issued off the Green Bond Framework (2023): Limited Assurance of Management of Proceeds as set out by CEC-R.	Management Assertion and USD	CEC Renewables Limited	Page 7

We refer to this information as the "selected sustainability information".

Your responsibilities

The Directors are responsible for the selection, preparation and presentation of the selected sustainability information in accordance with the accompanying reporting criteria as set out [in the CEC Renewables Limited Green Bond Framework](#) (the "Reporting Criteria").

This responsibility includes:

- the identification of stakeholders and stakeholder requirements, material issues, commitments with respect to sustainability performance, and
- the design, implementation and maintenance of internal control relevant to the preparation of the Report that is free from material misstatement, whether due to fraud or error.

The Directors are also responsible for determining the appropriateness of the measurement and reporting criteria in view of the intended users of the selected sustainability information and for ensuring that those criteria are publicly available to the Report users.

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Inherent limitations

Non-financial performance information is subject to more inherent limitations than financial information, given the characteristics of the subject matter and the methods used for determining, calculating, sampling and estimating such information. The absence of a significant body of established practices on which to draw allows for the selection of different but acceptable measurement techniques which can result in materially different measurements and can impact comparability. Qualitative interpretations of relevance, materiality and the accuracy of data are subject to individual assumptions and judgements. The precision of different measurement techniques may also vary. Furthermore, the nature and methods used to determine such information, as well as the measurement criteria and the precision thereof, may change over time.

Our Independence and Quality Management

We have complied with the independence and other ethical requirements of the *Code of Professional Conduct for Registered Auditors*, issued by the Independent Regulatory Board for Auditors' (IRBA Code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour. The IRBA Code is consistent with the corresponding sections of the International Ethics Standards Board for Accountants' *International Code of Ethics for Professional Accountants (including International Independence Standards)*.

The firm applies the International Standard on Quality Management 1, *Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements*, which requires the firm to design, implement and operate a system of quality management, including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our responsibility

Our responsibility is to express a limited assurance conclusion on the selected sustainability information based on the procedures we have performed and the evidence we have obtained. We conducted our assurance engagement in accordance with the International Standard on Assurance Engagements 3000 (Revised), *Assurance Engagements other than Audits or Reviews of Historical Financial Information* (ISAE 3000 (Revised)), issued by the International Auditing and Assurance Standards Board. That Standard requires that we plan and perform our engagement to obtain limited assurance about whether the selected sustainability information are free from material misstatement.

A limited assurance engagement undertaken in accordance with ISAE 3000 (Revised) involves assessing the suitability in the circumstances of the Company's use of its reporting criteria as the basis of preparation for the selected KPIs, assessing the risks of material misstatement of the selected sustainability information whether due to fraud or error, responding to the assessed risks as necessary in the circumstances, and evaluating the overall presentation of the selected sustainability information. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks. The procedures we performed were based on our professional judgement and included inquiries, observation of processes followed, inspection of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records.

Given the circumstances of the engagement, in performing the procedures listed above we:

- Interviewed management and senior executives to obtain an understanding of the internal control environment, risk assessment process and information systems relevant to the sustainability reporting process;
- Inspected documentation to corroborate the statements of management and senior executives in our interviews;
- Tested the processes and systems to generate, collate, aggregate, monitor and report the selected sustainability information;
- Performed a controls walkthrough of identified key controls;
- Inspected supporting documentation on a sample basis and performed analytical procedures to evaluate the data generation and reporting processes against the reporting criteria;

- Evaluated the reasonableness and appropriateness of significant estimates and judgements made by the directors in the preparation of the selected sustainability information; and
- Evaluated whether the selected sustainability information presented in the Report are consistent with our overall knowledge and experience of sustainability management and performance at the Company.

The procedures performed in a limited assurance engagement vary in nature and timing, and are less in extent than for a reasonable assurance engagement. As a result the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement. Accordingly, we do not express a reasonable assurance opinion about whether the Company's selected sustainability information have been prepared, in all material respects, in accordance with the accompanying the Company's reporting criteria.

Limited Assurance Conclusion

Based on the procedures we have performed and the evidence we have obtained, and subject to the inherent limitations outlined elsewhere in this report, nothing has come to our attention that causes us to believe that the selected sustainability information as set out in the Subject Matter paragraph above for the year ended 31 December 2023 are not prepared, in all material respects, in accordance with the reporting criteria.

Other Matters

No assurance procedures were performed on the previous Green Bond Annual Impact Report. The information relating to the prior reporting periods has not been subject to assurance procedures.

The maintenance and integrity of Copperbelt Energy Corporation PLC's website is the responsibility of Copperbelt Energy Corporation PLC's directors. Our procedures did not involve consideration of these matters and, accordingly we accept no responsibility for any changes to either the information in the Report or our independent assurance report that may have occurred since the initial date of presentation on Copperbelt Energy Corporation PLC's website.

Restriction of liability

Our work has been undertaken to enable us to express a limited assurance conclusion on the selected sustainability information to the directors of the Company in accordance with the terms of our engagement, and for no other purpose. We do not accept or assume liability to any party other than the Company, for our work, for this report, or for the conclusion we have reached.

PricewaterhouseCoopers Inc.

PricewaterhouseCoopers Inc.

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Registered Auditor
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21 May 2024