

Second-Party Opinion

Constellation Energy

Green Financing Framework



Evaluation Summary

Sustainalytics is of the opinion that the Constellation Energy Green Financing Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2021 and the Green Loan Principles 2023. This assessment is based on the following:



USE OF PROCEEDS The eligible categories for the use of proceeds – Nuclear Power, Renewable Energy, Operational Emissions Reduction, Clean Hydrogen, Energy Storage and Clean Commercial Offerings – are aligned with those recognized by the Green Bond Principles and the Green Loan Principles. Sustainalytics considers that investments in the eligible categories will lead to positive environmental impacts and advance the UN Sustainable Development Goals (SDGs), specifically SDGs 7 and 9.



PROJECT EVALUATION AND SELECTION Constellation has established a Selection Committee which is responsible for the project evaluation and selection process in accordance with the eligibility criteria under the Framework. Constellation will follow existing internal environmental and social risk mitigation processes for all project evaluation and selection decisions made under the Framework. Sustainalytics considers this process to be in line with market practice.



MANAGEMENT OF PROCEEDS Constellation’s Treasury team will be responsible for the management and allocation of proceeds through an internal tracking system. Constellation intends to allocate all proceeds within 24 months of issuance. Pending full allocation, proceeds will be invested in cash or cash equivalents or used to repay existing debts. This is in line with market practice.



REPORTING Constellation commits to report on the allocation of proceeds and corresponding impact on its Investor Relations website on an annual basis until full allocation. Allocation reporting will include the amount of net proceeds allocated to the eligible projects, the amount of unallocated proceeds and the proportion of financing versus refinancing. Sustainalytics views Constellation’s allocation and impact reporting commitments as aligned with market practice.

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Introduction

Constellation Energy Corporation (“Constellation” or the “Company”) is an energy company that offers energy solutions for homes, businesses, the public sector, community aggregations and wholesale customers in 48 states in the United States, as well as Canada and the United Kingdom. Headquartered in Baltimore, Maryland, United States, Constellation has a generation fleet capacity of 32,355 MW providing energy to approximately two million customers. As of 2023, the Company employed approximately 13,000.¹

Constellation has developed the Constellation Energy Green Financing Framework dated February 2024 (the “Framework”), under which it and its subsidiaries or affiliates² intend to issue green bonds, including convertible bonds,³ commercial papers and obtain green loans,⁴ and use the proceeds to finance or refinance, in whole or in part, existing and future projects that support the decarbonization of the energy sector in the US. The Framework defines eligibility criteria in six areas:

1. Nuclear Power
2. Renewable Energy
3. Operational Emissions Reduction
4. Clean Hydrogen
5. Energy Storage
6. Clean Commercial Offerings

Constellation engaged Sustainalytics to review the Constellation Energy Green Financing Framework and provide a second-party opinion on the Framework’s environmental credentials and its alignment with the Green Bond Principles 2021 (GBP)⁵ and the Green Loan Principles 2023 (GLP).⁶ The Framework will be published in a separate document.⁷

Scope of work and limitations of Sustainalytics’ Second-Party Opinion

Sustainalytics’ Second-Party Opinion reflects Sustainalytics’ independent⁸ opinion on the alignment of the reviewed Framework with current market standards and the extent to which the eligible project categories are credible and impactful.

As part of the Second-Party Opinion, Sustainalytics assessed the following:

- The Framework’s alignment with the Green Bond Principles 2021, as administered by ICMA, and the Green Loan Principles 2023, as administered by LMA, APLMA and LSTA;
- The credibility and anticipated positive impacts of the use of proceeds; and
- The alignment of the issuer’s sustainability strategy and performance and sustainability risk management in relation to the use of proceeds.

For the use of proceeds assessment, Sustainalytics relied on its internal taxonomy, version 1.15, which is informed by market practice and Sustainalytics’ expertise as an ESG research provider.

As part of this engagement, Sustainalytics held conversations with various members of Constellation’s management team to understand the sustainability impact of its business processes and planned use of proceeds, as well as the management of proceeds and reporting aspects of the Framework. Constellation’s

¹ Constellation, “About Constellation”, at: <https://www.constellationenergy.com/our-company/our-story/about-constellation.html>

² For issuances by Constellation’s subsidiaries or affiliates, the Company has communicated to Sustainalytics that it would be responsible for ensuring continual alignment of the issuances with the criteria defined in the Framework.

³ For standard convertible bonds, once the conversion has occurred, Sustainalytics’ Second-Party Opinion is no longer valid for the assessed securities falling under this asset class. In the case of mandatory convertible bonds, for this Second-Party Opinion to be valid, net proceeds should be fully allocated prior to the conversion date.

⁴ Constellation has communicated to Sustainalytics that loans obtained under the Framework may include multi-tranche loan facilities and revolving credit. For multi-tranche loans, the Company intends to label only those tranches as green that will exclusively finance or refinance projects eligible under the Framework. For revolving credit, the Company will continue reporting on the impact and allocation of proceeds until the maturity of such facilities.

⁵ The Green Bond Principles are administered by the International Capital Market Association and are available at: <https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>

⁶ The Green Loan Principles are administered by the Loan Market Association, Asia Pacific Loan Market Association and Loan Syndications and Trading Association and are available at: <https://www.lsta.org/content/green-loan-principles/>

⁷ The Constellation Energy Green Financing Framework is available at: <https://investors.constellationenergy.com/fixed-income-investors>

⁸ When operating multiple lines of business that serve a variety of client types, objective research is a cornerstone of Sustainalytics and ensuring analyst independence is paramount to producing objective, actionable research. Sustainalytics has therefore put in place a robust conflict management framework that specifically addresses the need for analyst independence, consistency of process, structural separation of commercial and research (and engagement) teams, data protection and systems separation. Last but not the least, analyst compensation is not directly tied to specific commercial outcomes. One of Sustainalytics’ hallmarks is integrity, another is transparency.

representatives have confirmed that: (1) they understand it is the sole responsibility of Constellation to ensure that the information provided is complete, accurate and up to date; (2) they have provided Sustainalytics with all relevant information and (3) any provided material information has been duly disclosed in a timely manner. Sustainalytics also reviewed relevant public documents and non-public information.

This document contains Sustainalytics' opinion of the Framework and should be read in conjunction with that Framework.

Any update of the present Second-Party Opinion will be conducted according to the agreed engagement conditions between Sustainalytics and Constellation Energy Corporation.

Sustainalytics' Second-Party Opinion, while reflecting on the alignment of the Framework with market standards, is no guarantee of alignment nor warrants any alignment with future versions of relevant market standards. Furthermore, Sustainalytics' Second-Party Opinion addresses the anticipated impacts of eligible projects expected to be financed with bond and loan proceeds but does not measure the actual impact. The measurement and reporting of the impact achieved through projects financed under the Framework is the responsibility of the Framework owner. Constellation is encouraged to update the Framework after 24 (twenty-four) months from the evaluation date, if necessary, and seek an update to the Second-Party Opinion to ensure ongoing alignment of the Framework with market standards and expectations.

In addition, the Second-Party Opinion opines on the potential allocation of proceeds but does not guarantee the realised allocation of the bond and loan proceeds towards eligible activities.

No information provided by Sustainalytics under the present Second-Party Opinion shall be considered as being a statement, representation, warrant or argument, either in favour or against, the truthfulness, reliability or completeness of any facts or statements and related surrounding circumstances that Constellation has made available to Sustainalytics for the purpose of this Second-Party Opinion.

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on the Constellation Energy Green Financing Framework

Sustainalytics is of the opinion that the Constellation Energy Green Financing Framework is credible and impactful, and aligns with the four core components of the GBP and GLP. Sustainalytics highlights the following elements of the Framework:

- Use of Proceeds:
 - The eligible categories – Nuclear Power, Renewable Energy, Operational Emissions Reduction, Clean Hydrogen, Energy Storage and Clean Commercial Offerings – are aligned with those recognized by the GBP and GLP.
 - Constellation has established a look-back period of two years for its refinancing activities, which Sustainalytics considers to be in line with market practice.
 - Under the Nuclear Power category, Constellation may finance or refinance investments in nuclear power projects including: i) acquisition and operation of nuclear projects, and uprate and maintenance of existing reactors to increase their capacity and/or extend their life cycle; ii) research, development, demonstration and deployment of innovative reactors that produce energy from nuclear processes with minimal waste from the fuel cycle; and iii) nuclear fuel purchases to support continued operation of zero-carbon nuclear assets.
 - Sustainalytics recognizes the benefits of nuclear power as a low-carbon source of electricity and its potential role in the decarbonization of electricity production through 2050 and beyond. Sustainalytics also recognizes that there are substantial risks associated with nuclear power, most notably, the management and long-term disposal of radioactive waste. The management of such risks requires: i) effective governance of nuclear power generation, including a formal governing body and regulations that address, among other areas, site selection, operational safety, radioactive waste management and decommissioning, as well as the effective monitoring and enforcement of such regulations; and ii) evidence of the pursuit of viable options for the secure, long-term storage of high-level radioactive waste. All nuclear power-related expenditures financed under the Framework will be made in the US which, in

- Sustainalytics' opinion, has adequate governance and regulations to address these risks. (For additional discussion of relevant risks and the management of them, see Section 2).
- For R&D expenditures, Sustainalytics notes that the intended outcomes of R&D projects, such as nuclear fusion projects, may be uncertain. Nonetheless, Sustainalytics recognizes their potential to further the development of nuclear power as a low-carbon source of energy and to lessen some of the risks associated with it.
 - Under the Renewable Energy category, Constellation may finance or refinance the installation, maintenance and operation of renewable energy generation aligned with the following criteria:
 - Wind-powered
 - Solar photovoltaic
 - Existing small run-of-river hydropower with an installed capacity of maximum 25 MW and limited impoundment. Constellation has confirmed to Sustainalytics that all hydropower projects will be subject to an environmental and social assessment and relevant environmental permits.
 - Sustainalytics considers the expenditures under this category to be in line with market practice.
 - Under the Operational Emissions Reduction category, Constellation may finance or refinance projects in relation to the decarbonization of existing natural gas-fired energy generation plants including:
 - Retrofits to the existing plants to enable hydrogen blending.
 - Installation of carbon capture, utilization and storage (CCUS) systems is expected to reduce life cycle GHG emission intensity of existing plants to below 270 gCO₂e/kWh or by 90%. Sustainalytics notes that Constellation will finance the installation of CCUS systems and retrofits for hydrogen blending at existing natural gas-fired power plants that will reduce the life cycle emissions of the assets at least to 270 gCO₂e/kWh by 2030. This threshold is lower than Transition Pathway Initiative's (TPI) below-2-°C decarbonization trajectories.⁹ Constellation has further confirmed to Sustainalytics that: i) captured carbon from CCUS will not be used for enhanced oil recovery; ii) selected storage sites will allow permanent storage; and iii) utilization of carbon will be for long-term.
 - Sustainalytics considers the financing of activities associated with natural gas power plants to contribute to their transition to lower carbon intensities and encourages Constellation to report on future actions planned to meet its 2040 net zero targets.
 - Under the Clean Hydrogen category, the Company may finance or refinance the installation, maintenance and operation of hydrogen systems and technologies, and the storage of hydrogen. Constellation has confirmed that projects will be limited to those that have life cycle GHG emissions of 0.45 kgCO₂e per kilogram of hydrogen produced. The Company further confirmed to Sustainalytics that hydrogen production will be powered either by nuclear or by renewable energy. Expenditures in this category may include:
 - Electrolyzers and associated systems for hydrogen production.
 - Transport and delivery of hydrogen. The Company confirmed that the expenditure will be wholly dedicated to the transport and delivery of hydrogen that meets the above threshold.
 - Technology and equipment that support nuclear-powered hydrogen production.
 - Sustainalytics considers investments under this category to be environmentally impactful.
 - Under the Energy Storage category, Constellation may finance or refinance the installation, maintenance and operation of energy storage systems and technologies, including i) battery storage systems; and ii) pumped-hydro storage facilities. Constellation has confirmed to Sustainalytics that energy storage systems will be connected to renewables or a grid that meets one of the following criteria:

⁹ Sustainalytics notes that TPI's trajectories measure direct emissions intensity, while Constellation's threshold is based on life cycle emissions intensity. Life cycle emissions include natural gas upstream emissions and, therefore, result in much higher emissions intensity levels compared to TPI's trajectories. Given that it is measured in life cycle emissions, Constellation's threshold is lower than the threshold set by TPI.

TPI "Carbon Performance Assessment of Electricity Utilities: Note on Methodology", (2021), at:

<https://www.transitionpathwayinitiative.org/publications/uploads/2021-carbon-performance-assessment-of-electricity-utilities-note-on-methodology>

- Grid that integrates at least 90% renewable electricity.
 - Grid in which more than 67% of newly enabled generation installed capacity in the system is below the emissions threshold of 100 gCO₂e/kWh, measured on a life cycle basis in accordance with electricity generation criteria, over a rolling five-year period.
 - Grid with an average system emissions factor below the threshold value of 100 gCO₂e/kWh over a rolling five-year period.
 - If the grid does not fulfil any of the above criteria, Constellation will use a pro-rata approach to only finance expenditures that are proportional to the share of renewable energy in the grid.
 - Sustainalytics considers the expenditures under this category to be aligned with market practices.
- Under the Clean Commercial Offerings category, Constellation may finance or refinance the following:
 - Long-term and project-specific renewable energy procurement expenditures, including i) renewable energy purchase power agreements (PPAs);¹⁰ ii) renewable energy certificates, emission-free energy certificates and energy attribute certificates; and iii) renewable natural gas generated from landfill gas capture or agricultural waste through physical PPAs.
 - Constellation has confirmed that financed energy procurement activities under the Framework will be linked to agreements that are longer than five years in length.
 - Constellation has confirmed to Sustainalytics that landfill gas capture will be limited to closed or decommissioned landfill under the Framework. Sustainalytics notes that landfill gas capture for energy generation is one of the key waste management strategies for reducing methane emissions from landfills with no gas capture and from open dumps. Sustainalytics recommends Constellation to monitor and report on gas capture efficiency in order to estimate the overall benefits to be achieved over the gas generation lifetime of the facility (approximately 150 years). Sustainalytics considers this to be aligned with market practice.
 - Expenditures that improve the energy efficiency of Constellation's customers, such as: i) energy management and benchmarking systems; ii) Efficiency Made Easy, which helps Constellation's customers to identify, implement and fund efficiency improvement solutions; iii) peak demand shaving;¹¹ iv) energy data collection technology that supports hourly carbon-free energy matching; and v) electric vehicle charging solutions. Constellation has confirmed that gas metering and other energy efficiency improvement applications related to natural gas will be excluded. Sustainalytics considers investments under this category to be environmentally impactful.
 - Project Evaluation and Selection:
 - Constellation has established a Selection Committee, which will be responsible for the project evaluation and selection process in line with eligibility criteria under the Framework. The Selection Committee consists of personnel from the Company's Sustainability, Treasury, Finance, Controllershship, Legal and other departments.
 - Constellation will follow existing internal environmental and social risk mitigation processes, through which the Company's ESG and development team match early-stage risks with mitigation plans and submit to the Selection Committee for review. The risk mitigation processes are applicable to all project evaluation and selection decisions made under the Framework.
 - Based on the establishment of the Selection Committee and the presence of environmental and social risk management processes, Sustainalytics considers this process to be in line with market practice.

¹⁰ Sustainalytics notes that financed PPAs will support Constellation's CORE and CORE+ programmes.

"Constellation Offsite Renewables (CORE)", at: <https://www.constellation.com/solutions/for-your-commercial-business/sustainability-strategies/renewable-energy/constellation-offsite-renewables.html>

¹¹ Constellation has communicated to Sustainalytics that peak demand shaving is a service that provides customer data analytics to help customers manage costs, understand trends and improve operational efficiency.

- Management of Proceeds:
 - Constellation’s Treasury team will be responsible for the management of proceeds. The allocation of proceeds will be tracked by the Company’s Finance and Treasury teams using an internal tracking system and reported to the Selection Committee.
 - Constellation intends to allocate the net proceeds within 24 months of issuance. Pending full allocation, proceeds will be invested in cash or cash equivalents or used to repay existing debts, Constellation has confirmed that the unallocated proceeds will not be used to repay debts that are linked to carbon-intensive assets or investments.
 - Based on the use of a tracking system and the disclosure of the temporary use of proceeds, Sustainalytics considers this process to be in line with market practice.
- Reporting:
 - Constellation commits to report on the allocation of proceeds and corresponding impact on an annual basis on its Investor Relations website until full allocation.
 - Allocation reporting will include the amount of net proceeds allocated to the eligible projects, the amount of unallocated proceeds and the proportion of financing versus refinancing.
 - Where feasible, impact reporting will include impact metrics such as annual GHG emissions reduced or avoided (in tCO₂e); capacity of nuclear energy plants constructed or upgraded or with license extensions (in MW); annual energy generation (in MWh); and annual energy savings (in MWh, GWh, GJ or TJ).
 - Based on the commitment to allocation and impact reporting, Sustainalytics considers this process to be in line with market practice.

Alignment with Green Bond Principles 2021 and Green Loan Principles 2023

Sustainalytics has determined that the Constellation Energy Green Financing Framework aligns with the four core components of the GBP and GLP. For detailed information please refer to Appendix 1: Green Bond/Green Bond Programme External Review Form.

Section 2: Sustainability Strategy of Constellation

Contribution to Constellation Energy’s sustainability and transition strategy

Constellation has established Climate Commitments Goals, which focus on four key areas: i) expansion of low-carbon electricity supply; ii) reduction of operational emissions; iii) facilitation of the energy transition of Constellation’s clients; and iv) supply chain engagement.¹² Constellation has set a target to achieve carbon-free generation by 2040. The Company aims to reduce carbon emissions from its operations by 65% by 2030 and has committed to reducing its methane emissions by 30% compared to the 2020 baseline by 2030, aligning with the Global Methane Pledge.^{13,14} Constellation estimates that its Climate Commitment Goals will result in zero scope 1 and 2 emissions by 2040.

To achieve these targets, the Company plans to increase its nuclear energy capacity.¹⁵ Constellation invested in the replacement of turbines in its Byron and Braidwood nuclear energy stations and other upgrades in 2022 to expand the capacity of the plants by 135 MW. In addition, the Company piloted a nuclear-powered hydrogen project in its Nine Mile Point Nuclear Power Plant in Oswego, NY in 2023 and has been producing 531 kg of nuclear-powered hydrogen per day. Subject to regulatory support, Constellation plans to invest USD 900 million through 2026 to expand nuclear-powered hydrogen production and early deployment of electrolysis technologies.¹⁶ Furthermore, the Company operates 28 wind energy projects across 10 states and one of the largest solar power facilities in the US with a capacity of 242 MW.¹⁷ Constellation also operates two large hydroelectric facilities with a total capacity of 1,642 MW.^{18,19} The Company’s renewable energy-generating in

¹² Constellation, “Climate Commitments”, at: <https://www.constellationenergy.com/our-esg-principles/environment-and-sustainability/climate-commitment.html>

¹³ Ibid.

¹⁴ Global Methane Pledge, “About the Global Methane Pledge”, at: <https://www.globalmethanepledge.org/>

¹⁵ Constellation, “Sustainability Report 2023”, at:

<https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/Constellation-2023-Sustainability-Report.pdf>

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Constellation, “Conowingo Hydroelectric Generating Station”, at: <https://www.constellationenergy.com/our-company/locations/location-sites/conowingo-hydroelectric-generating-station.html>

¹⁹ Constellation, “Muddy Run Pumped Storage Facility”, at:

<https://www.constellationenergy.com/our-company/locations/location-sites/muddy-run-pumped-storage-facility.html>

2022 was 4,036 GWh, 2% of its portfolio.²⁰ The Company reports and publishes its progress annually on its website²¹ in its ESG Data Index and Factsheet²² and in its Sustainability Report.²³

Constellation's Corporate Governance Committee oversees the Company's sustainability and climate change strategies, and sustainability policies and programmes.²⁴ The Company's Sustainability Council, led by the Vice President of Sustainability and Climate Strategy, meets four times a year to decide on the Company's strategic alignment, discuss emerging ESG trends, update sustainability policies and initiatives, and advise management on ESG topics. Constellation's executive team, including the CEO and other senior management, is responsible for overall environmental compliance and assurance strategy.²⁵

Based on the above, Sustainalytics is of the opinion that the Constellation Energy Green Financing Framework is aligned with Constellation's overall sustainability strategy and will further the Company's action on its key environmental priorities.

Approach to managing environmental and social risks associated with the projects

Sustainalytics recognizes that the proceeds from the instruments issued under the Framework will be directed towards eligible projects that are expected to have positive environmental and social impacts. However, Sustainalytics is aware that such eligible projects could also lead to negative environmental and social outcomes. Some key environmental and social risks possibly associated with the eligible projects may include those related to emissions, effluents and waste generated from operations and constructions; management and long-term disposal of radioactive waste from nuclear projects; occupational health and safety; community relations; land use and biodiversity issues associated with large-scale infrastructure projects and business ethics.

Sustainalytics is of the opinion that Constellation is able to manage and mitigate potential risks through the implementation of the following:

- Regarding emissions, effluents and waste, Constellation has implemented an ISO 14001:2015-certified environmental management system (EMS)²⁶ at all its nuclear sites and an ISO 14001:2015-conforming EMS across the rest of its sites to evaluate their environmental performance and compliance with the relevant regulation.²⁷ The Company assesses its EMSs across its operated generating sites with score cards, compliance assessments and a third-party audit programme every three years. In addition, all plant employees and full-time contractors complete site-specific environmental awareness and EMS training, and short-term contractors receive site-specific vendor orientation training.²⁸ The Company is also committed to continuously monitoring and evaluating its wastewater treatment, spill control, hazardous materials and waste management to mitigate potential impacts on wildlife habitats.²⁹ Regarding water usage, Constellation has committed to reducing its water use through technological and operational improvements. In this context, the Company has implemented closed-cycle cooling systems in some of its nuclear plants, which help to conserve water resources by minimizing freshwater intake, reusing water and reducing wastewater discharge. Constellation monitors and reports on its water usage annually, and it has committed to developing long-term water management targets.^{30,31}
- Regarding nuclear waste, the US Department of Energy (DOE) oversees the final storage of all commercial spent nuclear fuel in compliance with Nuclear Waste Policy Act (1982).³² The act

²⁰ Constellation, "ESG Data Index & Fact Sheet", (2023), at:

<https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/Constellation-2023-ESG-Data-Index-Factsheet.pdf>

²¹ Constellation, "Policy Statements", at:

<https://www.constellationenergy.com/our-esg-principles/esg-resources/policy-statements-and-esg-resources.html>

²² Constellation, "ESG Data Index & Fact Sheet", (2023), at:

<https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/Constellation-2023-ESG-Data-Index-Factsheet.pdf>

²³ Constellation, "Sustainability Report 2023", at: <https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/Constellation-2023-Sustainability-Report.pdf>

²⁴ Ibid.

²⁵ Ibid.

²⁶ ISO, "ISO 14001:2015 – Environmental management systems", at: <https://www.iso.org/standard/60857.html>

²⁷ Constellation, "Sustainability Report 2023", at: <https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/Constellation-2023-Sustainability-Report.pdf>

²⁸ Ibid.

²⁹ Constellation, "Biodiversity Policy", (2022), at: <https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/Constellation-Biodiversity-and-Habitat-Protection-Policy.pdf>

³⁰ Ibid.

³¹ Constellation, "Water Resource Management", (2022), at: <https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/Constellation-Water-Resource-Management-Policy.pdf>

³² US Department of Energy, "Nuclear Waste Policy Act", (1982), at: <https://www.energy.gov/articles/nuclear-waste-policy-act>

requires interim storage programmes for nuclear waste and procedures to assess safe geological repositories for long-term disposal in alignment with environmental regulations and surrounding populations.^{33,34} Nevertheless, as of 2023, the US federal government has not implemented any strategy for the permanent disposal of highly radioactive nuclear waste. The opposition towards proposed disposal destinations, including Yucca Mountain in Nevada, has prevented the facilities from moving forward.^{35,36} The Company stores its spent nuclear fuel at 13 different stations in Illinois, Maryland, New York and Pennsylvania, following DOE guidance.³⁷ The DOE and the US Nuclear Regulatory Commission (NRC) are responsible for the licensing of fuel storage and the disposal activities and monitoring of existing facilities.³⁸ Regarding the decommissioning of the plants, NRC requires all plants to submit a licence termination plan within two years of the expected licence termination^{39,40} The plan includes information on site characterization, remaining site dismantlement activities, plans for site remediation, detailed plans for final radiation surveys for the release of the site, updated estimates of the remaining decommissioning costs, and a supplement to the environmental report describing any new information or significant environmental changes associated with the final cleanup. Throughout the process, the NRC conducts inspections to monitor the status of activities and ensure that radioactive contamination is reduced.⁴¹ The plants must complete decommissioning activities in 60 years unless public health and safety concerns require more time.⁴²

- Regarding occupational health and safety, Constellation is required to comply with all the applicable health and safety laws and regulations, including the US Occupational Safety and Health Act of 1970.⁴³ The Company includes health and safety risks in its business planning and engineering design, and continuously upgrades technologies to reduce safety risks to employees, contractors and members of the public.^{44,45} Regarding nuclear safety, the Company follows regulations set by the NRC, the DOE and the US Environmental Protection Agency.^{46,47} As per the regulations, all nuclear facilities have developed a detailed emergency response approved by the NRC and the US Federal Emergency Management Agency (FEMA). Such responses are tested every year and applicable to natural disasters, terrorist attacks and other hazards. Furthermore, the NRC conducts regular on-site visits at all its nuclear plants to assess the plants health and safety and emergency preparedness. All of Constellation's employees at nuclear power plants are licenced by the NRC and receive training every six weeks throughout their careers. Constellation has also established the Nuclear Oversight Committee of the Board of Directors, which oversees senior management's operation of nuclear facilities, including the safe management of spent nuclear fuel.⁴⁸
- Regarding community relations, Constellation has committed to maintaining dialogue with community groups and considering environmental justice in the Company's business decisions.⁴⁹ In this context, the Company hosts annual information events at each nuclear plant to inform key officials and community leaders on the plant's performance, potential issues, ongoing and upcoming projects and areas for community involvement. In addition, many nuclear plants host community

³³ Ibid.

³⁴ US Environmental Protection Agency, "Summary of the Nuclear Waste Policy Act", at: <https://www.epa.gov/laws-regulations/summary-nuclear-waste-policy-act>

³⁵ Kenausius L. et al., (2018), "Nuclear Waste Issues in the United States", Center for Arms Control and Non-Proliferation, at: <https://armscontrolcenter.org/nuclear-waste-issues-in-the-united-states/>

³⁶ US Nuclear Regulatory Commission, "High-Level Waste Disposal", at: <https://www.nrc.gov/waste/hlw-disposal.html>

³⁷ Constellation, "Nuclear Safety", at: <https://www.constellationenergy.com/our-work/what-we-do/generation/nuclear/safety.html>

³⁸ US Nuclear Regulatory Commission, "Radioactive Waste", at: <https://www.nrc.gov/waste.html>

³⁹ US Nuclear Regulatory Commission, "Decommissioning of Nuclear Facilities", (2022), at: <https://www.nrc.gov/waste/decommissioning.html>

⁴⁰ US Nuclear Regulatory Commission, "Backgrounder on Decommissioning Nuclear Power Plants", (2022), at: https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/decommissioning.html#_ftn1

⁴¹ US Nuclear Regulatory Commission, "Decommissioning of Nuclear Facilities", (2022), at: <https://www.nrc.gov/waste/decommissioning.html>

⁴² US Nuclear Regulatory Commission, "Backgrounder on Decommissioning Nuclear Power Plants", (2022), at: https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/decommissioning.html#_ftn1

⁴³ US Department of Labor, "Occupational Safety and Health Act of 1970", at: <https://www.osha.gov/laws-regs/oshact/toc>

⁴⁴ Constellation, "Safety Policy", (2022), at:

<https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/Constellation-Corporate-Safety-Policy.pdf>

⁴⁵ Constellation, "Protecting Our People and Communities", at:

<https://www.constellationenergy.com/our-esg-principles/workforce/health-and-safety.html>

⁴⁶ Ibid.

⁴⁷ Constellation, "Nuclear Safety", at: <https://www.constellationenergy.com/our-work/what-we-do/generation/nuclear/safety.html>

⁴⁸ Constellation, "Sustainability Report 2023", at: <https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/Constellation-2023-Sustainability-Report.pdf>

⁴⁹ Constellation, "Environmental Justice Policy", (2022), at: <https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/Constellation-Environmental-Justice-Policy.pdf>

information nights where the public may meet the plant's representatives and ask questions. Similarly at non-nuclear sites, Constellation reaches out to the community by hosting community site visits and interacting with regulators and non-profit organizations.⁵⁰

- Regarding land use and biodiversity, Constellation is committed to avoiding, minimizing, restoring and offsetting environmental impacts in proximity to sensitive areas.⁵¹ During the development and maintenance of facilities, the Company conducts an environmental assessment to identify potential impacts on birds, bats and terrestrial species and habitats.⁵² It develops site-specific management plans and obtains relevant permits to minimize its impact and potentially relocate the affected species. Regarding aquatic ecosystems in proximity to hydroelectric and nuclear power plants, Constellation aims to compensate its impact by investing in habitat improvement projects, creating artificial reefs, constructing oyster and mussel beds, stabilizing banks, managing fish hatcheries and developing fish passages.⁵³ Regarding environmental stewardship, Constellation has agreed to provide USD 700 million for environmental compensation in relation to the Conowingo Dam in the Susquehanna River (MA and PA) and Chesapeake Bay as a condition for a new 50-year operating lease for the dam.⁵⁴ Under this programme, the Company has committed to investing USD 47 million in climate resiliency and biodiversity protection projects, including submerged aquatic vegetation restoration, aquaculture projects, clam and oyster restoration, and a living shoreline installation.⁵⁵ Constellation has communicated to Sustainalytics that it is working towards establishing annual goals and reporting metrics for biodiversity and habitat protection.⁵⁶
- Regarding business ethics, Constellation's Code of Business Conduct guides all employees, directors, officers, subsidiaries and third parties on business ethics, including conflicts of interest, bribery and corruption, protection of company assets and confidential information, political contributions and competition with integrity.⁵⁷ In addition, the Company requires all its suppliers to comply with the code and other relevant standards and regulations related to the environment, human rights, and health and safety.⁵⁸ Constellation also closely monitors and reports on its political activities, political contributions and lobbying.⁵⁹ The Company has established an anonymous ethics helpline available 24/7 by telephone and through a web portal.⁶⁰
- All the projects under the Framework will be financed in the US, which is recognized as a Designated Country under the Equator Principles, indicating the presence of strong environmental and social governance systems, legislation and institutional capacity to mitigate environmental and social risks associated with projects intended to be financed and refinanced under the Framework.

Based on these policies, standards and assessments, Sustainalytics is of the opinion that Constellation has implemented adequate measures and is well positioned to manage and mitigate environmental and social risks commonly associated with the eligible categories.

Section 3: Impact of Use of Proceeds

All use of proceeds categories are aligned with those recognized by the GBP and GLP. Sustainalytics has focused on where the impact is specifically relevant in the local context.

⁵⁰ Constellation, "Sustainability Report 2023", at: <https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/Constellation-2023-Sustainability-Report.pdf>

⁵¹ Constellation, "Biodiversity Policy", (2022), at: <https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/Constellation-Biodiversity-and-Habitat-Protection-Policy.pdf>

⁵² Constellation, "Sustainability Report 2023", at: <https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/Constellation-2023-Sustainability-Report.pdf>

⁵³ Ibid.

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ Constellation, "Biodiversity Policy", (2022), at: <https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/Constellation-Biodiversity-and-Habitat-Protection-Policy.pdf>

⁵⁷ Constellation, "Code of Business Conduct", (2022), at: <https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/ethics-and-governance/Code-of-Business-Conduct.pdf>

⁵⁸ Constellation, "Supplier Code of Conduct", at: <https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/Supplier-Code-of-Conduct-2022.pdf>

⁵⁹ Constellation, "Ethics and Compliance Procedure Due Diligence and Monitoring Procedure for Third Parties Engaged in Political Consulting and Lobbying Activities", (2022), at: <https://www.constellationenergy.com/content/dam/constellationenergy/pdfs/ethics-and-governance/Due-Diligence-and-Monitoring-Procedure.pdf>

⁶⁰ Constellation, "Constellation Ethics Help Line", at: <https://secure.ethicspoint.com/domain/media/en/gui/82357/index.html>

Impact of financing nuclear energy generation in the US

In 2022, fossil fuels were the largest energy source for electricity generation in the US, accounting for nearly 60% of the total electricity generation. In the same year, nuclear energy generated 18% of electricity while renewable energy sources provided 21.5% of the country's electricity.⁶¹ Energy consumption in the US is projected to increase through 2050 as population and economic growth outpace energy efficiency gains.⁶² To align with the Paris Agreement, the US has committed to decarbonizing its economy by 50-52% by 2030 compared to 2005 levels.⁶³ Given its carbon-intense electricity mix, the US has set a target to achieve 100% electricity generation from nuclear and renewable sources by 2035.⁶⁴ In this context, the government has established a 10-step strategy, including investments in new and existing low-carbon energy sources, infrastructure and storage. By achieving this plan, the US could achieve a 62% reduction in energy-related GHG emissions by 2035, relative to 2005 levels.⁶⁵

Nuclear power has been identified as supporting the stability of grids, which can facilitate the expansion of variable renewable energy, such as solar and wind, as the operation of nuclear power plants can be adjusted to follow demand and supply swings to a certain extent.⁶⁶ Even though nuclear energy has potential to help decarbonize the energy mix, it poses certain challenges and risks in terms of safety and security, most notably the disposal of high-level radioactive waste from nuclear power facilities. As at 2023, the US has 93 operating nuclear reactors but does not have a permanent disposal facility for high-level nuclear waste,⁶⁷ which is currently stored at individual reactor sites, decommissioned reactor sites or consolidated interim storage facilities.^{68,69} In spite of these risks and challenges, the International Energy Agency warns that a potential "nuclear fade" from reduced investments in nuclear could lead gas and even coal to replace nuclear in the energy mix of advanced economies, such as the US, which account for the bulk of global energy demand and CO₂ emissions; the fade could also create the need for an additional USD 1.6 trillion in investments through 2040 to make up for the decline of nuclear in advanced economies.⁷⁰ Avoiding this scenario and meeting international climate goals require 85% of global electricity to come from clean sources by 2040, implying "massive investments in efficiency and renewables" and an 80% increase in global nuclear power production by 2040, also according to the IEA.⁷¹ Considering this scenario, Sustainalytics considers that expenditures related to the extension of the life of existing facilities, such as the ones proposed by Constellation, can be considered contributions to the decarbonization of energy systems, such as in the American case.

The US government supports the development and maintenance of commercial nuclear capacity, for instance, through the Inflation Reduction Act of 2022, which provides for three direct incentives:⁷² i) zero-emission nuclear power production tax credits of up to USD 15 per MWh produced; ii) tax credit of USD 1.8 cents per kWh for electricity generated during the first eight years of production from advanced reactors placed in service by the end of 2020;⁷³ and iii) USD 700 million of investment to support the development of a domestic supply chain for high-assay low-enriched uranium fuel, which is needed to support the deployment of advanced reactors.^{74,75} Additionally, in November 2021, the US federal government launched the Civil Nuclear Credit Program with a budget of USD 6 billion for civil nuclear credits, providing USD 1.2 billion per year from FY2022 to FY2026. The programme offers economic support to existing plants that are expected to be

⁶¹ US Energy Information Administration, "Electricity explained – Electricity in the United States", at: <https://www.eia.gov/energyexplained/electricity/electricity-in-the-us.php>

⁶² US Energy Information Administration, "EIA projects U.S. energy consumption will grow through 2050, driven by economic growth", (2019), at: https://iea.blob.core.windows.net/assets/ad5a93ce-3a7f-461d-a441-8a05b7601887/Nuclear_Power_in_a_Clean_Energy_System.pdf

⁶³ UNFCCC, "The United States of America Nationally Determined Contribution – Reducing Greenhouse Gases in the United States: A 2030 Emissions Target", at: <https://unfccc.int/sites/default/files/NDC/2022-06/United%20States%20NDC%20April%202021%202021%20Final.pdf>

⁶⁴ US Department of Energy, "On the Path to 100% Clean Electricity", (2023), At: <https://www.energy.gov/sites/default/files/2023-05/DOE%20-%20100%25%20Clean%20Electricity%20-%20Final.pdf>

⁶⁵ Ibid.

⁶⁶ IEA, "Nuclear Power in a Clean Energy System", (2019), at: https://iea.blob.core.windows.net/assets/ad5a93ce-3a7f-461d-a441-8a05b7601887/Nuclear_Power_in_a_Clean_Energy_System.pdf

⁶⁷ Energy Monitor, "Why a new era for US nuclear looks unlikely", (2023), at: <https://www.energymonitor.ai/sectors/power/why-a-new-era-for-us-nuclear-looks-unlikely/?cf-view>

⁶⁸ US Nuclear Regulatory Commission, "Storage of Spent Nuclear Fuel", (2023), at: <https://www.nrc.gov/waste/spent-fuel-storage.html>

⁶⁹ EIA, "Nuclear explained – Nuclear power and the environment", (2022), at: <https://www.eia.gov/energyexplained/nuclear/nuclear-power-and-the-environment.php#:~:text=Nuclear%20energy%20produces%20radioactive%20waste,health%20for%20thousands%20of%20years.>

⁷⁰ IEA, "Nuclear Power in a Clean Energy System", (2019), at: https://iea.blob.core.windows.net/assets/ad5a93ce-3a7f-461d-a441-8a05b7601887/Nuclear_Power_in_a_Clean_Energy_System.pdf

⁷¹ Ibid.

⁷² US Department of Energy, "Inflation Reduction Act Keeps Momentum Building for Nuclear Power", (2022), at: <https://www.energy.gov/ne/articles/inflation-reduction-act-keeps-momentum-building-nuclear-power>

⁷³ US Internal Revenue Service, "Credit for Production from Advanced Nuclear Facilities", at: <https://www.irs.gov/pub/irs-drop/n-13-68.pdf>

⁷⁴ US Department of Energy, "Inflation Reduction Act Keeps Momentum Building for Nuclear Power", (2022), at: <https://www.energy.gov/ne/articles/inflation-reduction-act-keeps-momentum-building-nuclear-power>

⁷⁵ The White House, "Building a Clean Energy Economy: A Guidebook to the Inflation Reduction Act's Investments in Clean Energy and Climate Action", (2023), at: <https://www.whitehouse.gov/wp-content/uploads/2022/12/Inflation-Reduction-Act-Guidebook.pdf>

replaced with more polluting energy sources due to financial hardship.⁷⁶ The US government allocated USD 1.77 billion in 2023 and an estimated USD 1.56 billion for 2024 to develop R&D initiatives, including on technologies for safety, waste storage, generation and management, as well as security technologies to help achieve energy security, proliferation resistance and climate goals.⁷⁷

Based on the above, Sustainalytics is of the opinion that Constellation's investments related to existing nuclear energy capacity are expected to contribute to the reduction of GHG emissions from energy production in the US.

Contribution to SDGs

The Sustainable Development Goals were adopted in September 2015 by the United Nations General Assembly and form part of an agenda for achieving sustainable development by 2030. The instruments issued under the Constellation Energy Green Financing Framework are expected to help advance the following SDGs and targets:

Use of Proceeds Category	SDG	SDG target
Nuclear Power	7. Affordable and Clean Energy	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services
Renewable Energy	7. Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
Operational Emissions Reduction	9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	9.4 By 2030, upgrade infrastructure and retrofit industries to make them 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
Clean Hydrogen	9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending
Energy Storage	7. Affordable and Clean Energy	7.3 By 2030, double the global rate of improvement in energy efficiency
Clean Commercial Offerings	7. Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix

⁷⁶ US Department of Energy, "Civil Nuclear Credit Program", (2023), at: <https://www.energy.gov/gdo/civil-nuclear-credit-program>

⁷⁷ US Department of Energy, Office of Nuclear Energy, "Our Budget", at: <https://www.energy.gov/ne/our-budget>

Conclusion

Constellation has developed the Constellation Energy Green Financing Framework, under which it and its subsidiaries or affiliates may issue green bonds, including convertible bonds, commercial papers and obtain green loans, and use the proceeds to finance and refinance projects intended to support the decarbonization of the energy sector in the US. Sustainalytics considers that projects funded with proceeds from the green instruments are expected to deliver positive environmental impact.

The Constellation Energy Green Financing Framework outlines processes for tracking, allocation and management of proceeds and makes commitments for Constellation to report on their allocation and impact. Sustainalytics believes that the Constellation Energy Green Financing Framework is aligned with Constellation's overall sustainability strategy and that the use of proceeds will contribute to the advancement of the UN Sustainable Development Goals 7 and 9. Additionally, Sustainalytics considers that Constellation has adequate measures to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects.

Based on the above, Sustainalytics is confident that Constellation is well positioned to issue green bonds and obtain green loans, and that the Constellation Energy Green Financing Framework is robust, transparent and in alignment with the four core components of the Green Bond Principles 2021 and Green Loan Principles 2023.

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