

Green Bond Impact Report February 2023



Our sustainability strategy

Verizon is a responsible, purpose-driven, trusted brand on the cutting edge of innovation to benefit our four key stakeholders: customers, shareholders, employees and society. We believe that we have a responsibility to leverage our technology, operations and employees to help move the world forward into a more connected, secure and sustainable future.

Key to this is our commitment to protect our planet for future generations. Verizon has set ambitious goals around

climate protection, including our long-term goal to achieve net zero operational emissions by 2035. To make progress on our net zero journey, we have set two interim targets: we expect to source renewable energy equivalent to (1) 50% of our annual electricity usage by 2025 and (2) 100% by 2030. Because most of Verizon's emissions come from the electricity that we use to power our networks, our support of renewable energy and the transition to a greener grid is a key enabler to achieving our operational net zero goal.

Our renewable energy strategy and portfolio

Our network operations are located across the country and require a constant supply of electricity to operate. It is not feasible to power our network operations directly from solar or wind generation facilities during every hour of every day, so we are dependent on sourcing power from our nation's electrical grids. Today, much of that power is "brown" power, produced from conventional fossil fuels such as coal and oil. To achieve our operational net zero goal, we are helping to accelerate the transition to greener electrical grids across the United States.

We are working to bring additional renewable energy to the grids by entering into long-term power purchase agreements for solar and wind power under development. The agreements, called virtual power purchase agreements, or VPPAs, are financially settled and can reduce Verizon's long-term exposure to energy price volatility.

Verizon is one of the leading corporate buyers of renewable energy in the United States. We have entered into 26 VPPAs for a total of nearly 3.3 gigawatts (GW) of anticipated renewable energy capacity. The VPPAs we've signed to date position us to exceed our 2025 renewable energy target. We will continue to identify new renewable energy projects under development as we work toward our 2030 renewable energy target and 2035 operational net zero goal. Our VPPAs and the associated projects are expected to:

- enable the avoidance of more than 4.1 million metric tons of greenhouse gas emissions annually, equivalent to over 890,000 passenger vehicles driven annually¹; and
- help 10 renewable energy developers build new wind and solar energy facilities in 14 states, bringing new jobs to the local communities and supporting the growth of the U.S. clean energy industry.

¹Emissions calculated using EPA Regional eGRID United States 2020 (Released January 2022). See <https://www.epa.gov/egrid/historical-egrid-data>.

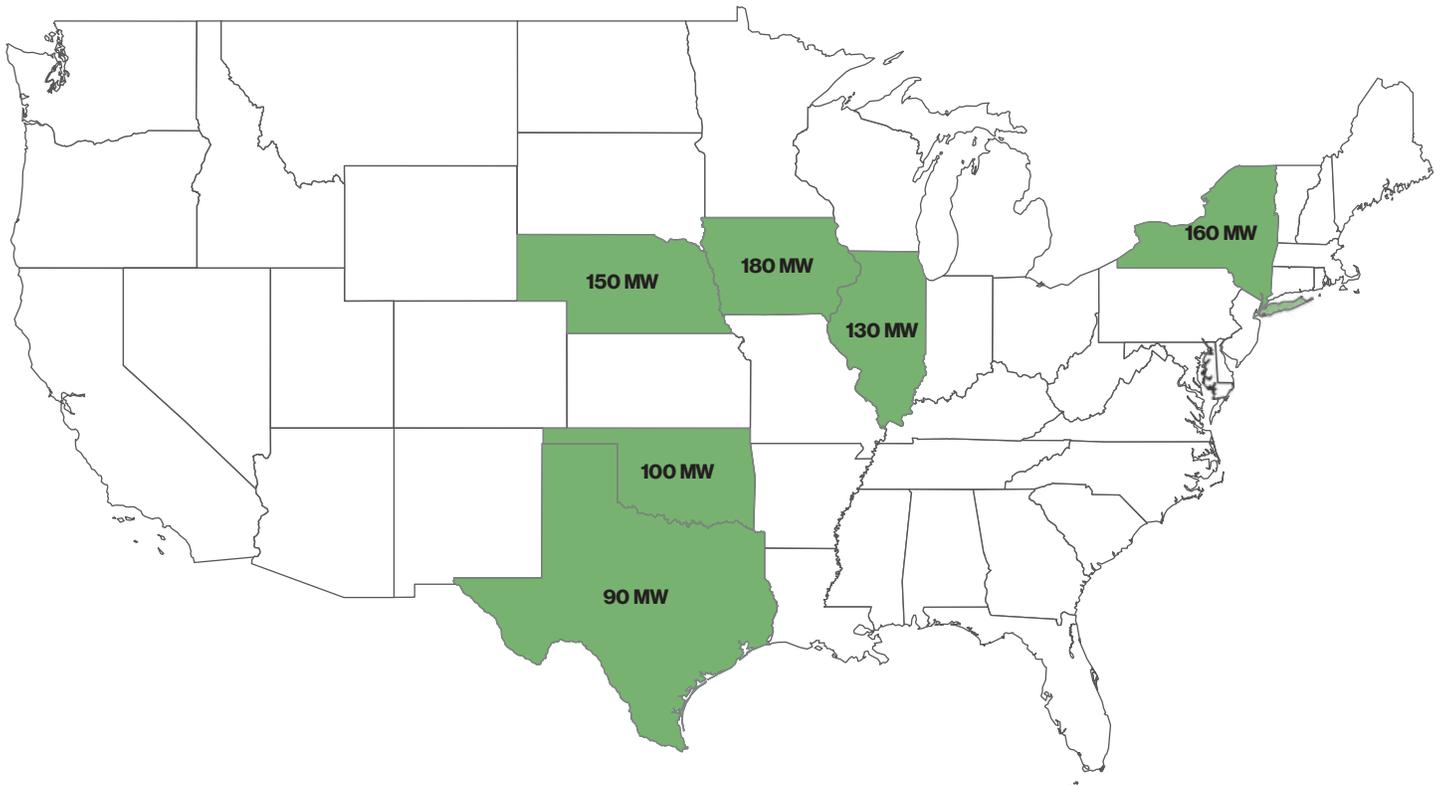


Projects in commercial operation

As of February 3, 2023, seven projects related to our VPPAs are in commercial operation and generating renewable energy to support the transition to a greener grid. We have contracted for approximately 0.8 GW of the generating capacity of these projects, which represents nearly 25% of the anticipated aggregate capacity of our VPPA portfolio.

Our contracted capacity at these projects is expected to produce roughly 3.0 million megawatt-hours (MWh) annually, which is enough to power over 249,000 homes for a year.² The online portfolio consists of one solar and six wind projects located in six states.

Verizon renewable energy online portfolio



²Based on EPA GHG Calculator. See <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.



Projects that have commenced operations include:

- Wind Project in Illinois: We signed a VPPA with Invenenergy for 130 megawatts (MW) of renewable energy capacity at the Blooming Grove Wind Energy Center. This facility became fully operational at the end of 2020. The project supported approximately 500 jobs during its 12-month construction period. Over the lifetime of the project, Blooming Grove is expected to contribute nearly \$120 million to the local community through property taxes, landowner payments, and wages and benefits.
- Two Wind Projects in New York: We signed two VPPAs with Brookfield Renewable for an aggregate of 160 MW of renewable energy capacity at two wind energy facilities, the repowering of which was facilitated by the VPPAs. The repowered facilities became fully operational in 2021.
- Wind Project in Nebraska: We signed a VPPA for 150 MW of renewable energy capacity. The project facility is located in the Southwest Power Pool (SPP) regional market.
- Solar Project in Texas: We signed a VPPA with Invenenergy for 90 MW of renewable energy capacity in the Electric Reliability Council of Texas (ERCOT) regional market.
- Wind Project in Iowa: We signed a VPPA with Duke Energy Sustainable Solutions for 180 MW of renewable energy capacity at Ledyard Wind, which has been fully operational since December 2022. The project created approximately 200 jobs during peak construction. While the facility is operational, its 12,000 acre site will continue to be available for agricultural use. The project is expected to have an ongoing positive economic impact on the local community by providing significant local tax revenues to the county and local school districts, as well as meaningful payments to participating landowners.
- Wind Project in Oklahoma: We signed a VPPA with Enel North America for 100 MW of renewable energy capacity at 25 Mile Creek. The facility became operational in late 2022. During construction, nearly 400 local construction jobs were created. Over its lifetime, the 25 Mile Creek wind facility is expected to generate over \$34 million in new local tax revenue for schools and public services, along with over \$56 million in payments to landowners.



25 Mile Creek wind facility



Our green bond program and diversity, equity & inclusion

Verizon is one of the largest corporate green bond issuers in the United States. Our green bond program is instrumental to our efforts to meet our interim renewable energy targets and long-term operational net zero goal. Since 2019, Verizon has issued four green bonds totaling approximately \$4 billion, the net proceeds of which have been allocated primarily to finance, in whole or in part, VPPAs for new renewable energy projects.

Our Green Financing Framework articulates how our sustainable finance strategy aligns with the UN Sustainable

Development Goals (SDGs) and supports our progress on our environmental commitments. The Framework also includes a pledge to only engage underwriters for our green bond transactions that have established clear and impactful commitments in support of the SDGs, are a diverse-owned firm or have a core mission of promoting diversity, equity and inclusion (DEI). Our actions to invest for growth in DEI firms include a commitment to allocate at least 10% of eligible unsecured debt capital markets fees to these firms annually and to elevate their roles and responsibilities on our transactions.



Blooming Grove Wind Energy Center



100% of our fourth green bond allocated to renewable energy

As of February 3, 2023, Verizon has fully allocated the \$981 million of net proceeds of our fourth green bond entirely to VPPAs for renewable energy projects. The VPPAs, which were executed between December 2021 and February 2023, are expected to be financially settled and support renewable energy projects that are online

or under development in seven states – Arizona³, Illinois³, Maine, Nebraska, Oklahoma, Pennsylvania, and Texas. These VPPAs are for nearly 0.9 GW of new renewable energy generating capacity, of which about 71% is wind energy generating capacity and about 29% is solar energy generating capacity.

VPPA project details

Location	Contracted capacity (MW)	Type	Regional market	Contracted capacity by regional market (%)	Term (years)	Scheduled commercial operation
Arizona	160	Solar	CAISO ⁴	19%	15	2024
Illinois	200	Wind	MISO ⁴	24%	18	2024
Maine	80	Wind	ISO-NE ⁴	9%	20	2024
Nebraska	150	Wind	SPP	29%	12	2022
Oklahoma	100	Wind	SPP		12	2022
Pennsylvania	70	Wind	PJM ⁴	8%	15	2023
Texas	90	Solar	ERCOT	11%	15	2022

³The green bond proceeds allocated to the VPPAs for the Arizona and Illinois projects cover only a portion of the estimated total cost of the VPPAs.

⁴CAISO is the California Independent System Operator; MISO is the Midcontinent Independent System Operator; ISO-NE is the Independent System Operator – New England; PJM is PJM Interconnection.



Fourth green bond impact reporting

We are reporting the anticipated annual amount of avoided emissions for the renewable energy projects to which the net proceeds of the fourth green bond were allocated.

The amount reported is estimated based on currently available data.

Category	Metric	Calculation	Anticipated impact
Renewable energy	Anticipated greenhouse gas (GHG) emissions avoided per year	Estimated annual renewable energy ⁵ multiplied by GHG emissions factor ⁶	873,480 MT CO ₂ e avoided annually ⁷

⁵The estimated annual amount of renewable energy generated by the projects covered by the VPPAs to which green bond proceeds have been allocated was determined based on the full amount of our contracted capacity with respect to those projects.

⁶Emissions calculated using the EPA Regional eGRID United States 2020 (Released January 2022).

See <https://www.epa.gov/egrid/historical-egrid-data>. Prior Green Bond Impact Reports used the EPA US National Average.

⁷The green bond proceeds allocated to the VPPAs for the Arizona and Illinois projects cover only a portion of the estimated total cost of the VPPAs, and as a result, we have included only an equivalent proportion of the estimated total annual amount of avoided emissions for each of these projects.

Anticipated GHG emissions avoided equivalents:⁸



188,208 passenger vehicles driven in one year



179,332 homes' electricity use for one year

⁸Based on EPA GHG Calculator. See <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.



Green bond program cumulative summary

As of February 3, 2023, Verizon has fully allocated the nearly \$4 billion in net proceeds from the green bonds

issued under its green bond program as set forth below.

Cumulative allocations (\$millions):

	Renewable energy	Green buildings	Energy efficiency	Biodiversity & conservation	Total net proceeds
2022 green bond	\$981.4	—	—	—	\$981.4
2021 green bond	\$991.1	—	—	—	\$991.1
2020 green bond	\$994.1	—	—	—	\$994.1
2019 green bond	\$636.9	\$319.3	\$36.7	\$0.8	\$993.7
Total	\$3,603.5	\$319.3	\$36.7	\$0.8	\$3,960.3



Cumulative anticipated environmental impact:

This table highlights the cumulative environmental impacts of the key categories of eligible green investments to which

we have allocated green bond proceeds.

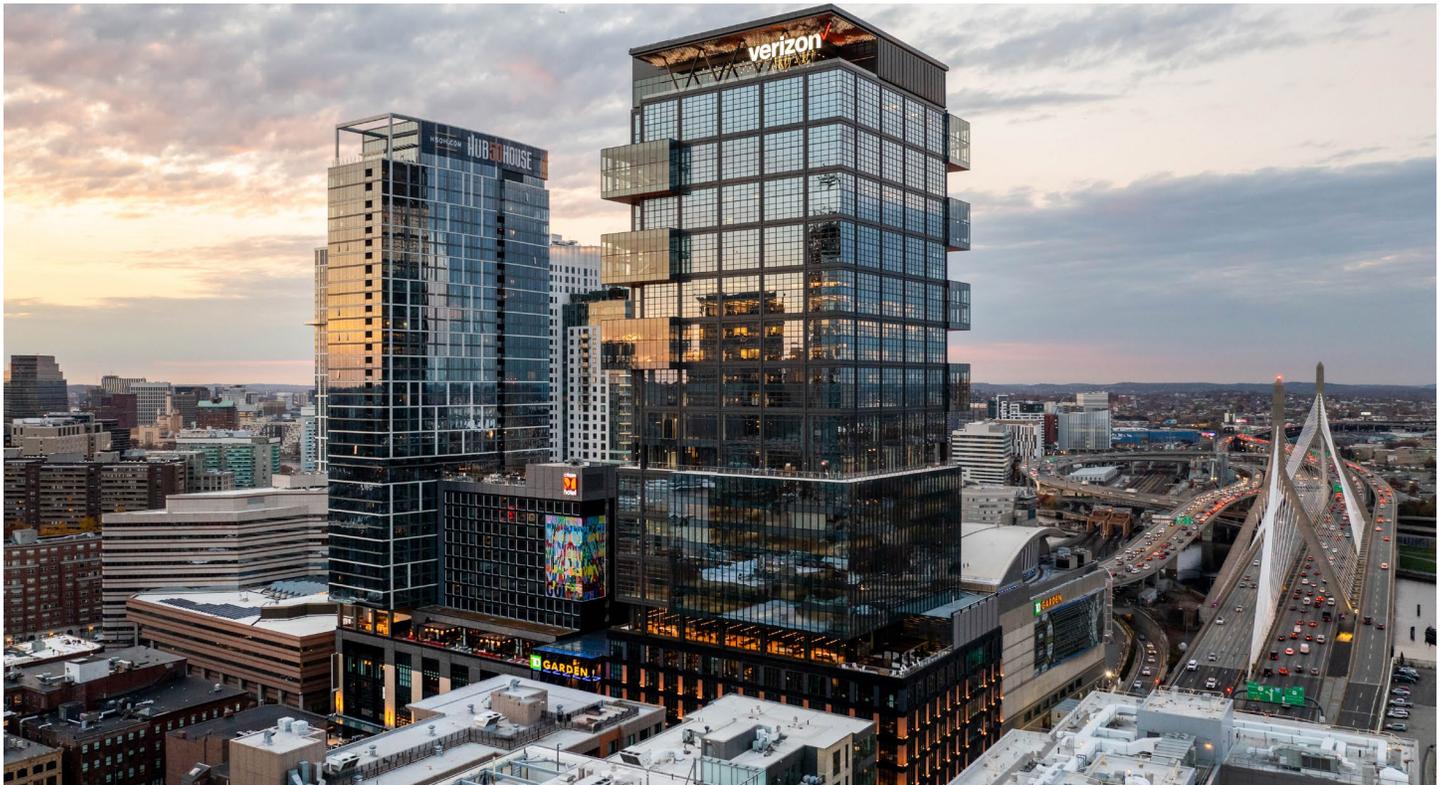
Category	Metric	Calculation	Anticipated impact
Renewable energy	Anticipated GHG emissions avoided per year	Estimated annual renewable energy ⁹ multiplied by GHG emissions factor ¹⁰	Over 3.6 million MT CO ₂ e avoided annually ¹¹
Green buildings	Square footage contracted for LEED Gold or higher certification	Total building square footage	446,000 sq. ft. contracted for LEED Platinum certification

⁹The estimated annual amount of renewable energy generated by the projects covered by the VPPAs to which green bond proceeds have been allocated was determined based on the full amount of our contracted capacity with respect to those projects.

¹⁰Emissions calculated using the EPA Regional eGRID United States 2020 (Released January 2022).

See <https://www.epa.gov/egrid/historical-egrid-data>. Prior Green Bond Impact Reports used the EPA US National Average.

¹¹Includes the impact of the allocation of green bond proceeds to 24 VPPAs in full and to one VPPA in part.



Verizon Boston Hub building (LEED Platinum certified)



Report of Independent Accountants



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Report of Independent Accountants

To the Management of Verizon Communications Inc.:

We have examined management’s assertion, included in Exhibit A, that an amount equal to the net proceeds from the issuance by Verizon Communications Inc. (“Verizon”) of its 3.875% notes due 2052 (the “Allocated Amount”) was fully allocated, during the period from March 1, 2022 to February 3, 2023 (the “Reporting Period”), to qualifying Eligible Green Investments (as defined in the “Use of Proceeds” section of the Prospectus Supplement, dated February 16, 2022, to the Prospectus dated September 4, 2019, filed by Verizon with the Securities and Exchange Commission pursuant to Securities Act Rule 424(b)(2) on February 18, 2022), consisting of amounts committed through the execution of virtual power purchase agreements that meet the Eligible Green Investments criteria set forth in Table 1 of Exhibit A (the “Criteria”). Management of Verizon is responsible for the assertion, having a reasonable basis for its assertion, selection of the Criteria and the allocation, during the Reporting Period, of amounts to projects that meet the Criteria. Our responsibility is to express an opinion on the assertion based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants (“AICPA”). Those standards require that we plan and perform the examination to obtain reasonable assurance about whether management’s assertion is fairly stated, in all material respects. An examination involves performing procedures to obtain evidence about management’s assertion. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risks of material misstatement of management’s assertion, whether due to fraud or error. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

We are required to be independent of Verizon and to meet our other ethical responsibilities, as applicable for examination engagements set forth in the Preface: Applicable to All Members and Part 1 – Members in Public Practice of the Code of Professional Conduct established by the AICPA.

Our examination was not conducted for the purpose of evaluating (i) whether funds in excess of the net proceeds were allocated to Eligible Green Investments during the Reporting Period, (ii) that any payments made pursuant to any virtual power purchase agreements to which amounts were allocated during the Reporting Period were in accordance with such agreements, (iii) the environmental benefits of the Eligible Green Investments, (iv) conformance of any Eligible Green Investments with any third-party published principles, standards or frameworks, such as the Green Bond Principles, dated June 2021, published by the International Capital Market Association or (v) any information included in Verizon’s Green Bond Impact Report relating to the 3.875% notes due 2052 or on Verizon’s website, other than management’s assertion. Accordingly, we do not express an opinion or any other form of assurance other than on management’s assertion included in Exhibit A. The determination of the amount to be allocated to the virtual power purchase agreements involves estimates. Actual results could differ from those estimates and those differences may be material.

In our opinion, management’s assertion, included in Exhibit A, that an amount equal to the net proceeds from the issuance of the 3.875% notes due 2052 was fully allocated during the Reporting Period to qualifying Eligible Green Investments that meet the Criteria, consisting of amounts committed through the execution of virtual power purchase agreements, is fairly stated, in all material respects.

February 10, 2023



Verizon Communications Inc.
1095 Avenue of the Americas
New York, New York 10036

Exhibit A

Verizon Communications Inc. Management's Assertion

We assert that an amount equal to the net proceeds from the issuance by Verizon Communications Inc. ("Verizon") of its 3.875% notes due 2052 (the "Allocated Amount") was fully allocated, during the period from March 1, 2022 to February 3, 2023 (the "Reporting Period"), to qualifying Eligible Green Investments (as defined in the "Use of Proceeds" section of the Prospectus Supplement, dated February 16, 2022, to the Prospectus dated September 4, 2019, filed by Verizon with the Securities and Exchange Commission pursuant to Securities Act Rule 424(b)(2) on February 18, 2022), consisting of amounts committed through the execution of virtual power purchase agreements, that meet the Eligible Green Investments criteria set forth in the table below (the "Criteria"). Management of Verizon is responsible for this assertion, having a reasonable basis for its assertion, selection of the Criteria and the allocation, during the Reporting Period, of amounts to projects that meet the Criteria.

Table 1: Eligible Green Investments

Renewable energy	a) the development, construction or operation of facilities, equipment or systems that generate or transmit renewable energy, such as: i. solar energy; and ii. wind energy; b) the purchase of renewable energy pursuant to long-term power purchase agreements or virtual power purchase agreements entered into prior to the commencement, or in the case of rehabilitated projects, the re-commencement, of commercial operation of the renewable project, that meet our "additionality" objective of bringing new renewable energy sources to the grids that power our networks such as: i. solar energy; and ii. wind energy
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Note 1: The Allocated Amount may include amounts allocated during the Reporting Period to new investments made by us during the Reporting Period, as well as to existing investments made by us prior to March 1, 2022, the date of issuance of Verizon's 3.875% notes due 2052, but after December 1, 2021.

Note 2: The amounts allocated to projects have not yet been disbursed and represent future outlays.

Note 3: Proceeds are considered allocated when power purchase agreements or virtual power purchase agreements are executed. The allocated amount is calculated as the net present value of estimated cash flows based on megawatt capacity, estimated ratio of actual electricity generated to potential output, estimated hours online each year and fixed power price over the contract term.

Additional links:

Verizon Green Bond Reports:

<https://www.verizon.com/about/investors/green-bond-reports>

Verizon ESG Report:

<https://www.verizon.com/about/investors/corporate-responsibility-report-archive>

Citizen Verizon:

<https://www.verizon.com/about/responsibility>

Verizon Green Financing Framework:

<https://verizon.turtl.co/story/green-financing-framework-august-2021>

