



Second Party Opinion

EXECUTIVE SUMMARY

ISSUER

The Ohio State University

OPINION ON

General Receipt Bonds (Multiyear Debt Issuance Program II) Series 2021 A (Green Bonds)

GREEN STANDARD AND CATEGORY



- Green Buildings

EVALUATION DATE

September 15, 2021

SUMMARY

Kestrel Verifiers is of the opinion that the General Receipt Bonds (Multiyear Debt Issuance Program II) Series 2021 A (Green Bonds) ("Series 2021 A Bonds") conform with the four core components of the Green Bond Principles 2021 as follows:

▪ Use of Proceeds

The Series 2021 A Bonds will finance construction of a new inpatient hospital facility ("Project") that will be part of The Ohio State University's ("Ohio State" or "University") Wexner Medical Center. The new facility will meet robust energy efficiency standards for hospitals and incorporate green building features. The Series 2021 A Bonds align with the *Green Buildings* eligible project category under the Green Bond Principles.

▪ Process for Project Evaluation and Selection

Ohio State University identified the need for a modern inpatient facility with more hospital beds. Several documents guided decision-making regarding the design and objectives of the Project, including the University's long-term planning vision, Framework 2.0, and the Sustainable Campus Building Standard.

▪ Management of Proceeds

Proceeds from the Series 2021 A Bonds will be allocated to finance the Project and to pay costs of issuance. Proceeds will be held in a bond-specific account and allocated to expenses following approval by the Treasurer's Office.

▪ Reporting

Ohio State University will post continuing disclosures to the Municipal Securities Rulemaking Board ("MSRB") annually through the Electronic Municipal Market Access ("EMMA") system. Beginning with the period ending June 30, 2023, the University will provide voluntary annual update reports on the allocation of Bond proceeds and on construction status until such time that all proceeds have been spent. The University will post a one-time accountability report on EMMA summarizing actual building performance relative to expected performance. Sustainability achievements of the entire Wexner Medical Center such as energy use reduction, waste diversion, and use of renewable electricity are tracked and reported annually in the Wexner Medical Center Sustainability Report.

▪ Impact and Alignment with United Nation Sustainable Development Goals

By financing the construction of a new inpatient teaching hospital built to green building standards, the Series 2021 A Bonds support and advance multiple UN SDGs, including Goal 3: *Good Health and Well-Being* and Goal 7: *Affordable and Clean Energy*.

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Second Party Opinion

Issuer:	The Ohio State University
Issue Description:	General Receipts Bonds (Multiyear Debt Issuance Program II) Series 2021 A (Green Bonds)
Project:	Wexner Medical Center Inpatient Facility
Green Standard:	Green Bond Principles
Green Category:	Green Buildings
Par:	\$600,000,000
Evaluation Date:	September 15, 2021

GREEN BONDS DESIGNATION

Kestrel Verifiers, an Approved Verifier accredited by the Climate Bonds Initiative, conducted an independent external review of this bond to evaluate conformance with the Green Bond Principles (June 2021) established by the International Capital Market Association.

This Second Party Opinion reflects our review of the uses and allocation of proceeds, and oversight and conformance of the bonds with the Green Bond Principles. In our opinion, The Ohio State University General Receipts Bonds (Multiyear Debt Issuance Program II) Series 2021 A (Green Bonds) ("Series 2021 A Bonds") are aligned with the four core components of the Green Bond Principles and qualify for Green Bonds designation.

ABOUT THE ISSUER

The Ohio State University ("Ohio State" or "University") is a public land-grant research university founded in 1870 and governed by the Ohio Department of Higher Education.¹ The University's main campus is located in the City of Columbus in Franklin County, Ohio, and is home to Ohio State's College of Medicine and the Ohio State Wexner Medical Center. Ohio State also has five other regional campuses throughout the state. The academic organization of the University consists of 15 colleges, seven schools, the Graduate School and the Agricultural Technical Institute. Ohio State offers more than 200 undergraduate majors, 166 programs leading to the doctoral degrees, and over 12,000 different courses. Approximately 68,000 students are enrolled across Ohio State campuses with approximately 900 MD students enrolled in the College of Medicine.

The Ohio State Wexner Medical Center is a comprehensive academic medical center which is co-located in a health sciences district that includes the colleges of Dentistry, Nursing, Optometry, Pharmacy, Public Health and Veterinary Medicine, and the School of Health and Rehabilitation Sciences. Facilities include two full-service hospitals, five specialized hospitals, a unified physician practice of 1200 physicians, and a network of community-based primary and subspecialty care providers. The Ohio State Wexner Medical

¹ Morrill Land-Grant Act, signed in 1862, provided each state with parcels of land that could be used or sold off to build an institution of higher learning. Many of these land-grant institutions dispossessed Native tribes and peoples. Ohio State University acknowledges the land the campus occupies is the ancestral and contemporary territory of the Shawnee, Potawatomi, Delaware, Miami, Peoria, Seneca, Wyandotte, Ojibwe and Cherokee peoples. The University continues to examine the effects its founding has had on the economic, educational, and health disparities of Ohio's Native peoples. First Nations Development Institute, <https://www.firstnations.org/stories/dotting-the-i-at-the-ohio-state-university/>; The Ohio State University Multicultural Center, <https://mcc.osu.edu/about-us/land-acknowledgement>.

Center served more than 62,000 inpatients in the 2020 fiscal year. Ohio State's College of Medicine is ranked #33 in research and #28 in primary care by US News and World Report.

The Ohio State University and the Wexner Medical Center have developed several equity and anti-racism initiatives. In June of 2020, the University addressed and confronted institutional racism through the following activities: forming a Citizen's Review Board for instances of police misconduct; mobilizing research around the social determinants of health; and supporting a grant research fund to promote multi-disciplinary studies of and solutions to racism and racial disparities.² Wexner Medical Center released the "Health Equity and Anti-Racism Report 2021," which outlines several goals, including:

- fighting to eliminate structural racism within the Wexner Medical Center workforce and the patients served through education, research, clinical care and community engagement;
- reducing infant mortality rates in central Ohio and beyond;
- investing in ending food insecurity in Black and Brown communities;
- keeping economically vulnerable patients out of the hospital; and
- tackling the opioid epidemic and addiction.³

Wexner Medical Center has also received the LGBTQ Health Care Equality Leader Award from the Human Rights Campaign Foundation.

Environmental Sustainability at Ohio State

The Ohio State University is demonstrating leadership in environmental sustainability through teaching and action. Ohio State has defined goals, metrics, and strategies to achieve environmental sustainability through the 2011 Climate Action Plan which committed the University to carbon neutrality by 2050. Ohio State achieved a Gold rating in 2019 through the Sustainability Tracking, Assessment & Rating System ("STARS"), a self-reporting framework for colleges and universities to measure their sustainability performance, and strives for future ratings.

In 2017 Ohio State approved a public-private partnership with Ohio State Energy Partners ("OSEP") for comprehensive energy management. The partnership provides capital funding for significant energy conservation measures across the campus with a goal of improving energy efficiency by 25 percent in 10 years. OSEP has agreed to invest up to \$50 million in the Energy Advancement and Innovation Center, a hub for collaboratively advancing clean and renewable energy and mobility systems and solutions. Because of OSEP, energy use intensity on the Columbus campus has declined 13% since 2017 and is expected to decline dramatically as energy conservation measures continue to be implemented. Sustainability achievements such as energy use reduction, waste diversion, and use of renewable electricity are tracked and reported annually in the Sustainability Institute at Ohio State's Annual Reports.⁴

As further evidence of environmental stewardship, the Wexner Medical Center received a gold level Environmental Excellence award from the Ohio Environmental Protection Agency in 2020, an Emerald level award and a Climate Circles of Excellence (top 10 award) from Practice Greenhealth in 2020, and Tree Campus Healthcare designation from the Arbor Foundation for 2020 and 2021.

² "Ohio State addresses institutional racism," The Ohio State University Wexner Medical Center, June 10, 2020, <https://wexnermedical.osu.edu/-/media/files/wexnermedical/about-us/diversity/ohio-state-addresses-institutional-racism.pdf>

³ "Health Equity and Anti-Racism Report 2021," The Ohio State University Wexner Medical Center and Health Science Colleges, accessed September 9, 2021, <https://wexnermedical.osu.edu/-/media/files/wexnermedical/about-us/anti-racism/hearreportjune24.pdf>

⁴ "Sustainability Institute at Ohio State Annual Report 2020," The Ohio State University, accessed September 9, 2021, https://si.osu.edu/sites/default/files/SI_2020_AnnualReportFinal.pdf

ALIGNMENT TO GREEN STANDARDS

Use of Proceeds

The Series 2021 A Bonds will finance construction of a new inpatient hospital facility (“Project”) within the University’s Wexner Medical Center. The new facility will meet robust energy efficiency standards for hospitals and incorporate multiple green building features. The Project is an eligible project as defined by the Green Bond Principles in the project category of *Green Buildings*.

The Project will be a 1.9 million square foot inpatient teaching hospital conscientiously designed with a focus on long-term sustainability. It will include 60 neonatal intensive care unit bassinets, up to 820 beds, 10 interventional radiology rooms, six endoscopy rooms, 192 intensive care unit beds, 42 beds for neuro and transplant care and modern diagnostic and treatment areas, imaging, and 24 operating rooms. The new facility will operate in conjunction with Ohio State’s existing healthcare facilities, including the Ohio State University Comprehensive Cancer Center, Rhodes Hall, Doan Hall, the Richard M. Ross Heart Hospital, and the Brain and Spine Hospital. The Project is expected to be operational in early 2026.

Ohio State developed custom building standards tailored to its sustainability goals, called the Sustainable Campus Building Standards (“SCBS”), which have since been expanded and integrated into Ohio State’s Building Design Standards in Division 18. The new inpatient Project will align to SCBS, as outlined in Table 1.

Green Standard



The Green Bond Principles

Eligible Project Category:

▪ Green Buildings

Table 1. Sustainable Campus Building Standard Requirements

Category	Requirement
Sustainability Project Management and Commissioning	Project teams must document project need, sustainability targets, perform life cycle assessments, and consider planning for resiliency.
Energy	Every building must include energy metering for every energy source and meet energy use intensity targets based on the building type.
Water	Every building must include comprehensive water metering (smart meters) and the facility must meet water use intensity targets.
Materials	Construction waste, source materials, and management of materials are all considered. At least 50% of materials must meet sustainability criteria such as recycled content, FSC lumber, or be locally sourced. The project must have a materials management plan to maximize diversion of waste from landfills once the project is in operation, and 85% of construction waste must be diverted.
Ecosystem Services	Ohio State has developed an Ecosystem Services Index that lists natural assets that are important to the University (consists of metrics related to ecosystem services). Teams prepare an Ecosystem Services Assessment (using the Ecosystem Assessment Scorecard) to maximize effective stormwater management, conserve valuable natural resources, and protect biodiversity.
User Experience	Buildings must be constructed to meet high indoor air quality standards and maintain adequate thermal comfort levels. Designs are required to consider connections to nature, acoustic performance, and light quality.

In Kestrel Verifiers’ view, SCBS energy and water use intensity targets are adequate to meet the *Green Buildings* project category of the Green Bond Principles. Ohio State’s green building standards are comparable to LEED, but omit certain aspects such as green vehicles and multimodal access which are included in other University programs. The ambitious SCBS energy use intensity targets were selected based on data from the Department of Energy, the Commercial Buildings Energy Consumption Survey, and Energy Star. According to Energy Star data, the Project is expected to reduce energy use intensity by approximately 35% in comparison to the median inpatient hospital in the US. SCBS water use intensity targets were selected based on data from the Commercial Buildings Energy Consumption Survey (“Survey”) by the US

Energy Information Administration.⁵ Ohio State compiled historical water use data from campus buildings and found average gallons of water usage per square foot. Ohio State's hospital buildings are currently operating below the average gallons per square foot specified in the Survey, and the new building is designed to exceed this performance.

Process for Project Evaluation and Selection

The decision to design and construct a new inpatient hospital is centered on the need for a modern facility with more hospital beds, as identified in the FY2021 Financial Plan. The Project also aligns and advances the university's long-term planning vision, Framework 2.0.

The Ohio State University identified a significant demand for hospital beds and several outdated facilities requiring replacement. Based on this identified need, potential facilities and projects were measured based on the degree to which it advances goals in Framework 2.0. The Framework 2.0 was adopted in 2017 and articulates the long-range vision for facilities on the University's Columbus campus. The Framework has a clear emphasis on sustainability through one of the primary goals: *Resource Stewardship and Sustainability*.

By incorporating green building features and ambitious energy efficiency standards, the Project directly aligns with the University's resource stewardship goals to:

- increase energy efficiency by 25% by 2025;
- divert 90% of waste away from landfills by 2025;
- reduce potable water consumption by 5% every five years;
- provide a net increase in the Ecosystem Services from the site (such as providing a recreational greenspace to improve storm water runoff management and provide a healing respite for patients and visitors); and
- achieve carbon neutrality by 2050.

Project owner and design teams oversee implementation of the Sustainable Campus Building Standard, and projects must meet checkpoints throughout design and construction.

Management of Proceeds

Proceeds from Series 2021 A Bonds will be allocated to finance the Project and to pay costs of issuance. Proceeds will be held in a bond-specific account and allocated to expenses following approval by the Treasurer's Office. Proceeds are expected to be fully expended in approximately two years and may be temporarily invested in accordance with the University's Investment Policy.

Reporting

The University will submit continuing disclosures to the Municipal Securities Rulemaking Board ("MSRB") so long as the Series 2021 A Bonds are outstanding. The University will also provide reports in the event of material developments. This reporting will be done annually on the Electronic Municipal Market Access ("EMMA") system operated by the MSRB.

Beginning with the period ending June 30, 2023, the University will voluntarily produce annual update reports on the allocation of Bond proceeds until such time that all proceeds have been spent. These updates will be available on EMMA and will include information on construction status.

Ohio State will also report on the performance of the green building. SCBS requires a 12-month post-construction review of actual energy use intensity for buildings in operation. The University will post a one-time accountability report on EMMA summarizing actual building performance relative to expected performance. This report will be based on building performance over the first full year of hospital operations. Sustainability achievements of the entire Wexner Medical Center such as energy use reduction, waste

⁵ *Commercial Buildings Energy Consumption Survey*, US Energy Information Administration, accessed September 10, 2021, <https://www.eia.gov/consumption/commercial/reports/2012/water/>



diversion, and use of renewable electricity are tracked and reported annually in the Wexner Medical Center Sustainability Report.⁶

IMPACT AND ALIGNMENT WITH UN SDGS

The Series 2021 A Bonds support and advance UN SDGs 3: *Good Health and Well-Being* and 7: *Affordable and Clean Energy*. By expanding critical space for teaching and clinical care, the Wexner Medical Center project addresses Target 3.8. By financing the construction of a new inpatient facility built to green building standards, the Project supports Target 7.3.

Full text of the Targets for Goals 3 and 7 is available in Appendix A, with additional information available on the United Nations website: www.un.org/sustainabledevelopment



	<p>Good Health and Well-Being (Target 3.8)</p> <p><u>Possible Indicators</u></p> <ul style="list-style-type: none">▪ Number of patients served per year▪ Equity and anti-racism initiatives
	<p>Affordable and Clean Energy (Target 7.3)</p> <p><u>Possible Indicators</u></p> <ul style="list-style-type: none">▪ Energy use intensity reduction▪ Avoided GHG emissions (CO₂-eq)

CONCLUSION

Based on our independent external review, the Series 2021 A Bonds (Green Bonds) conform, in all material respects, with the Green Bond Principles (2021) and are in complete alignment with one eligible project category: *Green Buildings*. The new inpatient facility at the University’s Wexner Medical Center will incorporate green building features and align with strong energy efficiency standards for hospitals.

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ABOUT KESTREL VERIFIERS



For 20 years Kestrel has been a trusted consultant in sustainable finance. Kestrel Verifiers, a division of Kestrel 360, Inc. is a Climate Bonds Initiative Approved Verifier qualified to verify transactions in all asset classes worldwide. Kestrel is a US-based certified Women’s Business Enterprise.

For more information, visit www.kestrelverifiers.com

DISCLAIMER

This Opinion aims to explain how and why the discussed financing meets the ICMA Green Bond Principles based on the information which was available to us during the time of this engagement (September 2021) only. By providing this Opinion, Kestrel Verifiers is not certifying the materiality of the projects financed by

⁶ FY20 Sustainability Report: Sustainability at the Ohio State University Wexner Medical Center (2019-2020),” The Ohio State University Wexner Medical Center, accessed September 9, 2021, <https://wexnermedical.osu.edu/-/media/files/wexnermedical/about-us/sustainability/sustainabilityaccomplishmentsreportexternalfinal31621.pdf>

the Green Bonds. It was beyond Kestrel Verifiers' scope of work to review for regulatory compliance and no surveys or site visits were conducted. Furthermore, we are not responsible for surveillance on the project or use of proceeds. Kestrel Verifiers relied on information provided by the University and publicly available information. The Opinion delivered by Kestrel Verifiers does not address financial performance of the Green Bonds or the effectiveness of allocation of its proceeds. This Opinion does not make any assessment of the creditworthiness of the University, or its ability to pay principal and interest when due. This is not a recommendation to buy, sell or hold the Bonds. Kestrel Verifiers is not liable for 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 Verifiers. Kestrel Verifiers reserves the right to revoke or withdraw this Opinion at any time. Kestrel Verifiers certifies that there is no affiliation, involvement, financial or non-financial interest in the University or the projects discussed. Language in the offering disclosure supersedes any language included in this Second Party Opinion.

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Appendix A.

UN SDG TARGET DEFINITIONS

Target 3.8

Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

Target 7.3

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