Verifier's Report

Legal Name of Issuer:	**Arkansas Development Finance Authority**
Issue Description:	Industrial Development Revenue Bonds (Hybar Steel Project), Series 2023A (Tax-Exempt) (Green Bonds - Climate Bond Certified) Industrial Development Revenue Bonds (Hybar Steel Project), Series 2023B (Taxable - Convertible to Tax-Exempt) (Green Bonds - Climate Bond Certified)
Project:	Scrap Metal Recycling Steel Manufacturing Facility Project
Green Standards:	Climate Bonds Standard (Version 4.0) ICMA Green Bond Principles
Sector Criteria:	Steel
Keywords:	Steel manufacturing, electric arc furnace, recycling, water use efficiency, steel scrap, decarbonization, net zero aligned, Arkansas
Par:	$330,000,000
Evaluation Date:	June 21, 2023

CLIMATE BONDS DESIGNATION

The Arkansas Development Finance Authority will issue Industrial Development Revenue Bonds (Hybar Steel Project), Series 2023A (Tax-Exempt) (Green Bonds - Climate Bond Certified) and Industrial Development Revenue Bonds (Hybar Steel Project), Series 2023B (Taxable - Convertible to Tax-Exempt) (Green Bonds - Climate Bond Certified) ("2023 Bonds") for Hybar, LLC ("Hybar") to finance construction of a scrap metal recycling steel rebar manufacturing facility in Osceola, Arkansas (the "Project").

This Verifier's Report reflects Kestrel's view of Hybar's project and financing, allocation and oversight, and conformance of the 2023 Bonds with the Climate Bonds Standard (Version 4.0) and Certification Scheme, and *Steel* Sector Criteria. In our opinion, the Series 2023A and Series 2023B Bonds are impactful, net zero aligned, and conform with the internationally accepted Climate Bonds Standard (Version 4.0), the *Steel* Sector Criteria (Revision 1.1), and the ICMA Green Bond Principles.

In recognition of the harmonization and alignment between the Climate Bonds Standard and the Green Bond Principles June 2021 (June 2022 Appendix I) established by the International Capital Market Association ("ICMA"), Kestrel has also evaluated and confirmed conformance of the 2023 Bonds with the Green Bond Principles.

ABOUT THE ISSUER

The Arkansas Development Finance Authority (the "Authority"), a public body and instrumentality of the State of Arkansas created to finance industrial enterprises and other activities, is a conduit issuer for Hybar.

Hybar is a new company focused on sustainable scrap metal recycling and steel production. A nine-member Board governs Hybar. In November 2022, Hybar selected a greenfield site in northeast Arkansas to build a scrap metal recycling steel manufacturing facility designed to maximize energy efficiency and minimize operational greenhouse gas emissions. The 2023 Bonds finance construction of the facility (the "Project").

Project participants include:

- Global Principal Partners, LLC ("GPP"), a metals and mining investment and project development firm, is an investor of the Project. GPP runs the Developer Group, which will also oversee Project development and management.
- LMS Reinforcing Steel Group will provide rebar fabrication and installation services as well as purchase rebar from Hybar under a ten-year purchase agreement.
- KfW, a European Bank that has supported the Developer Group's projects for over 25 years will provide additional funding for the Project.
- SMS group, a steel technology provider that has supported the Developer Group's projects for over 25 years, will provide technology for the Project and provide energy efficiency and carbon emissions guarantees.
- Additional equity investors.

The Developer Group has constructed and managed several environmentally sustainable scrap metal recycling steel mill projects, including the Big River Steel Production Facility in Arkansas. Big River Steel was the first steel mill in the world to achieve LEED certification[1] and to receive ResponsibleSteel™ certification.[2] This facility achieved a Scope 1 carbon emissions level of 0.123 tons of carbon emitted per ton of steel produced compared to the world average for steel producers of 1.85 tons of carbon emitted per ton of steel produced.

CONFORMANCE WITH CLIMATE BONDS STANDARD AND SECTOR CRITERIA

Hybar engaged Kestrel to provide an independent verification on alignment of the 2023 Bonds with the Climate Bonds Standard (Version 4.0) and Certification Scheme ("Climate Bonds Standard"), and the *Steel* Sector Criteria. The Climate Bonds Initiative ("Climate Bonds") administers the Standard and Sector Criteria. Additionally, Kestrel examined alignment of the 2023 Bonds with the United Nations Sustainable Development Goals ("UN SDGs").

Kestrel is a Climate Bonds Initiative Approved Verifier. The Kestrel Verification Team included environmental scientists, social scientists, and financial professionals. We performed a Reasonable

[1] "The first LEED-certified steel production mill in the world," USGBC, September 25, 2017, https://www.usgbc.org/articles/first-leed-certified-steel-production-mill-world.

[2] "ResponsibleSteel announces world's first certified steelmaking site in North America: U.S. Steel's Big River mill in Osceola, Arkansas," ResponsibleSteel, April 4, 2022, https://www.responsiblesteel.org/news/responsiblesteel-announces-worlds-first-certified-steelmaking-site-in-north-america-u-s-steels-big-river-mill-in-osceola-arkansas/.

Assurance engagement to independently verify that the 2023 Bonds meet relevant criteria, in all material respects.

For this engagement, Kestrel reviewed Hybar's bond disclosure documentation, Green Bond Framework, disclosures and documentation on the allocation and uses of bond proceeds, as well as relevant plans and alignment to Hybar's overarching climate objectives. We examined public and non-public information and interviewed staff and representatives of Hybar. Our goal was to understand the planned use of proceeds, procedures for managing proceeds, and plans and practices for reporting in sufficient detail to verify the bonds.

Relevant Climate Bonds Sector Criteria and Other Standards

The 2023 Bonds align with the Climate Bonds Standard (Version 4.0) and the *Steel* Criteria (Revision 1.1).

Assurance Approach

Kestrel's responsibility was to conduct a Reasonable Assurance engagement to determine whether the 2023 Bonds meet, in all material respects, the requirements of the Climate Bonds Standard. Our Reasonable Assurance was conducted in accordance with the Climate Bonds Standard (Version 4.0) and the *International Standard on Assurance Engagements (ISAE) 3000 (Revised), Assurance Engagements Other than Audits or Reviews of Historical Financial Information*. Information relating to this engagement and the Verifier's and Issuer's Responsibilities, and Independence and Quality Control are available in Appendix D.

Kestrel has relied on information provided by Hybar. There are inherent limitations in performing our assurance; fraud, error or non-compliance may occur and not be detected. Kestrel is not responsible or liable for any opinions, findings or conclusions within the information provided by Hybar that are incorrect. Our assurance is limited to the review of Hybar's policies and procedures that are, in Kestrel's view, relevant to the key components of the Climate Bonds Standard (Version 4.0). The distribution and use of this verification report are at the sole discretion of Hybar. Kestrel does not accept or assume any responsibility for distribution to any other person or organization.

Use of Proceeds

The 2023 Bonds finance construction of a new electric steel production facility to produce rebar from 100% recycled scrap metal in Osceola, Arkansas. The Project advances decarbonization goals in the steel industry by increasing use of recycled scrap metal and reducing the need for energy-intensive primary steel production. Multiple design features are incorporated to maximize energy and water use efficiency, and the plant is designed to achieve ResponsibleSteel certification and be LEED Certified once operational.

The new production facility is a mini mill[3] located on approximately 1,300 acres on the Mississippi River and is designed to produce 630,000 tons of rebar annually. The annual production represents approximately 5% of demand in the United States and Canada. The facility consists of an electric arc furnace that will melt scrap metal into liquid steel. The furnace will run on electricity. The liquid steel will be formed into a rectangular steel rod (billet) and a rolling mill with induction heating will process the billet into both straight and coiled rebar.

[3] Integrated steel producers use iron ore and often use coke made from coal to produce steel. Mini mills use recycled scrap and do not require use of coke and energy-intensive processing of iron ores to produce usable products.

The site is located on the Mississippi River and provides direct access to barge transportation and has a rail spur for inbound scrap materials and outbound rebar shipments. A highly efficient water treatment facility and an electrical substation designed to connect to the electrical grid and planned solar arrays are also located on-site. The project is expected to be completed and operational in May 2025.

Steel Sector Decarbonization and the Osceola Facility

Steel manufacturing is a highly energy-intensive process and decarbonization of the sector is critical to reaching net zero goals. Steel and iron manufacturing accounts for approximately 7-10% of global greenhouse gas emissions.[4,5] Primary production from iron ore is a particularly high-emissions activity so maximizing use of recycled scrap metal is one of the main paths to decarbonization.[6]

Scrap metal used at the Hybar facility will consist of metal from shredded cars, demolished steel structures, and recycled railroad cars and appliances. Globally, approximately 1.8-2.3 tons of CO_2e are emitted per ton of steel produced.[7,8] The global average for facilities using electric arc furnaces to process scrap is 0.7 tons CO_2e/ton of steel produced. At the new Hybar facility in Arkansas, the emissions intensity will be significantly less than the electric arc furnace global average. As of 2023, Hybar is actively pursuing a partnership to install an 85-MW solar farm on adjacent land which would significantly reduce Scope 2 emissions and further reduce the carbon emissions intensity.

Efficiency Features and Sustainability Certifications

In addition to maximizing metal scrap recycling to reduce greenhouse gas emissions, the site will incorporate best available and emerging technologies to reduce energy use and carbon emissions. Key features incorporated are described below.

- The new mill will operate with a 40-ton hot heel in a 105-ton electric arc furnace. The use of a large hot heel will reduce the amount of energy needed to melt scrap metal and the continuous nature of the entire operating process reduces energy use and associated greenhouse gas emissions because there is no cooling and re-heating step. Scrap metal will be processed into finished rebar in less than two hours.
- The process will use DC current and a single electrode, rather than the more common three-electrode design used throughout the rebar industry, to reduce electricity use by approximately 15% compared to an AC furnace. Oxyfuel burners in the electric arc furnace reduce melt times and electricity use.
- Flue gas and dust collection systems have variable frequency drives.

[4] "Iron and Steel Technology Roadmap," International Energy Agency (IEA), 2020, https://www.iea.org/reports/iron-and-steel-technology-roadmap.

[5] Sustainable STEEL Principles, 2022, https://climatealignment.org/wp-content/uploads/2022/06/sustainable_steel_principles_framework.pdf.

[6] Chris Bataille, "Low and zero emissions in the steel and cement industries: Issue Paper," Organization for Economic Cooperation and Development, 2019, https://www.oecd.org/greengrowth/GGSD2019_IssuePaper_CementSteel.pdf.

[7] Chris Bataille, "Low and zero emissions in the steel and cement industries: Issue Paper," Organization for Economic Cooperation and Development, 2019, https://www.oecd.org/greengrowth/GGSD2019_IssuePaper_CementSteel.pdf.

[8] Steel Criteria Background Paper, Climate Bonds Initiative, 2022, https://www.climatebonds.net/files/files/Background%20paper%20CBI%20Steel%20Criteria_Final.pdf.

- Slag foaming[9] achieved through precision injection of carbon powder increases the electric power efficiency by at least 20%.
- Advanced sensors and automated controls further maximize energy efficiency through continuous monitoring of thermodynamics and chemical activity in melted steel and throughout the steelmaking process.
- Water use will be minimized through on-site water reuse for cooling. Similar closed-loop water systems at other sites have reduced water use by 45% compared to a business-as-usual design.

As a result of the sustainable designs, the new project is expected to be LEED Certified and achieve a ResponsibleSteel certification. The ResponsibleSteel certification involves a third-party auditor to assess alignment of a facility with 13 principles, including greenhouse gas emissions, waste management, water stewardship, biodiversity, governance, health and safety, and labor rights, among others.

Net Zero Alignment

Bonds are net zero aligned if bond-financed activities advance goals to reach net zero greenhouse gas emissions by 2050. Steel production is a significant source of global emissions and is considered a "hard-to-abate" sector. The 2023 Bonds advance net zero goals by financing construction of a new mini mill that will use 100% recycled material and incorporate technologies designed to minimize the emissions intensity of the final product. The planned installation of an 85-MW solar farm nearby will support further decarbonization targets.

In addition, Hybar has analyzed site-specific climate risk scenarios and adopted plans to monitor and adjust for physical climate risks. The facility has features such as emergency generators to improve resilience and the adopted environmental and social management strategy is expected to help identify and adapt to changing scenarios.

Advancing the Just Transition to a Decarbonized Economy

The 2023 Bonds also finance activities which align with the *just transition,* characterized by the equitable inclusion and accommodation of all individuals, with a special focus on disadvantaged groups who may be directly or indirectly affected by the structural changes necessary for the transition to a low-carbon economy. As industries transition to more sustainable manufacturing processes and abandon existing high-emissions activities, communities and employees are at risk of being left behind in the transition. The 2023 Bonds support the just transition by prioritizing job creation and training at a new site that uses sustainable manufacturing processes.[10]

Sector Criteria for Steel (Revision 1.1)

As per the *Steel* Sector criteria, bonds must meet both Mitigation and Adaptation & Resilience Criteria to demonstrate conformance. The 2023 Bonds only finance a new facility with an electric arc furnace that will use 100% scrap for manufacturing. The facility will be operational in 2025 and therefore aligns with Section 4.2 of the Steel Criteria. Designs do not include carbon capture and storage technologies. The Project also conforms with criteria in Section 6.6 *Additional criteria to address upstream scope 3 emissions.* The Project has plans to be connected to an adjacent solar farm and use renewable energy instead of

[9] Slag is foamed in order to cover the arc melt surface and reduce radiation heat loss. The Project uses advanced technology to add carbon powder based on the level of slag in the furnace and improve precision of the foaming process.

[10] According to Hybar, the Project is expected to create 2,600 direct jobs and over 2,100 indirect jobs.

power supplied from the grid. It is also planning for ResponsibleSteel and LEED certification. The facility has significant documentation and plans and procedures in place to meet criteria in the Adaptation & Resilience checklist included in Appendix B.

ICMA Green Bond Principles

The new facility is an eligible project as defined by the Green Bond Principles in the *Pollution and Prevention Control* and *Circular Economy* project categories. The Project aligns with the *Pollution and Prevention Control* project category by using 100% recycled scrap and by reducing greenhouse gas emissions in the steel manufacturing process. Rebar produced from recycled materials and with a very low emissions intensity supports a circular economy model. A circular economy is defined as the process of reusing, refurbishing, or remanufacturing products into new components for long term retention.[11] In Kestrel's view, projects that reduce waste through repurposing, use repetitive processing with minimal outside inputs, and use renewable raw materials are central components of a circular economy. Converting scrap materials into usable rebar demonstrates this process. The Project also has a closed-loop water system and will use renewable energy directly from the adjacent solar installation, further aligning with the concept of a circular economy and a self-contained system.

Process for Project Evaluation and Selection

The project aligns with federal greenhouse gas emissions reduction targets for domestic manufacturing sectors and with goals to support the US clean steel industry, as laid out in the National Climate Task Force.[12]

The Project will also meet a defined need for US-based production of rebar required for federal projects. Government infrastructure spending in the US continues to increase, as a result of the Bipartisan Infrastructure Law. The Build America, Buy America Act, enacted as part of the Bipartisan Infrastructure Law on November 15, 2021, requires steel used in infrastructure projects funded by Federal financial assistance to be produced in the United States. Rebar demand in the United States and Canada is expected to total 11.7 million tons annually according to World Steel Dynamics, a global steel industry research firm,[13] and the Project will help meet this demand by providing a sustainable alternative to other steel suppliers.

Management of Proceeds

Proceeds will finance construction of the new facility and pay costs of issuance. Proceeds will be held in a distinct account and spent after purchase orders are approved by the Hybar Chief Financial Officer who is responsible for overseeing allocation of proceeds to the Project. Prior to spending on the Project, proceeds may be held in eligible temporary and conservative Permitted Investments consisting of money market accounts, short-term US government instruments, and certificates of deposit. Proceeds will be spent within 24 months of issuance.

[11] "The GBP Impact Reporting Working Group," Green Bond Principles, June 2021, https://www.icmagroup.org/assets/documents/Sustainable-finance/2021-updates/GBP-IRWG-Suggested-Impact-Reporting-Metrics-for-Circular-Economy-andor-Eco-Efficient-Projects-June-2021-100621.pdf.

[12] "National Climate Task Force," The White House, accessed May 5, 2023, https://www.whitehouse.gov/climate/#:~:text=Reducing%20U.S.%20greenhouse%20gas%20emissions,clean%20energy%20to%20disadvantaged%20communities.

[13] Information provided by Hybar.

Reporting

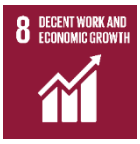
Hybar intends to provide updates on sustainability matters in annual reports for investors. Reports will include construction status, amount of proceeds spent, and, once available, impact metrics and confirmation of any sustainability certifications. The reports will be made available in an investor data room and notices will be posted on the Electronic Municipal Market Access ("EMMA") system to indicate reports are available.

In accordance with the Climate Bonds Standard, Kestrel will be engaged to provide one Post-Issuance Report within 24 months of issuance to confirm continued conformance of the 2023 Bonds with the relevant Standards and Criteria.

ALIGNMENT WITH UN SDGs

The 2023 Bonds support and advance the vision of the United Nations Sustainable Development Goals ("UN SDGs"), including:

Affordable and Clean Energy (Target 7.3)
Infrastructure designed to minimize energy use in an energy-intensive sector



Decent Work and Economic Growth (Target 8.2)
Construction of new manufacturing facilities with innovative and sustainable technologies

Industry, Innovation and Infrastructure (Target 9.4)
Integration of best available technologies to improve sustainability of rebar manufacturing

Responsible Consumption and Production (Targets 12.2, 12.5)
Increased production of rebar from recycled scrap metal

Full text of the Targets for Goals 7, 8, 9, and 12 is available in Appendix A, with additional information available on the United Nations website: un.org/sustainabledevelopment

ASSURANCE STATEMENT AND CONCLUSIONS

Based on the Reasonable Assurance procedures we have conducted, in our opinion, the Arkansas Development Finance Authority Industrial Development Revenue Bonds (Hybar Steel Project), Series 2023A and Series 2023B are impactful, net zero aligned, and conform, in all material respects, with the current Climate Bonds Standard, and the bond-financed activities are completely aligned with the *Steel* Sector Criteria. The 2023 Bonds also conform with the Green Bond Principles and are in complete alignment with the *Pollution Prevention and Control* and the *Circular Economy* eligible project categories. The new recycled steel facility is optimized to reduce greenhouse gas emissions and directly advances the transition to a decarbonized economy.

Sincerely,

April Strid, Lead Verifier
Kestrel
Hood River, Oregon, United States
June 21, 2023

About

Kestrel provides ESG Impact Data and verification services designed to bring greater transparency and insight to fixed income, helping to set the market standard for sustainable finance.

We are a team of environmental and social scientists, engineers, and finance professionals with deep, nuanced understandings of how state and local governments finance and deliver public projects. We understand the complex activities and infrastructure financed with municipal bonds and provide meaningful, material insights on their ESG characteristics with our innovative data offering.

We are also a leading provider of external reviews for green, social and sustainability bond transactions in US public finance, consistently garnering over 60% of the market share by par and by number of reviews. We are qualified to evaluate corporate and municipal bonds in all asset classes worldwide for conformance with international green and social bond standards.

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Disclaimer

This Opinion aims to explain how and why the discussed financing meets the Climate Bonds Standard based on the information that was provided by Hybar or made publicly available by Hybar and relied upon by Kestrel only during the time of this engagement (May 2023), and only for purposes of providing this Opinion.

We have relied on information obtained from sources believed to be reliable, and assumed the information to be accurate and complete. However, Kestrel can make no warranty, express or implied, nor can we guarantee the accuracy, comprehensive nature, merchantability, or fitness for a particular purpose of the information we were provided or obtained.

By providing this Opinion, Kestrel is neither addressing nor certifying the credit risk, liquidity risk, market value risk or price volatility of the projects financed by the Climate Bonds. It was beyond Kestrel's scope of work to review for regulatory compliance, and no surveys or site visits were conducted by us. Furthermore, we are not responsible for surveillance, monitoring, or implementation of the project, or use of proceeds.

The Opinion delivered by Kestrel is for informational purposes only, is current as of the date of issuance, and does not address financial performance of the Climate Bonds or the effectiveness of allocation of its proceeds. This Opinion does not make any assessment of the creditworthiness of Hybar, nor its ability to pay principal and interest when due. This Opinion does not address the suitability of a Bond as an investment, and contains no offer, solicitation, endorsement of the 2023 Bonds nor any recommendation to buy, sell or hold the 2023 Bonds. Kestrel accepts no liability for direct, indirect, special, punitive, consequential or any other damages (including lost profits), for any consequences when third parties use this Opinion either to make investment decisions or to undertake any other business transactions.

This Opinion may not be altered without the written consent of Kestrel. Kestrel reserves the right to revoke or withdraw this Opinion at any time. Kestrel certifies that there is no affiliation, involvement, financial or non-financial interest in Hybar or the projects discussed. We are 100% independent. Language in the offering disclosure supersedes any language included in this Opinion.

Use of the United Nations Sustainable Development Goal (SDG) logo and icons does not imply United Nations endorsement of the products, services, or bond-financed activities. The logo and icons are not being used for promotion or financial gain. Rather, use of the logo and icons is primarily illustrative, to communicate SDG-related activities.

Appendix A.
UN SDG TARGET DEFINITIONS

Target 7.3.
By 2030, double the global rate of improvement in energy efficiency

Target 8.2
Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labor-intensive sectors

Target 9.4
By 2030, upgrade infrastructure and retrofit industries to make them more sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

Target 12.2
By 2030, achieve the sustainable management and efficient use of natural resources

Target 12.5
By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

Appendix B.

ADAPTATION & RESILIENCE: STEEL CRITERIA

Adaptation & Resilience Criteria – Tables B.1 – B.6

Table B.1. Area 1: Clear boundaries and critical interdependencies between the facility/facilities and the system it operates within are identified.

No.	Adaptation and Resilience checklist for Steel Production Facilities	Proof Given	Kestrel's Overall Assessment
1.1	Boundaries of the infrastructure are defined using: 1. a listing of all facilities associated with the use of the bond proceeds, 2. a map of their location, and 3. identification of the expected operational life of the facilities.	Permitting documents, primary project implementation plans, third-party environmental assessments	Boundaries of the infrastructure are defined based on project maps and detailed descriptions. The infrastructure includes an electric arc furnace and continuous casting process, a product line, and supporting equipment. The 2023 Bond proceeds finance (i) scrap metal recycling and steel production equipment (ii) supporting equipment including water treatment system, fume control system and overhead cranes, (iii) supporting structures such as buildings and foundations and (iv) installation. The operational life of the facilities is expected to be approximately 50 years.
1.2	Critical interdependencies between the facility/facilities and the system within which it/they operate(s) are identified. Identification of these interdependencies should consider the potential for adverse impacts arising from, but not limited to: 1. Relationships of the facilities to nearby flood zones; 2. Relationships of the facilities to surrounding water bodies and water courses; 3. Relationships of the asset/project to residential neighborhoods surrounding the plant; 4. Damage or reduction in value of neighboring property due to boundary structures at risk of falling during storm events; 5. Reduction in pollinating insects and birds; 6. Reduction in biodiversity or High Conservation Value habitat; 7. Dust and other practices that affect air quality; 8. Appropriation of land or economic assets from nearby vulnerable groups.	Environmental assessments, biodiversity management plan, multiple permitting assessments and documents such as air quality assessments Critical Habitat Assessments, and others.	Multiple assessments and permitting documents have identified critical interdependencies between the facilities and the surrounding environment and communities. The facility is located near the Mississippi River, surrounded by industrial development and approximately two miles from population centers. Assessments have addressed all items in Criteria 1.2. The Mississippi River nearby the site has levees that are part of the Mississippi River and Tributaries project. Habitat assessments, environmental justice screenings, air quality permits, and US and local community environmental assessments were reviewed.

Table B.2 Area 2: An assessment has been undertaken to identify the key physical climate hazards to which the measure will be exposed and vulnerable to over its operating life

No.	Adaptation and Resilience checklist for Steel Production Facilities	Proof Given	Kestrel's Overall Assessment
2.1	Key physical climate risks and indicators of these risks are identified in line with the following guidelines: • Risks are identified based on (a) a range of climate hazards, and (b) information about risks in the current local context, including reference to any previously identified relevant hazard zones, e.g., flood zones. In order to be confident that steel production facilities are robust and flexible in the face of climate change uncertainties, it is essential that the climate risks being assessed and addressed cover those that are of greatest relevance to industrial facilities and infrastructure such as steel production plants and other infrastructure. The physical characteristics of climate change that must be considered in the risk assessment include: • Temperature rise – High temperatures can impact the operation and efficiency of certain types of equipment. – Increase in water and energy consumed for cooling purposes. • Increasing intense precipitation events – Heavy rainfall can result in flash pluvial flooding, which could significantly impact industrial assets. – The site may experience reduced access or egress due to site flooding. • Landslides/ ground movement – Damage on buildings, equipment and infrastructure – The site may experience reduced access or egress • Drier seasons – Drought may alter or reduce availability of water with temperature increase. – Potential increased use or reliance on water mains for dust suppression and cleaning. – Potential for increase in dust emissions from the site. • Decreased river flow – Risks to the availability of raw materials. – Risk to transport routes for supply chains. • Changes in cloud cover, wind speed or increasing temperature extremes – Poses risks to the availability of reliable energy, both electrical or thermal. • Sea-level rises – Potential for flooding of coastal infrastructure and assets at risk from storm surge events.	Climate scenario assessments have been completed. Assessments also relied upon the TCFD report for U.S. Steel that includes the Big River Steel mill that is close to the Project site. Third-party assessments consider multiple scenarios and use widely recognized tools to identify key physical climate risks, including from the National Oceanic and Atmospheric Administration (NOAA) and World Wildlife Fund (WWF) Water Risk Filter.	Key climate-related risks were identified, including potential for flooding, physical heat stress, transition risk from carbon pricing, and others. A technical advisor has completed a flood risk assessment that includes consideration of the Mississippi River levee system and has indicated the risk is low. A third party has also performed a Phase 1 Environmental Site Assessment for the Project, which confirmed compliance with certain legal requirements, assessed climate risks, reviewed socioeconomic benefits, and analyzed various environmental quality reports.

No.	Adaptation and Resilience checklist for Steel Production Facilities	Proof Given	Kestrel's Overall Assessment
	– Reduction of useful life of assets due to frequent exposure to salty water • Increased coastal/ river erosion – Risks to the availability of raw materials. – Risk to transport routes for supply chains. • Wildfires – Severe damage on buildings, equipment and industrial infrastructure – Explosions – Supply chain disruption **Guidance for carrying out Risk Assessments:** • Users should apply climate scenarios based on representative concentration pathway (RCP) 4.5 and 8.5 or similar/ equivalent to ensure consideration for worst case scenario. • Risk assessments should use both top-down methods and bottom-up methods that look at inherent system vulnerabilities in local context. • A broad range of models can be used to generate climate scenarios • For risk assessment, the TCFD The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities is recommended.		

Table B.3 Area 3: The measures that have or will be taken to address those risks, mitigate them to a level such that the infrastructure is suitable to climate change conditions over its operational life.

No.	Adaptation and Resilience checklist for Steel Production Facilities	Proof Given	Kestrel's Overall Assessment
3.1	The following are examples of risk management activities that applicants might consider, or that might be adopted as part of regulations (e.g. codes and standards). This list is not exhaustive, and applicants should fully assess the mitigation measures that are relevant to the climate risks and impacts identified in the risk assessment. <u>Temperature</u> • Design standards that maintain equipment rating over its lifetime performance in the face of all potential ranges of temperature rise. • Resilience measures that ensure employees can continue to work at more extreme temperatures (e.g., air conditioning). • Water can be cleaned and recirculated for reuse on site • Alternative cooling systems. • Assess how efficient the current cooling system is, and to propose upgrades or modifications where necessary.	Environmental assessments, project designs, site-specific Environmental and Social Management System (ESMS), and other internal social and environmental policies.	The site has multiple resiliency features that also enable rapid adjustment and adaptation, if needed. Features include, but are not limited to, emergency generators, stormwater management systems, air conditioning, infrastructure designed to operate in higher temperatures, closed-loop water system to reduce water demand, and connections to both the grid and planned adjacent solar installation. Incident response plans are in place such as the Spill Prevention, Control and Countermeasure Plan and the Stormwater Pollution Prevention Plan. Potential risks will also be identified in detailed

No.	Adaptation and Resilience checklist for Steel Production Facilities	Proof Given	Kestrel's Overall Assessment
	Extreme Rainfall • Design for resilience to pluvial flooding. • Assessment of site drainage requirements. • Make sure there are suitable alternative transport routes to and from the site. <u>Drier Seasons</u> • Measures are in place to review and minimize water use and to maximize collection and use of rainfall • Water main capacity is adequate, taking into account reduced availability of rainwater for activities such as dust suppression and cleaning <u>Changes in cloud cover, wind speed or increasing temperature extremes</u> • Reduced reliance on imported energy and storage infrastructure. <u>Sea-level rises</u> • Prevent corrosion. Measures could include making sure that plant or equipment prone to corrosion are protected, such as by being painted with resistant coating, regularly inspected and maintained • Flood risk assessment and planning. <u>Increased flooding</u> • Flood risk assessment and planning. • Site installations outside of potentially affected zones. • Ensure flood defense systems and coastal management plans are adequate. <u>Increased coastal/ river erosion</u> • Shoreline management plans/ coastal erosion assessment <u>Landslides/ ground movement</u> • The potential for ground movement and landslides should be taken into account when assessing sites for steel production infrastructure. <u>Wildfires</u> • Implement active fire prevention measures such as fire detector, gas detector, design of sprinkler systems. • Wildland and vegetation management **General risk mitigation measures:** • Business continuity plans • Production restoration plans • System security standards • Employee capacity building		employee health and safety management plans that conform with US Occupational Safety and Health Administration (OSHA) requirements. The ESMS for the Project includes responsibility and accountability for safety, employee training and education, environmental protection, site emergency response plans, and recordkeeping and reporting, among other elements. At a regional risk management level, the St. Francis Levee District maintains the local levee. At a federal level, the US EPA Mississippi River Restoration and Resiliency Strategy is a strategic effort to monitor and adapt to the impacts of climate change on the Mississippi River and related flood infrastructure.
3.2	Risk reduction measures must be tolerant to a range of climate hazards and not lock-in conditions that could result in maladaptation.	Same as above.	No risk reduction measures were identified as potentially leading to "lock-in" conditions.

Table B.4. Area 4: The facilities do no harm to the climate resilience of the defined system they operate within, as indicated by the boundaries of and critical interdependencies with that system as identified in item 1 in this checklist.

No.	Adaptation and Resilience checklist for Steel Production Facilities	Proof Given	Kestrel's Overall Assessment
4.1	The facilities themselves do not pose significant risk of harm to the system they are located within or others' natural, social, or financial assets according to the principle of best available evidence during the investment period, taking into account the boundaries and critical interdependencies as defined in item 1 in this checklist. Harm is defined as an adverse effect on any of the following items: 1. Adverse effects on local water bodies and water courses; 2. Air pollution from dust and other pollutants; 3. Relationships of the asset/project to nearby flood zones; 4. Reduction in pollinating insects and birds; 5. Reduction in biodiversity or High Conservation Value habitat; 6. Appropriation of land or economic assets from nearby vulnerable groups.	National Environmental Policy Act (NEPA) review, Stream/Wetland Delineation Report, Endangered Species/Critical Habitat Assessment, Phase I Cultural Resources Survey, Biodiversity Management Plan, and site-specific Environmental and Social Management System (ESMS).	Reviews and permits indicate the facility is not adversely affecting the climate resilience of the defined operational space or having a significant adverse impact on items identified in Criteria 4.1. The scope of the ESMS for the Project includes environmental protection, and recordkeeping and reporting, among other elements.

Table B.5. Area 5: Additional requirements for facilities sharing a site with an iron mine (facilities without an onsite iron mine need not complete this section)

No.	Adaptation and Resilience checklist for Steel Production Facilities	Proof Given	Kestrel's Overall Assessment
5.1	Evidence is provided of a viable Mine Rehabilitation Plan which includes the following details: • Post closure land use • Legal compliance • Progressive rehabilitation • Stakeholder engagement • Baseline conditions have been assessed • Presence of a monitoring plan	N/A	N/A
5.2	Evidence is provided of a viable Biodiversity Management Plan which includes the following details: • Post closure land use • Legal compliance • Progressive rehabilitation • Stakeholder engagement • Baseline conditions have been assessed • Presence of a monitoring plan	N/A	N/A

Table B.6. Area 6: The applicant is required to demonstrate that there will be ongoing monitoring and evaluation of the relevance of the risks and resilience measures and related adjustments to those measures will be taken as needed (reporting is required based on the term of certification, which depends on the finance instrument or asset being certified).

No.	Adaptation and Resilience checklist for Steel Production Facilities	Proof Given	Kestrel's Overall Assessment
6.1	Indicators for risks identified under item 2 in this checklist are provided.	Key permitting documents and associated requirements, business operational plans, TCFD reporting; Example plans include Watershed Stewardship Plan, Spill Prevention, Control and Countermeasure Plan, Stormwater Pollution Prevention Plan	Hybar intends to disclose climate-related financial information aligned with the Taskforce on Climate-related Financial Disclosures (TCFD) once the project is operational. Reports are expected to include information about ongoing relevance of risks and resilience measures implemented to reduce risk exposure and identify necessary adaptation. In addition, key performance indicators (thresholds) are set in multiple permitting documents. Exceedances or variations from intended operational performance are risk indicators.
6.2	Indicators for risk mitigation measures identified under item 3 in this checklist are provided.	Key permitting documents and operational procedures	Gas emissions and pollutants are monitored and reported. Water use and effluent is tracked, in detail. Permits such as air quality and National Pollution Discharge Elimination System require certain monitoring and reporting, and will indicate critical exceedances that would result in adjustments to operations and implementation of additional risk mitigation measures, as necessary. Variations from intended operational performance will be used to indicate the need for adjustments to any mitigation measures. For example, project information and certain incident reports go to the State Emergency Response Commission and a Local Emergency Planning Committee which is used to prepare for various risks. The Operational Health & Safety Program identifies procedures to reduce employee risks from general operations, including those affected by climate change.
6.3	Indicators for "fit for purpose" resilience benefit measures identified under item 4 in this checklist are provided.	Key permitting documents and associated requirements and operational procedures	Similar to Criteria 6.1 and 6.2. Monitoring and reporting and will indicate critical exceedances that could potentially negatively impact the surrounding community, environment, or the climate resilience of the site.

No.	Adaptation and Resilience checklist for Steel Production Facilities	Proof Given	Kestrel's Overall Assessment
6.4	Applicants have a viable plan to annually monitor (a) climate risks linked to the infrastructure, (b) climate resilience performance, (c) appropriateness of climate resilience measure(s) and to adjust as necessary to address evolving climate risks.	Key permitting documents, TCFD reporting, Environmental and Social Management System (ESMS)	Hybar intends to disclose climate-related financial information aligned with the Taskforce on Climate-related Financial Disclosures (TCFD) once the project is operational. Reports are expected to include information about ongoing relevance of risks and resilience measures implemented to reduce the identified risk exposure and necessary adaptation. The ESMS for the Project includes responsibility and accountability for safety, employee training and education, environmental protection, site emergency response plans, and recordkeeping and reporting, among other elements.
6.5	Where production or operation has been interrupted, the extent of disruption (for example in reduction in volume output or revenue) should be measured and reported, together with the cause of the interruption. Any actions taken to reduce the risk of further impacts should also be recorded.	Operational procedures, Environmental and Social Management System (ESMS)	Interruptions to manufacturing are tracked, analyzed and reported, in detail.

Appendix C.

ASSURANCE PROCEDURES FOR USE OF PROCEEDS VERIFICATION

Climate Bonds Standard Version 4.0

REQUIREMENT		ASSURANCE PROCEDURES PERFORMED BY KESTREL
2.1. Utilization of Proceeds		
2.1.1.	**Project Documentation**	Review documentation of the Nominated Projects assessed as likely to be Eligible Projects, and list of Nominated Projects that Issuer will keep up-to-date during the term of the bond.
2.1.2.	**Valuation**	Review net proceeds of the bond to ensure they are not greater than the value of the project.
2.1.3.	**Multiple Nominations for Certified Debt Instruments**	Review Nominated Projects or distinct portions of the Nominated Projects for previous nominations to other Certified Climate Debt Instruments, green bonds, or other designated instruments. Review and confirm whether Nominated Projects have been refinanced by other Certified Debt Instruments or bonds under assessment will refinance existing Certified Debt Instruments.
2.2. Process for Evaluation and Selection of Projects and Assets		
2.2.1.	**Process**	Review documentation of the process the Issuer followed to identify projects and confirm eligibility requirements for inclusion of Nominated Projects in the bond. Review planning documents which establish goals, priorities and potential impact.
2.2.2.	**Environmental Statement, Eligibility & Technical Criteria (i.-vi.)**	Review additional documentation Issuer provided on further aspects of identification process including strategic directions and standards. Review the Issuer's environmental and social integrity policy, exclusion criteria, and/or Green Bond Framework, and confirm its coverage of the Nominated Projects. Review statement of the climate-related objectives of the bond. Test Nominated Projects to determine whether they meet the minimum technical requirements of the Climate Bonds Standard and relevant Sector Criteria.
2.3. Management of Proceeds		
2.3.1.	**Documentation of Processes & Procedures**	Confirm that policies, processes and procedures for tracking financial flows of bond proceeds to the Nominated Projects are in place.
a.	**Tracking of Proceeds**	Review allocation of funds to ensure they can be tracked against Nominated Projects.
b.	**Managing of Unallocated Proceeds**	Review documentation for the management of bond proceeds for funds prior to allocation to a Nominated Project and review eligible temporary investments for unallocated proceeds.
c.	**Earmarking Funds**	Confirm policies, processes and procedures to identify flows of proceeds related to the Bond have been established.
2.3.2.	**Ring-Fenced Funds**	Where proceeds will be ring-fenced, confirm processes and procedures to allocate funds to accounts, and track and monitor payments from the relevant accounts.
2.4. Pre-Issuance Reporting: Green Finance Framework and Disclosure Documentation		
2.4.1	**Bond Disclosure Documentation**	Review Issuer's Green Bond Framework and confirm plans to make the document publicly available and provide it to the Climate Bonds Standard Secretariat. Confirm inclusion of necessary information within the Green Bond Framework.
2.4.2. i.	**Confirmation of Alignment**	In the Green Bond Framework, confirm documentation and review areas of investment align with the Climate Bonds Standard and review statements of alignment with other relevant standards.
ii.	**Uses of Proceeds**	In the Green Bond Framework, confirm documentation and review expected uses of proceeds and amounts allocated to activities in relevant sectors and subsectors.

REQUIREMENT		ASSURANCE PROCEDURES PERFORMED BY KESTREL
2.4. Pre-Issuance Reporting: Green Finance Framework and Disclosure Documentation *(continued)*		
iii.	**Decision-making Process**	In the Green Bond Framework, confirm documentation of decision-making processes and positioning in the context of the Issuer's overarching objectives.
iv.	**Management of Proceeds**	In the Green Bond Framework, confirm documentation and review processes for managing proceeds.
v.	**Reporting and External Review**	In the Green Bond Framework, confirm documentation and review processes for reporting and engagement of an Approved Verifier.
2.4.3. i.	**Sector Criteria Assumptions and Methodologies**	In the Green Bond Framework, confirm documentation of assumptions and methodologies to evaluate conformance with Sector Criteria.
ii.	**Temporary Investment Instruments**	In the Green Bond Framework, confirm documentation of allowable temporary investment instruments.
iii.	**Reporting Approach**	In the Green Bond Framework, confirm disclosure of intended approach to providing Update Reports and/or undertaking periodic Assurance Engagements during term of bond to reaffirm conformance with the Climate Bonds Standard.
iv.	**List of Nominated Projects**	In the Green Bond Framework, confirm disclosure of list of Nominated Projects likely to be eligible.
v.	**Refinancing**	In the Green Bond Framework, confirm disclosure of proportion of proceeds for refinancing, if applicable.
2.4.4.	**Transparency**	Confirm disclosure is comprehensive and as detailed as possible, given any Issuer or project-specific limitations such as confidentiality.
2.4.5.	**Disclosure Documentation**	Confirm incorporation of key information in Disclosure Documentation.
i.	**Sector Criteria Disclosure**	Confirm "investment areas," or alignment with the Climate Bonds Taxonomy and relevant Sector Criteria for Nominated Projects.
ii.	**Temporary Investments**	Confirm disclosure of eligible temporary investments for unallocated proceeds.
iii.	**Verifier**	Confirm disclosure of Verifier selected for Pre-Issuance and Post-Issuance Engagements.
iv.	**Ongoing Reporting**	Confirm disclosure of intended ongoing reporting on the Nominated Projects and allocation of proceeds.
v.	**Climate Bonds Disclaimer**	Confirm incorporation of the Climate Bonds Disclaimer as provided in the Certification Agreement.

Appendix D.
VERIFIER'S RESPONSIBILITIES AND QUALITY CONTROL

Verifier's Responsibilities

Kestrel's responsibilities for confirming alignment of the 2023 Bonds with the Climate Bonds Standard and *Steel* Criteria include:

- Assess the uses of proceeds for conformance with relevant Standard and Criteria;
- Assess and certify Hybar's internal processes and controls, including selection process for projects and assets, internal tracking of proceeds, and the allocation system for funds;
- Assess policies and procedures established by Hybar for reporting;
- Assess the readiness of Hybar to meet the Climate Bonds Standard (Version 4.0) and *Steel* Sector Criteria; and
- Express a Reasonable Assurance conclusion.

Issuer's Responsibilities

Issuer was responsible for providing detailed information and documents relating to:

- The details of the Nominated Projects and Assets and the project selection process;
- Maintaining adequate records and internal controls designed to support the Climate Bond Pre-Issuance Certification process; and
- The collection, preparation, and presentation of the subject matter in accordance with the Climate Bonds Standard and Criteria.

Independence and Quality Control

Kestrel provides green, social and sustainability bonds services for corporate and municipal issuers. The Kestrel Verification Team is committed to providing robust, transparent, and accurate verifications. For over 20 years Kestrel has been a trusted advisor to state and local governments, nonprofits, and corporations. Kestrel certifies that there is no affiliation, involvement, financial or non-financial interest in the issuer or the projects discussed. We have no affiliation with any bond counsel, bond insurer, credit rating agency, financial advisor firm, municipal advisory firm, or other intermediary. Accredited as an Approved Verifier by the Climate Bonds Initiative, Kestrel is qualified to evaluate bonds against the Climate Bonds Initiative Standards and Criteria.