S&P Global Ratings

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Second Party Opinion

CPP Investments' Green Bond Framework

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Primary contact

Jennifer Craft
Englewood, CO
+1-303-721-4106
jennifer.craft
@spglobal.com

Location: Canada	**Sector:** Financial services

Alignment Summary

Aligned = ✓ Conceptually aligned = O Not aligned = ✕

✓ Green Bond Principles, ICMA, 2025 (with June 2022 Appendix 1)

See Alignment Assessment for more detail.

Dark green

Activities that correspond to the long-term vision of a low-carbon climate resilient future.

Our Shades of Green Analytical Approach >

Strengths

The issuer conducts asset-level assessments of physical and climate risks and portfolio-level assessments. CPP Investments conducts geo-specific analysis to assess the impact of acute and chronic climate variables under the IPCC 4-degree scenario. This allows for a more detailed evaluation of the risks associated with each asset, enhancing risk management strategies.

Weaknesses

No weaknesses to report.

Areas to watch

CPP Investments' Green Bond Framework incorporates clear exclusions for activities with strong links to fossil fuels and explicitly associated lock-in risks. However, it may use proceeds to finance green buildings that use fossil fuels for heating, creating potential lock-in risks for assets with long lifespans.

Green buildings certifications do not necessarily offer a complete assessment of a building's energy performance throughout its lifecycle, or consequently include the embodied emissions. However, we view these certifications positively because they emphasize environmental sustainability criteria such as energy efficiency, water conservation, and indoor air quality.

Shades of Green Projects Assessment Summary

We assess eligible projects under CPP Investments' Green Bond Framework based on their environmental benefits and risks, using Shades of Green methodology.

Renewable energy	**Dark green**

Acquisition, development, generation, transmission, and distribution of renewable energy including:

- Wind power (offshore and onshore)
- Solar power
- Green hydrogen

Green buildings	**Light green**

Purchase, development and/or redevelopment of properties that have received or are expected to receive at least one green building certification, including Leadership in Energy and Environmental Design (LEED) Gold or Platinum or equivalent levels in other certification programs.

Low carbon/clean transportation	**Dark green**

Development, deployment, and operation of clean transportation assets including:

- Private transport:
    - Electric or nonmotorized transport vehicles
- Public transport:
    - Electric or nonmotorized public transportation vehicles and fleets
    - Supporting infrastructure such as walkways, bike paths, and charging stations
    - Electrification of existing rail infrastructure

The framework excludes transportation systems that rely on conventional fuels, hydrogen generated from fossil fuel(s), and/or bioenergy.

Energy efficiency	**Dark to Medium green**

Develop, operate, and maintain renewable energy battery storage.

Development, deployment, and operation of technologies, products, or systems that provide significant improvements in energy efficiency (more than 30% per International Energy Agency and EU Taxonomy). Examples include but are not limited to renewable energy-powered district heating and cooling technologies, smart grids, sensors, load control systems, grid connectors, and renewable energy battery storage.

The framework excludes investments that increase efficiency of fossil fueled equipment or power plants.

See Analysis Of Eligible Projects for more detail.

Issuer Sustainability Context

This section provides an analysis of the issuer's sustainability management and the embeddedness of the financing framework within its overall strategy.

Company Description

Canada Pension Plan Investment Board, known as CPP Investments, is a professional investment management organization that manages the funds of the Canada Pension Plan (CPP). Established in 1997, its objective is to invest CPP assets on behalf of its more than 22 million contributors and beneficiaries, aiming to maximize returns while mitigating the risk of loss, supporting financial security in retirement.

CPP Investments manages a diversified portfolio that includes public equities, private equities, fixed income, credit, real estate, and infrastructure. As of March 31, 2025, CPP Investments had more than 2,100 employees across nine offices and investments in 55 countries.

Material Sustainability Factors

Climate transition risk

Pension funds are exposed to climate transition risk through financing economic activities, which affects the environment. As one of the largest investors in the economy, stakeholders may pressure pension funds to promote decarbonization of the economy through investment policy while preserving their fiduciary duty to their clients. Thus, the sector can engage investees and other stakeholders to promote less carbon-intensive activities and greener business models. Policies and regulations to reduce emissions across high-emitting sectors such as oil and gas, metals and mining, real estate, or transportation could raise funds' exposure to counterparty, market, and liquidity risks as pressures mount to phase out carbon-intensive assets and technologies across the economy, which may affect fund performance. Still, as long-term investors, pension funds' diversified nature and opportunities to invest in the green economy can limit their exposure to climate transition risks when well managed.

Physical climate risk

Physical climate risks increasingly affect economic activity as climate change raises the frequency and severity of extreme weather events. Pension funds finance a wide array of business sectors that are exposed to physical climate risks, exposing funds to them through investing. However, as diversified investors, pension funds are positioned to manage their geographic exposures and, thus, partially mitigate exposure to weather events, which are typically localized. On the other hand, funds may contribute to mitigating the effects of physical climate risks by financing adaptation projects and climate-resilient infrastructure, as well as by investing in solutions that support business adaptation and continuity in exposed geographies.

Biodiversity and resource use

Pension funds contribute to significant resource use and biodiversity effect through investment activity. For example, the construction sector, a major recipient of capital markets financing, is a large consumer of raw materials such as steel and cement. Similarly, investments in agriculture can impair biodiversity. On the other hand, through stewardship, invested funds have the potential to promote sustainable business models and improve resource use through circular economy practices.

Access and affordability

Investment funds generally play a large role in providing economic resilience for individuals saving for life events, such as retirement, education, home ownership, or other expenses. Funds--particularly pension funds--provide broad access to savings and investment products that establish financial security for aging populations. Their design, management, and performance influence customers' income and wealth in each phase of life and, hence, their relevance in securing sustainable income in retirement.

Issuer And Context Analysis

Eligible green project categories relate directly to CPP Investments' approach to sustainable investing. The framework's renewable energy, green buildings, low carbon/clean transportation, and energy efficiency projects aim to address climate transition risk, which we view as its most material sustainability factor. In our view, physical climate risks are also relevant for the financing's eligible green projects as severe weather events worldwide can affect all eligible green project categories. Additionally, renewable energy infrastructure may present increased risk to local biodiversity and land use during construction, operation, and decommissioning that we believe is an important consideration. Furthermore, while noted as a key sustainability issue, this framework is not designed to address access and affordability. However, we acknowledge CPP Investments' long-standing financial management and robust policies on sustainable investing aimed at securing access to the financial well-being of the CPP.

The carbon footprint of CPP Investments' investment portfolio has declined 41% since fiscal-year 2020. CPP Investments discloses operational emissions for scopes 1, 2, and 3 (for business travel only). As part of its decarbonization investment approach, CPP Investments engages with selective organizations from within high-emitting or hard-to abate sectors to transform their business models for a low-carbon future. We recognize greenhouse gas emissions from its own operations are minimal compared with financed emissions from its investment activities.

Its approach to sustainable investing is detailed in its published policy on sustainable investing, which is applicable to all asset classes and geographies. The policy clearly outlines how it assesses climate-related risks and opportunities, corresponding to the potential materiality of sustainability-related impacts. Investment selection and asset management involves climate-related due diligence as well as the review of other sustainability factors throughout all stages of the investment lifecycle when deemed material. Where they are considered material to investment selection and asset management strategy, CPP Investments applies its climate change security selection framework to quantify the potential financial impacts of physical and transition climate risks. It also undertakes climate change stress testing to evaluate potential impacts of climate-related events. However, while we view CPP Investments' policies on climate risk analysis positively, we note limited disclosures on environmental impacts such as biodiversity and land use. Though such reporting is still nascent globally, we believe it is a key factor that will be increasingly relevant over time.

CPP Investments provides public disclosures on its approach to climate change and performance through its annual report. Its reporting is guided by the International Sustainability Standards Board (ISSB) recommendations. It conducts climate change scenario analysis to assess the risks and impacts of investments, inform business plans and strategy, and provide public disclosures on portfolio resilience. Additionally, CPP Investments regularly updates its policy on sustainable investment to ensure ongoing alignment with market practices.

Alignment Assessment

This section provides an analysis of the framework's alignment to Green Bond principles.

Alignment Summary

Aligned = ✓ Conceptually aligned = O Not aligned = ✕

✓ Green Bond Principles, ICMA, 2025 (with June 2022 Appendix 1)

✓ Use of proceeds

We assess all the framework's green project categories as having a green shade, and the issuer commits to allocate the net proceeds issued under the framework exclusively to eligible green projects. Please refer to the Analysis of Eligible Projects section for more information on our analysis of the environmental benefits of the expected use of proceeds.

CPP Investments commits to allocate an amount equal to the net proceeds of every green financing issued under its green finance framework to fund projects aimed at renewable energy, green buildings, low carbon/clean transportation, and energy efficiency. The eligible use of net proceeds explicitly excludes direct investments in fossil fuel infrastructure, such as fossil fuel transportation, power generation that expands oil and gas capacity, and fuel switching in building heating system retrofits. For investments in companies under this framework, it applies a pure-play criteria, meaning that eligible companies must derive at least 95% of their revenues from eligible green project categories. CPP Investments does not include a lookback period in the framework.

✓ Process for project evaluation and selection

The framework clearly describes CPP Investments' project evaluation and selection process within the eligible green project categories. CPP Investments' Sustainable Investment Committee (SIC) is responsible for approving eligible investments that have been assessed against the criteria outlined in the framework. The SIC is chaired by CPP Investments' chief sustainability officer and comprises cross-functional representatives from CPP Investments' leadership. The committee meets at least six times per year. The issuer proactively identifies and manages potential environmental and social risks in accordance with its policy on sustainable investing, which is referenced in the framework.

✓ Management of proceeds

CPP Investments commits to tracking net proceeds. It will deposit net proceeds from green bond issuance in the general account, and will earmark an equivalent amount for notional allocation to eligible investments approved by the SIC. The proceeds will be distributed on a portfolio basis across all eligible investments in the green bond register. Pending notional allocation, it may temporarily invest an amount equal to unallocated net proceeds in cash, cash equivalents, and/or government securities. If the financed project becomes ineligible, the issuer will utilize the net proceeds to fund other eligible projects.

✓ Reporting

CPP Investments commits to providing annual reports on the notional allocation of net proceeds and their impact, where feasible, for the preceding 12 months. It will publish these reports in the green bond impact report in the debt issuance section of its website. All relevant information, including the notional allocation of net proceeds by project category, the breakdown between new and current investments, impact metrics by investment categories, and the outstanding amount will be recorded annually in the green bond register. The green bond register is included in the green bond impact report, which is publicly available. An independent third party will verify the notional allocation of net proceeds and impact metrics annually until the green bonds are fully repaid.

Analysis Of Eligible Projects

This section provides details of our analysis of eligible projects, based on their environmental benefits and risks, using the "Analytical Approach: Shades Of Green Assessments".

Dark green

Activities that correspond to the long-term vision of a low-carbon climate resilient future.

Our Shades of Green Analytical Approach >

CPP Investments did not disclose an expected allocation among project categories under the framework. However, based on current and historical green bond register allocations, we anticipate CPP Investments will allocate most of the proceeds under the framework to renewable energy and green buildings, with the bulk of the projects falling within the renewable energy project category. We expect it will likely allocate the remaining proceeds to projects such as low carbon/clean transportation and energy efficiency. If the trajectory of project allocations should shift significantly, it could alter our overall opinion on the shades we assigned. The issuer expects to allocate proceeds to refinancing projects; however, it has not disclosed a percentage breakdown between financing and refinancing.

Overall Shades of Green assessment

Based on the project category shades of green detailed below, and in consideration of environmental ambitions reflected in CPP Investments' Green Bond Framework, we assign a Dark green shade to the framework.

Green project categories

Renewable energy

Assessment	Description
Dark green	Acquisition, development, generation, transmission, and distribution of renewable energy including: • Wind power (offshore and onshore) • Solar power • Green hydrogen

Analytical considerations

- Renewable energy, such as wind and solar, is a key part of the transition to a net-zero future. Developing low-carbon hydrogen from water electrolysis rather than fossil fuel sources is important for the clean energy transition.
- Wind and solar projects generate emissions across their lifecycle from material sourcing through end of life. The issuer states it expects generation to be well below 100 gCO_2e/kWh measured on a lifecycle basis. However, it is unclear whether lifecycle emissions for green hydrogen overall will be below the relevant EU Taxonomy threshold of no more than $3tCO_2e/tH_2$. CPP Investments recently updated its sustainable investing policy to include responsible sourcing, which involves supply chain mapping and traceability.
- Renewable energy technologies create biodiversity and local pollution risks during construction, operation, and decommissioning. CPP Investments reports that consultants will undertake ESG-related due diligence for potential investments and present findings to its investment committee prior to acquisition to manage these considerations.
- The end use of green hydrogen is not specified beyond stated exclusions and could be emissions-intensive (e.g., if used to produce green ammonia for fertilizers, which could generate substantial on-field emissions). Assessing and mitigating potential rebound and lock-in risks is important to ensure climate benefits. As part of its investment screening process for

hydrogen storage, the company evaluates leakage risks and suitable mitigants, starting with selecting only what it considers proven modes of storage (e.g., salt caverns for large-scale long-duration storage), safeguards that we view positively.

- The issuer explicitly excludes supply of renewable energy that expands the capacity of oil and gas production, which we view favorably.

Green buildings

Assessment	Description
Light green	Purchase, development, and/or redevelopment of properties that have received or are expected to receive at least one green building certification, including Leadership in Energy and Environmental Design (LEED) Gold or Platinum or equivalent levels in other certification programs.

Analytical considerations

- For existing structures, high energy performance is necessary to improving climate resilience. For new developments, there is an even greater need to reduce emissions associated with building materials as a part of the construction process. Building renovation can also contribute to significant emissions savings. In our view, these are all significant topic areas that need to be addressed from a low-carbon perspective.
- Due to the global nature of CPP Investments' assets, there are significant variations in building regulations, highlighting the importance of considering ambition and energy performance within each national context. Buildings certified to LEED Gold and Platinum levels are generally seen as positive. However, such certifications do not ensure that all relevant climate factors, such as embodied emissions and climate resilience, are incorporated. Certification alone, particularly those with points-based systems in which some categories may be optional at lower levels, also do not necessarily guarantee specific energy performance or improvements beyond regulation compared with standard practice. These factors constrain our assessment of the green building projects to a Light green shade. However, it is important to note that these certifications are specifically designed to have a lower impact on the environment, achieved through various measures such as energy conservation, water management, waste reduction, and others.
- Whether green building projects will use the LEED Operations and Management or the LEED Design and Construction type will, on a best efforts basis, depend on whether CPP is acquiring the asset and whether there is a business case to renovate the asset. CPP Investments states that where possible the most correct LEED type will apply. We do not believe there is a high risk that many new construction projects with LEED Operations and Management will be financed.
- LEED Gold or Platinum or equivalent levels in other certification programs are in scope. CPP does not include an exhaustive list of equivalent green building certifications in the framework due to the global nature of their mandate. That said, we have reviewed the equivalent certifications that CPP Investments has used in recent years, and we do not believe there is a high risk the issuer will choose nongreen equivalent certifications.
- Our assessment of the green buildings projects is constrained to Light green. The project category focuses on green building certifications but does not specifically address embodied emissions criteria, which are related to the carbon emissions associated with the production, transportation, and disposal of building materials. The issuer acknowledges the importance of considering lifecycle emissions, including embodied emissions, for new builds on a case-by-case basis where practicable. However, CPP Investments does not have a systematic approach to address this aspect specifically for new construction projects. It is primarily relevant for new buildings, but without visibility into the expected breakdown of investments between new and existing construction, as well as the future geographic footprint of green buildings, the extent of their focus on this area remains uncertain. Green buildings may be heated by district heating, which often have fossil fuel elements in the energy mix or direct natural gas-based heating. Similarly, buildings may be powered by fossil fuel-generated electricity.
- In general, buildings are highly exposed to physical climate risks. For all buildings, mitigating the exposure to physical climate risks is essential to improving climate resilience. While building regulations consider these risks to some extent, which varies from region to region, there is no guarantee that such risks are properly addressed. CPP Investments conducts geo-specific analysis to assess the impact of acute and chronic climate variables under the IPCC 4-degree scenario. The issuer's decision to assess the physical and climate risks at the asset level, in addition to being conducted at the portfolio-level assessment, is

a positive development. This change allows for a more detailed and comprehensive evaluation of the risks associated with individual assets.

Low carbon/clean transportation

Assessment	Description

Dark green	Development, deployment, and operation of clean transportation assets including:
	• Private transport:
	  o Electric or nonmotorized transport vehicles
	• Public transport:
	  o Electric or nonmotorized public transportation vehicles and fleets
	  o Supporting infrastructure such as walkways, bike paths, and charging stations
	  o Electrification of existing rail infrastructure
	The framework excludes transportation systems that rely on conventional fuels, hydrogen generated from fossil fuel(s) and/or bioenergy.

Analytical considerations

- Electric and nonmotorized public transportation vehicles, walkways, bike paths, and charging stations are well-aligned with a climate transition.
- We assess the overall shade for clean transportation to be Dark green since only zero-direct-emissions vehicles are eligible. The issuer reports that hybrid vehicles are not eligible due to the fossil fuel exclusion. Additionally, private transport does not include construction, mining equipment, or other heavy transport, eliminating any risk of fossil fuel use for extraction or transportation.
- Despite their contribution to the climate transition, the production of electric and green hydrogen vehicles and sourcing of raw materials can have substantial climate and environmental impacts. However, the issuer has updated its sustainable investing policy toward responsible sourcing that includes supply chain mapping and traceability.
- The focus on electrification of existing rail infrastructure will have a smaller impact on land and biodiversity than new construction. However, these railways could still be used to transport fossil fuels and development of infrastructure will have embodied emissions. Additionally, it may have embodied emissions through production of masts and other equipment.

Energy efficiency

Assessment	Description
Dark to Medium green	Develop, operate, and maintain renewable energy battery storage. Development, deployment, and operation of technologies, products, or systems that provide significant improvements in energy efficiency (more than 30% per International Energy Agency and EU Taxonomy). Examples include but are not limited to renewable energy-powered district

heating and cooling technologies, smart grids, sensors, load control systems, grid connectors, renewable energy battery storage

The framework excludes investments that increase efficiency of fossil fueled equipment or power plants.

Analytical considerations

- Energy storage is crucial for facilitating greater integration of renewables and part of a 2050 solution.
- The projects, such as renewable energy batteries, smart grid sensors, load control systems, and grid connectors facilitate the improvement of efficiency in technologies we consider Dark green, including renewable energy assets. By investing in smart grid technologies and grid stabilization measures, the issuer aims to ensure a reliable and efficient energy supply while accommodating more integration of renewable energy sources. We assign these renewable energy battery, smart grid sensors, load control systems, and grid connector projects a Dark green shade.
- We assign the energy efficiency category a Dark to Medium green shade as we anticipate the bulk of the proceeds in this energy efficiency category will be the darker project types. According to the issuer, energy efficiency improvements in waste-to-energy district heating and cooling technologies are eligible under the framework. Waste-to-energy systems have lifecycle climate emissions that vary depending on whether the plant incinerates fossil fuel wastes (e.g., plastics), the share of organic material in the waste, waste transportation modes and distances, and local air pollution risks. We assign these renewable energy-powered district heating and cooling projects a Light green shade.
- The issuer has set a minimum improvement threshold of 30% for financing under the energy efficiency project category, which we view positively.
- The issuer excluded direct investments in fossil fuel assets. However, there could be indirect investments in efficiency improvements to fossil-fuel-based equipment, especially for measures such as smart metering, directed at end-user consumption.
- Lithium batteries are associated with significant climate and environmental risks in materials sourcing, manufacturing, and end of life. Mining of lithium and other battery raw materials can have substantial adverse environmental and social impacts. Development and disclosure of specific sourcing requirements and alignment with third-party standards is recommended. CPP Investments has added a policy related to supply chain and responsible sourcing in 2023.
- The issuer states that fossil fuel switching that may increase efficiency (e.g., from oil to natural gas) is not eligible under the framework. This is a positive exclusion from a climate risk perspective.

S&P Global Ratings' Shades of Green

Assessments	Dark green	Medium green	Light green	Yellow	Orange	Red
Description	Activities that correspond to the long-term vision of an LCCR future.	Activities that represent significant steps toward an LCCR future but will require further improvements to be long-term LCCR solutions.	Activities representing transition steps in the near-term that avoid emissions lock-in but do not represent long-term LCCR solutions.	Activities that do not have a material impact on the transition to an LCCR future, or, Activities that have some potential inconsistency with the transition to an LCCR future, albeit tempered by existing transition measures.	Activities that are not currently consistent with the transition to an LCCR future. These include activities with moderate potential for emissions lock-in and risk of stranded assets.	Activities that are inconsistent with, and likely to impede, the transition required to achieve the long-term LCCR future. These activities have the highest emissions intensity, with the most potential for emissions lock-in and risk of stranded assets.
Example projects	Solar power plants	Energy efficient buildings	Hybrid road vehicles	Health care services	Conventional steel production	New oil exploration

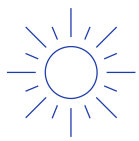
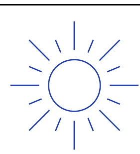
Note: For us to consider use of proceeds aligned with ICMA Principles for a green project, we require project categories directly funded by the financing to be assigned one of the three green Shades.

LCCR--Low-carbon climate resilient. An LCCR future is a future aligned with the Paris Agreement; where the global average temperature increase is held below 2 degrees Celsius (2 C), with efforts to limit it to 1.5 C, above pre-industrial levels, while building resilience to the adverse impact of climate change and achieving sustainable outcomes across both climate and non-climate environmental objectives. Long term and near term--For the purpose of this analysis, we consider the long term to be beyond the middle of the 21st century and the near term to be within the next decade. Emissions lock-in--Where an activity delays or prevents the transition to low-carbon alternatives by perpetuating assets or processes (often fossil fuel use and its corresponding greenhouse gas emissions) that are not aligned with, or cannot adapt to, an LCCR future. Stranded assets--Assets that have suffered from unanticipated or premature write-downs, devaluations, or conversion to liabilities (as defined by the University of Oxford).

Mapping To The U.N.'s Sustainable Development Goals

Where the financing documentation references the Sustainable Development Goals (SDGs), we consider which SDGs it contributes to. We compare the activities funded by the financing to the International Capital Markets Association (ICMA) SDG mapping and outline the intended linkages within our SPO analysis. Our assessment of SDG mapping does not affect our alignment opinion.

This framework intends to contribute to the following SDGs:

Use of proceeds	SDGs
Renewable energy	 **7. Affordable and clean energy***
Green buildings	 **11. Sustainable cities and communities***
Low carbon/clean transportation	 **11. Sustainable cities and communities***
Energy efficiency	 **7. Affordable and clean energy***

*The eligible project categories link to these SDGs in the ICMA mapping.

Related Research

- Analytical Approach: Second Party Opinions, March 6, 2025
- FAQ: Applying Our Integrated Analytical Approach For Second Party Opinions, March 6, 2025
- Analytical Approach: Shades Of Green Assessments, July 27, 2023
- Sustainability Insights: Behind the Shades: Real Estate, March 31, 2025

Analytical Contacts

Primary contact

Jennifer Craft
Englewood, CO
+1-303-721-4106
jennifer.craft
@spglobal.com

Secondary contacts

Erin Boeke Burke
New York
+1-212-438-1515
erin.boeke-burke
@spglobal.com

Research contributor

Rimpal Acharya
Pune