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Second Party Opinion

Empresas CMPC S.A's Green, Social, And Sustainability-Linked Financing Framework

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Location: Chile

Sector: Forest and paper products

Alignment Summary

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✗

- ✓ Social Bond Principles, ICMA, 2025
- ✓ Social Loan Principles, LMA/LSTA/APLMA, 2025
- ✓ Green Bond Principles, ICMA, 2025
- ✓ Green Loan Principles, LMA/LSTA/APLMA, 2025
- ✓ Sustainability Bond Guidelines ICMA, 2021
- ✓ Sustainability-Linked Bond Principles, ICMA, 2024
- ✓ Sustainability-Linked Loan Principles, LMA/LSTA/APLMA, 2025

See [Alignment Assessment](#) for more detail.

Strengths

Empresas CMPC's framework is comprehensive, with eligible project categories that span the company's entire operations. The framework covers both the company's conventional pulp and paper operations as well as innovative projects such as wood-based wind turbines.

The company has advanced targets and actions to decarbonize its operations and value chain. The company has set targets validated by the Science-Based Targets initiative to reduce its scope 1 and 2 greenhouse gas emissions by 50% by 2030 (versus 2018) and scope 3 emissions by 37.5% by 2035 (versus 2020). The company also has set a target to be net zero by 2040.

Weaknesses

No weaknesses to report.

Areas to watch

Some of the framework's eligible projects allow for assets that use fossil fuels. Kilns that use natural gas will present some emissions savings compared with conventional fuel oil, but lock-in risks are also present in the short-term. However, the same kilns can use gasified biomass, which allows for significant emissions reductions, and is part of the company's decarbonization strategy.

Shades of Green Projects Assessment Summary

CMPC will use the framework for multiple financing instruments and the company expects allocation of proceeds to be in line with previous transactions, which is mostly toward sustainable forest management. In addition, the entity expects 70% of proceeds toward new projects and 30% to refinancing.

We assess eligible projects under CMPC’s framework based on their environmental benefits and risks, using our Shades of Green methodology.

Circular economy adapted products, production technologies, and processes

 Medium green

Expenditures on projects for the research, development, marketing, and introduction of environmentally sustainable products, with an eco-label or environmental certification (Forest Stewardship Council [FSC] certification and Programme for the Endorsement of Forest Certification [PEFC]), resource-efficient packaging, and distribution. Eligible projects include:

- Sustainable construction materials based on wood structures;
- Fiber-based sustainable packaging; and
- Natural and renewable bioproducts, including pulp-based textile fibers, lignin, and nanocellulose.

Research and development investments related to:

- The development of next generation biochemicals and biofuels;
- The development of products, processes, and technologies for more efficient consumption of inputs, such as 100% bio-based products and new forestry technologies such as the multiple use of wood components; and
- Acquisitions and/or investments in pure-play companies. A pure-play company is defined as a company that derives a minimum of 90% of its revenues from activities aligned with the criteria outlined in the circular economy adapted products, production technologies, and processes category.

Energy efficiency

 Light green

Expenditures related to projects and/or studies that result in increased energy efficiency, using a best-effort basis to achieve at least 10% energy efficiency improvement compared to the baseline scenario. Eligible projects include:

- Financing of electric-powered machinery or incorporation of energy saving technologies, including LED lighting technology;
- Energy storage systems, energy efficiency heating, ventilation, air conditioning (HVAC), refrigeration, and electrical equipment;
- Acquisition of more efficient electric engines, valves, and pumps; and
- Optimization projects in CMPC’s plants--projects that allow the use of other fuels, helping to decouple CMPC’s energy matrix from fossil fuels, including also switching from fuel oil to natural gas and/or biofuel.

Green buildings

 Light green

Expenditures related to the acquisition, financing, construction, or retrofitting of buildings in line with Green Building Standards (planning and design, energy efficiency, green roofs, water efficiency and conservation, material conservation and resource efficiency, environmental quality).

A building is eligible when at least one of the following is met:

- 30% or more emissions/energy performance improvements over baseline, such as ASHRAE 90.1.2022 or equivalent;
- The level of energy performance of the buildings belongs to the top 15% of the national stock of the respective region (based on Primary Energy Demand and/or Carbon Emissions Intensity);
- The building receives/targets a design, post-construction, or in-use environmental certification. Eligible certification standards include LEED Gold certified or higher, BREEAM Excellent or higher, HQE Excellent or higher, or other equivalent local or regional sustainability certifications; or
- New product to enter the construction market through structural wood using mainly structural timber where the production will be 1,000 cubic meters/month.

Sustainable water and wastewater management

 Medium green

Expenditures on projects related to sustainable water management projects:

- Reduction of water consumption in industrial processes;
- Systems facilitating reuse of water in industrial processes;
- Implementation of technologies and systems that improve the quality of treated water, reduction of organic content, and volume of effluent; and
- Studies to identify or implement new water supply systems

Pollution prevention and control

 Medium to Light green

Expenditures on projects related to pollution and prevention control:

- Liquid and solid waste prevention and control projects;
- Gas capture and incineration in production facilities;
- Reduction of air emissions, greenhouse gas control, soil remediation, waste prevention, waste reuse, waste reduction, waste recycling, and energy/emission-efficient waste to energy;
- Projects or equipment to reduce chemical usage and waste generated in the process; and
- Projects and/or equipment to recover fiber wastes (which are reused as biomass).

Expenditures for carbon capture, use, and storage and carbon dioxide removal projects such as point source capture, direct air capture, e-fuels, synthetic fuels, addition of biochar to soils, and bioenergy and carbon capture and storage (BECCS).

Investments to enhance the recovery and recycling of packaging materials at the end of their life cycles:

- Projects for efficiency and capacity improvements of the recycled paper production plants; and
- Activities related to assuring the environmental requirements of the wastepaper wholesalers (CMPC's wastepaper suppliers).

Clean transportation

 Medium to Light green

Expenditures related to the acquisition, modernization, and maintenance of our transport fleet, including transportation with zero direct emissions (i.e. electric vehicles) and low GHG emissions heavy vehicles (i.e Hybrid vehicles). Hybrid passenger vehicles are excluded from this Framework. Intended expenditures include:

- Fully electric passenger and freight vehicles;

- Rolling stock and vehicles for electrified public transport, such as buses, electrified rail, trams, trolleybuses, and cable cars;
- Buses (fully electric);
- Use of low or zero-carbon biofuels in the fleet, possible alliances with external carriers; and
- Purchase of fully electric heavy mobile construction equipment and heavy-duty trucks.

Expenditures related to the installation, acquisition, modernization, and maintenance of infrastructure projects associated with electric vehicles, including charging stations.

Renewable energy

 Dark to Medium green

Investments and expenditures related to the development, construction, maintenance, acquisition, and operation of renewable energy projects, such as solar (photovoltaic and concentrated solar power) and wind (onshore and offshore).

The purchase of renewable energy from power purchase agreements (PPAs) and virtual PPAs that are long term (five years or more), including those entered into prior to the issuance of the relevant sustainable financing instruments and any subsequent extensions, provided they comply with the framework criteria.

Projects and equipment that promote the substitution of fossil fuels with renewable sources and/or the generation of energy from renewable sources, including:

- Biomass boilers and related facilities utilizing wood waste (such as twigs, scraps, and bark) and black liquor from FSC and/or CERFLOR (PEFC) certified forests and other mill residues such as feedstock;
- Use of hydrogen from electrolysis processes in kilns to optimize the combustion process, allowing CMPC to further increase the use of alternative fuels;
- Production of biogas and biofuel as well as transformation of biogas to hydrogen, electricity, and combined heat and power from biomass;
- Acquisitions or investments in companies where a minimum of 90% of the acquired company's revenues are derived from revenue from activities aligned with the criteria outlined in the renewable energy category of this framework and which include:
 - Biogas, biofuel, electricity, and combined heat and power from biomass or
 - Green hydrogen using electrolysis technology.

Transmission and distribution networks procurement (including land acquisition), development, installation, operational readiness, operation, and maintenance of electricity transmission and distribution networks supporting renewable energy consumption and the export of excess nonconventional renewable energy generated by CMPC to the public grid.

Nonconventional renewable energy sources, such as photovoltaics or wind power.

Biodiversity conservation and restoration

 Dark to Medium green

Expenditures on projects related to sustainable forestry management and restoration:

- Restoration and conservation of existing natural resources and/or biodiversity, including maintenance, protection, and identification of endangered flora and fauna and the preservation and restoration of High Conservation Value Forests and High Conservation Value Areas;

- Development and maintenance of conservation spaces for recreation (e.g., the Bosque Vivo network). These spaces are designed for low-impact activities like hiking and cycling, ensuring the preservation of native forests, and fostering health and environmental awareness;
- Sustainable forest management, including for eucalyptus and radiata pine plantations certified by FSC and CERTFOR (PEFC), or equivalent certification, such as the acquisition, planting, and maintenance of seedlings up to harvest and the development of hybrids without genetic manipulation to improve the productivity of plantations while reducing water consumption and increasing CO2 capture, pollination, and biological pest control;
- Acquisition, planting and maintenance of seedlings up to harvest and development of hybrids without genetic manipulation to improve the productivity of plantations while reducing water consumption and increasing CO2 capture; and
- All inputs and services required to restore native forest cover from degraded land leased by CMPC.

Terrestrial and aquatic biodiversity conservation. Expenditures on biodiversity conservation projects inside and outside of protected areas, related to:

- Planted hectares and preservation of biodiversity through the creation and maintenance of biological corridors to connect native species through the hectares of native forest that the company owns;
- Rehabilitation of degraded lands with native or naturalized species;
- Climate adaptation and resilience measures that also conserve or restore ecosystems;
- Costs of legalization and environmental licensing costs related to developing new conservation areas on owned and leased lands; and
- Specialized facilities and services to study and monitor the restored area, such as Geographic Information System (GIS) analysis, satellite data collection, and data analysis.

Expenditures related to the conservation of fauna, including:

- Specialized facilities and services in studying and monitoring the behavior of species and fauna; and
- Costs and investments related to rewilding extirpated and threatened native fauna species as well as treatments and accommodation implementing wildlife underpasses to connect biodiversity sections.

Expenditures on research and development and technology that help to identify, monitor, report on, and verify biodiversity and business impacts.

Climate adaptation

 Dark green

Implementing the forest fire prevention and control strategy, through preventive operations and innovations in planting methods to reduce the risk of forest fires, among other risk reduction strategies, such as:

- Implementation of local education and other short- and long-term fire prevention programs;
- Implementation of self-protected forest programs in CMPC's plantations and third parties' plantations
- Design of programs to reduce the occurrence of fires;
- Training to firefighters;
- Investments in improvements in the monitoring tower system, with the inclusion of automatic fire outbreak detection systems and the inclusion of warnings of outbreaks via satellite; and
- Investments in the expansion of firefighting equipment--water trucks, skidder, and sand helicopters.

See [Analysis Of Eligible Projects](#) for more detail.

Relevance And Ambition Analysis Summary		Relevance	Ambition
SPT/KPI 1	Achieve absolute CO2 emissions - Scope 1 and 2 equal to or less than 1,229 ktCO2	Relevant	Ambitious
SPT--Sustainability performance target. KPI—Key performance indicator. See Relevance And Ambition Analysis 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

Empresas CMPC S.A. is a Chilean company that manufactures and supplies forestry, pulp, paper, tissue, and packaging products. The company operates through three main segments: tissue and personal care products (about 44% of revenue), pulp (approximately 42%), and paper and packaging solutions (around 14%). As of 2024, CMPC owns and manages more than 1.3 million hectares of forest assets across Chile, Brazil, and Argentina. It operates 51 production facilities across eight Latin American countries and sells products to roughly 35,000 clients in over 65 countries.

Material Sustainability Factors

Climate transition risks

Forested areas are a major store of carbon. Pressure to protect forested areas may increase, potentially restricting areas that can be used to produce forest products. The forest sector can provide a variety of climate mitigation options, including carbon storage in forests and soils, harvested wood products, and wood-based products replacing fossil-based ones, particularly biofuels. The increasing regulation on the sector will likely necessitate increasing energy efficiency measures, alternative fuels for producing heat, and the use of environmentally friendly substitutes for chemicals used in the pulp and paper-making process.

Physical climate risks

Physical climate risks such as wildfires and droughts, as well as a greater prevalence of pests and diseases associated with a warming world, are highly relevant to forest owners and paper and forest product suppliers. Forest owners and paper and forest product companies around the world already contend with acute events and chronic changes in weather that will continue to affect stakeholders as climate change results in more extreme, and often unpredictable, weather patterns.

Biodiversity and resource use

In addition to being the main source of virgin raw materials for the paper and forest products industry, forests also provide a wide array of ecosystem services, including carbon sequestration, water filtration and storage, pollution capture, soil quality, and habitat for biodiversity. Various stakeholders are engaged in ensuring land, water, and wildlife conservation and a number of regulatory bodies have mandated the setting aside of certain areas of land in order to protect biodiversity. In Chile, biodiversity risks are closely linked to the expansion of monoculture forestry plantations, which can reduce native forest cover and alter local ecosystems. While national regulations, such as the Native Forest Law, aim to protect biodiversity, enforcement challenges persist, particularly in remote areas. Large industry players often adopt certification schemes like FSC or PEFC, but land-use conflicts with indigenous communities and the fragmentation of habitats remain significant concerns.

Pollution

The use of chemicals such as chlorine dioxide, paper dyes, and fungicides in forest and paper production as well as emissions during bioenergy combustion means the industry must closely monitor local pollution risks. Companies must typically meet air pollution standards, in addition to water discharge and waste management standards, in their production facilities, with potentially significant penalties for any regulatory breaches. The public's increasing awareness of pollution could reduce demand for products and producers that contribute above-average pollution.

Impact on communities

Paper and forest products companies are often a large employer in local communities and support local economies and tax bases. At the same time, the proximity of their assets to usually small or rural communities can have adverse effects. Concerns include air and water pollution, as well as odor and noise. Therefore, pulp and paper producers can face opposition from local communities. Land-use disagreements with local and indigenous populations can delay production, disrupt operations, or cause reputational issues. In Chile, in areas such as La Araucanía and Biobío, plantation forestry has been associated with land-use conflicts involving indigenous Mapuche communities, where concerns include the reduction of access to native forests and the impacts on cultural heritage, subsistence activities, and local ecosystems.

Issuer And Context Analysis

The framework aims to address climate transition risks, biodiversity and resource use, and pollution, which we view as key sustainability factors for CMPC. Green project categories included in the financing framework--such as energy efficiency, green buildings, clean transportation, pollution prevention and control, and renewable energy--aim to address climate transition risk, which we consider one of the most material sustainability factors for CMPC.

Projects under the category of biodiversity conservation and restoration and sustainable water and wastewater management contribute to biodiversity and resource use and pollution. In addition, the climate change adaptation category addresses physical climate risk, which we also consider a material sustainability factor. Similarly, we think the social project categories address the company's impact on communities.

The company has advanced targets and actions to decarbonize its operations and value chain.

The company has set targets validated by the Science-Based Targets initiative to reduce its scope 1 and 2 greenhouse gas emissions by 50% by 2030 (versus 2018) and scope 3 emissions by 37.5% by 2035 (versus 2020). The company also has set a target to be net zero by 2040. In 2024, 81% of CMPC's total energy consumption came from renewable sources, mostly through the purchase of renewable energy certificates. 38% of the company's energy was self-generated, while the rest was from local grids.

The company's decarbonization initiatives include replacing fossil fuels with biomass, increasing the share of renewable energy in production, improving process efficiency, and reducing transport-related emissions. CMPC also incorporates an internal carbon pricing mechanism into its decision-making processes, using projected carbon cost scenarios to evaluate and prioritize investments, particularly those that contribute to lowering greenhouse gas emissions. This approach enables the company to anticipate potential regulatory changes, assess the long-term financial impact of carbon-related costs, and direct capital toward projects aligned with its decarbonization objectives.

CMPC has undertaken climate scenario analysis to evaluate its exposure to physical climate risks across its forest assets. The company conducted a climate risk assessment to evaluate the potential financial and operational impacts of climate-related events developed by the Intergovernmental Panel on Climate Change. These scenarios were modeled for 2030, 2040-2050, and 2080 across the company's operations. Based on the assessment, the company identified key physical risks, including forest fires. To mitigate these risks, the company owns firefighting assets and has developed fire protection initiatives, including a community fire prevention network.

To manage climate and nature risks, CMPC's fiber sourcing strategy is designed to manage environmental and social risks by prioritizing certified and legally compliant sources.

The company requires that all wood and fiber inputs comply with applicable laws and international standards, and it works to avoid sourcing from high conservation value areas without proper management, or areas converted from natural forests to plantations.

CMPC promotes the use of voluntary certifications, with a significant portion of its fiber sourced from forests certified under FSC or PEFC standards, covering both its own plantations and third-party suppliers. As part of its broader sustainable forest management policy, the sourcing strategy prioritizes biodiversity preservation, the safeguarding of high conservation value areas, and responsible forestry operations.

CMPC has a dedicated strategy to address biodiversity risks. The company has identified conservation areas and implements action plans for habitat protection, restoration, and species monitoring for its more than 32,000 hectares of its high-value conservation areas. It maintains biological corridors to connect ecosystems, monitors flora and fauna in forest estates, and applies land-use planning to reduce fragmentation. Specific initiatives include the Bosque Vivo program, aimed at restoring native forests and promoting community engagement in biodiversity conservation, and the Patagonia Project, which focuses on restoring degraded areas and conserving biodiversity in sensitive ecosystems.

Additionally, CMPC collaborates with universities, research centers, and nongovernmental organizations to strengthen its biodiversity knowledge base and align its actions with national biodiversity policies and international frameworks. These measures form part of its broader environmental management system to mitigate biodiversity-related risks across its value chain.

CMPC addresses pollution management through measures aimed at controlling emissions, effluents, and waste across its operations. The company monitors air emissions, including particulate matter and greenhouse gases, and implements process improvements and filtration systems to reduce pollutants. For water pollution, CMPC treats industrial effluents in dedicated treatment plants to comply with regulatory standards before discharge, while also monitoring water quality parameters. Solid waste is managed through segregation, recycling, and proper disposal, with hazardous waste handled under specific protocols.

The company also applies environmental monitoring programs to track pollutants in surrounding areas, implements spill prevention measures, and uses cleaner production technologies to minimize waste generation and contamination risks.

CMPC has processes in place to engage local and indigenous communities. The company conducts social impact assessments, develops tailored community relations plans, and operates grievance mechanisms to address concerns. It implements programs such as Desafío Agua, which improves household water access, and the Primeros Pueblos program, which supports local entrepreneurs by providing sales channels for their products.

Other actions include educational support through scholarships and partnerships with local institutions, opening public access to recreational areas under the "Bosque Vivo" network, and carrying out infrastructure improvements in coordination with municipalities.

Investments

CMPC's investments typically consist of organic growth through new plants as well as maintenance for existing plants. Although inorganic growth (such as mergers and acquisitions), was relatively low in 2024, the company's Softys division acquired personal care product manufacturing operations from another Brazilian company in the second quarter of 2025 for approximately \$125 million. The company's investments totaled \$327 million in second-quarter 2025, compared with \$150 million in the first quarter.

The company has allocated more than \$1.3 billion toward sustainable projects between 2021-2024, defined as projects aligned with the categories of its green financing framework. CMPC allocated a majority of the proceeds toward sustainable forest management and pollution prevention projects. These include \$500 million for modernization projects for the company's BioCMPC Project (including waste management, effluent treatment, and emissions reductions). CMPC also has initiatives to increase its production of bio-based forest products for a wide variety of uses, including wood-based turbines and structural timber.

Alignment Assessment

This section provides an analysis of the framework's alignment to the Social and Green Bond/Loan principles and the Sustainability Bond Guidelines, as well as the Sustainability-Linked Bond/Loan Principles.

Alignment Summary

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✕

- ✓ Social Bond Principles, ICMA, 2025
- ✓ Social Loan Principles, LMA/LSTA/APLMA, 2025
- ✓ Green Bond Principles, ICMA, 2025
- ✓ Green Loan Principles, LMA/LSTA/APLMA, 2025
- ✓ Sustainability Bond Guidelines ICMA, 2021
- ✓ Sustainability-Linked Bond Principles, ICMA, 2024
- ✓ Sustainability-Linked Loan Principles, LMA/LSTA/APLMA, 2025

✓ Use of proceeds

We assess the framework's green project category as having a green shade and consider the social project category to be aligned. The issuer commits to allocate the net proceeds issued under the framework exclusively to eligible green and social projects. Please refer to the Analysis of Eligible Projects section for more information on our analysis of the environmental and social benefits of the expected use of proceeds. The company will disclose the proportion of financing versus refinancing in its allocation reporting. The look-back period is 24 months.

✓ Process for project evaluation and selection

CMPC has a sustainable finance, risk, and sustainability committee, comprising representatives from the corporate finance, sustainability, development, compliance, and investor relations departments, and qualified people in the technical and financial departments. It will meet at least annually to screen and approve the potential projects, before their approval by the chief financial officer, the chief sustainability officer, and the chief compliance officer. The company has processes to identify and manage environmental and social risks related to eligible projects. The framework includes an exclusion list, covering topics such as child labor and forced labor.

✓ Management of proceeds

CMPC has an internal monitoring process to track the net proceeds and will allocate the net proceeds within 60 months after the issuance of a sustainable instrument. The company commits to replacing projects that cease to comply with the framework's eligibility criteria as soon as practicable. Pending allocation, net proceeds will be held in cash or cash-equivalent instruments or short-term instruments or go toward repayment of debt, in accordance with the company's treasury policy. Although the repayment of long-term debt is an acceptable use of unallocated proceeds according to the principles, we do not view it as a best practice. That said, most of CMPC's outstanding debt is green. The framework's exclusion criteria apply to the management of unallocated proceeds, adding consistency to spending.

✓ Reporting

CMPC commits to report annually on the allocation of the net proceeds and on the financed projects' impact, until full allocation of the net proceeds and in case of material developments. Reporting will be available on the company's website. Allocation reporting will include the total amount of instruments outstanding, a brief description of the projects, and the breakdown of

allocation of net proceeds by eligible category. The company will also report on the actual and expected impact of the financed projects and intend to use ICMA's Harmonized Framework for Impact Reporting. Furthermore, the company will share information on the assumptions used to calculate the key indicators, adding transparency on the projects' impact. It is positive that the company commits to receiving an external limited assurance on the allocation and impact reporting until full allocation.

Sustainability-Linked Alignment

✓ Selection of key performance indicators (KPIs)

We view the KPI as aligned with the principles because its scope, objective, and calculation are clearly articulated in the framework. Furthermore, the KPI addresses a relevant sustainability challenge for the pulp and paper industry. Emissions are especially relevant for issuers in this sector, and the selected KPI demonstrates CMPC's commitment to mitigating this exposure, in line with its sustainability strategy.

For more information, see KPIs in [Relevance And Ambition Analysis](#). KPI--Key performance indicator.

✓ Calibration of sustainability performance targets (SPTs)

The framework outlines the expected observation date, relevant triggers events, and frequency of the SPT. We consider the SPT to be ambitious because it promotes improvements beyond the business-as-usual trajectory. We view positively that the issuer selected the SPT consistent with its overall strategic sustainability and business strategy.

For more information, see SPTs in [Relevance And Ambition Analysis](#).

✓ Instrument characteristics

Sustainability-linked instruments issued under the framework will be subject to the impact on their economic characteristics, depending on whether the SPT is achieved. Potential variations may include a benefit (step-down) or penalty (step-up). The company also clarifies that a trigger event will take place if it fails to calculate, observe, or report information on the performance against the targets for each KPI by the observation dates. Moreover, CMPC will annually disclose the performance verification related to SPT, along with the respective impact on the instrument's financial characteristics, on its website.

✓ Reporting

We consider CMPC's overall reporting practices to be strong. The company commits to publishing annual updates on the KPI and SPT in its annual integrated report or a sustainable finance impact report, including sufficient information to allow investors and lenders to monitor the progress of the SPT. The SPTs' performance by the target observation date, as well as the corresponding impact and the timing of such impact, on the instrument's economic characteristics will be reported annually. We view positively that CMPC commits to disclose examples of the positive sustainability impacts of the performance improvement. Moreover, the bank commits to report on any reassessments or pro forma adjustments of KPIs as well as any potential restatements of SPTs.

✓ Post-issuance review

CMPC commits to obtaining an independent qualified external post-issuance verification of its performance against SPTs at least annually, following ICMA's and LSTA's official guidelines for external reviews. The performance verification will be published on CMPC's website.

Relevance And Ambition Analysis

This section provides an analysis of whether the financing's KPIs and SPTs are consistent with its progress towards a sustainable future.

KPI 1 Absolute greenhouse gas emissions - scope 1 and 2 (in ktCO₂)

SPT 1 50% reduction in scope 1 and 2 emissions by 2030 compared to a 2018 baseline

KPI 1 – Relevance

Not aligned Relevant Highly relevant

Analytical considerations

- We view the selected KPI as relevant because it addresses climate transition risk, a material sustainability challenge for the pulp and paper industry. The KPI measures absolute greenhouse gas emissions, which we view more favorably than intensity-based measures of emissions. Scope 1 emissions for CMPC arise from the company’s owned and controlled emissions sources, which include fossil fuel boilers and other combustion activities, as well as some aviation kerosene used in firefighting activities. Scope 2 emissions stem from the generation of purchased electricity. CMPC’s emissions reporting is verified by an independent third party, and the company reports its scope 2 emissions using both location-based and market-based methodologies, which we view as a strong practice.
- KPI 1 is one of the most frequently used KPIs in the market, allowing for external benchmarking. We view positively that the KPI is directly linked to the issuer’s sustainability strategy and its commitment to reduce scope 1 and 2 emissions by 50% by 2030 and to reach net zero emissions by 2040. The company measures its emission in line with the greenhouse gas protocol and participates in initiatives and coalitions to ensure its alignment with a Paris-aligned future, including the Race to Zero, Pacto Global Chile, and World Business Council for Sustainable Development.
- The KPI is measured for all of CMPC’s operational divisions. The company carried out a materiality assessment in 2022 (updated in 2024) and included energy consumption and greenhouse gas emission in tier 2 (very important).
- Scope 1 emissions account for approximately 16% of the company’s overall emissions, while scope 2 emissions account for less than 1%, using the market-based calculation methodology. Using the location-based calculation for scope 2, these emissions would represent around 4% of total emissions, as noted in the company’s third-party emissions verification report. The scope 2 emissions included in the KPI are based on the market-based calculation.

SPT 1 - Ambition

Not aligned Ambitious Highly ambitious

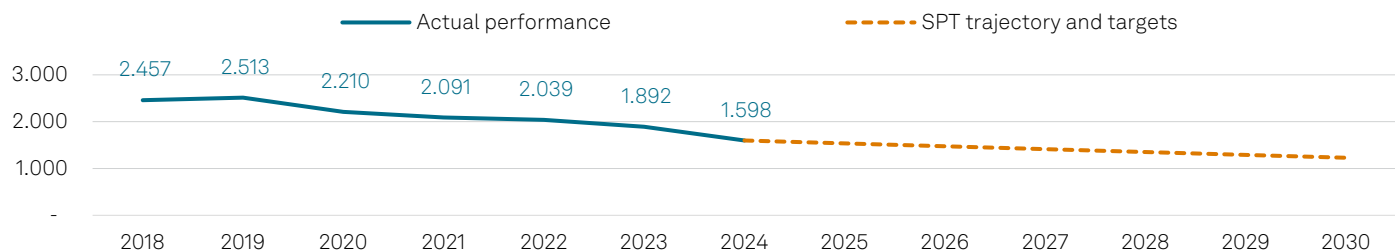
Analytical considerations

- Overall, we consider SPT 1 as ambitious. The issuer specifies the baseline year (2018) and the expected observation date, which will be at the end of 2030. The frequency of the SPTs is

not annual, but the issuer commits to provide annual SPTs in the sustainability-linked loan documentation for each relevant transaction.

- The issuer commits to decrease its absolute scope 1 and 2 emissions by 50% by 2030 compared with the 2018 baseline, which would translate to an overall emissions value of 1,229 kilotons of carbon dioxide equivalent (kt CO₂e). As of 2024, the company has reduced its scope 1 and 2 emissions to 1,598 kt CO₂e, which represents 70% of the overall reduction goal. From 2018 to 2024, the average emissions reduction was approximately 7% (or 143 kg CO₂e) per year, while the emission reduction from 2025 to 2030 will average 4.3% (or 62 kg CO₂e). The emissions reduction is positive in absolute terms, but this rate is lower than historically.
- Still, we consider the SPT as ambitious because CMPC will need to tackle some of the most difficult-to-decarbonize parts of its operations to achieve its target. It also accommodates expected business expansion in the next few years, and the reduction pathway target has been validated by the Science-Based Targets initiative under a 1.5-degree scenario, which we view positively.
- The company noted that much of its current emission reduction progress has been the result of closing a coal-fired boiler in its Guaíba plant in Brazil and replacing it with a natural gas and biomass boiler. Through 2030, the company is looking to reduce the emissions of its other lime furnaces by replacing them with natural gas or gasified biomass, in addition to increasing its use of black liquor, a byproduct of the cellulose production process that can be used as an energy source. Gasified biomass would yield larger emissions reductions, but the process is currently not viable at scale because of high costs and limited supply. The company's scope 2 emissions are already relatively low, as calculated with the market-based methodology, so CMPC will not be able to achieve the SPT solely by purchasing renewable energy certificates.
- The company plans to expand its operations in the near term by opening a new plant in Brazil with a 2.5-million-ton capacity, which could make it more difficult to achieve absolute emissions reductions during this period.
- The company also identified key risks beyond its control that could impair its ability to meet the target, which include extreme weather events, changes in regulation, or delay in deployment of green technologies.

SPT 1 performance and trajectory (kt CO₂e)



Source: S&P Global Ratings.

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](#)," as well as our analysis of eligible projects considered to have clear social benefits and to address or mitigate a key social issue.

Green project categories

Circular economy adapted products, production technologies, and processes

Assessment	Description
Medium green	Expenditures on projects for the research, development, marketing, and introduction of environmentally sustainable products, with an eco-label or environmental certification (FSC and PEFC) and resource-efficient packaging and distribution. Eligible projects include: • Sustainable construction materials based on wood structures; • Fiber-based sustainable packaging; • Natural and renewable bioproducts, including pulp-based textile fibers, lignin, and nanocellulose. Research and development investments related to: • The development of next generation biochemicals and biofuels; • The development of products, processes, and technologies for more efficient consumption of inputs, such as 100% bio-based products and new forestry technologies, such as the multiple use of wood components; and • Acquisitions or investments in pure-play companies. A pure-play company derives a minimum of 90% of its revenues from activities aligned with the criteria outlined in the circular economy adapted products, production technologies, and processes category.

Analytical considerations

- Timber can provide alternatives with lower value-chain emissions than fossil fuel-intensive materials such as steel, cement, or plastics. Sustainable input sourcing can help avoid upstream risks such as land-use change or ecosystem degradation from poor cultivation practices, while management of energy, water, pollution, and waste in production strengthens green benefits.
- Eligible projects in this category will support the production of cellulose- and timber-based sustainable products, aiming to provide low-carbon, resource-efficient, and recyclable alternatives to conventional products. Timber- and wood-based products reduce lifecycle emissions because of their role as a carbon sink. While the total environmental and climate impact will depend on the region where the products are produced and sold, we assign a shade of Medium green to the project category because certified timber byproducts have substantially lower greenhouse emissions over their lifetime than other, similar products.
- While reducing resource use through recycling is part of the low-carbon future, it is the third option in the waste hierarchy, after reuse and waste prevention. CMPC recycles and reuses its forestry waste and those of third parties as supplies for the production cycles, which not only minimizes the amount of waste sent to landfills but also prolongs the useful life of these resources.

- The company also has a target to send zero waste to landfills by 2025, which we view positively. CMPC has already reduced waste generation by 89% since 2018.
- We view CMPC’s criteria for FSC and PEFC-certified products positively. FSC certification is generally the most robust global standard for forest management, while PEFC has important complementary properties, such as greater scrutiny of supply chains. The requirements in these certifications provide important safeguards against harmful practices and promote more sustainable management measures beyond regulatory requirements. Nevertheless, concerns remain around the stringency and real benefits of forest certifications, both in relation to the requirements (most reasonably run companies are likely to qualify) and application (audits seldom lead to the suspension of certifications).
- The framework allows for research and development investments related to acquisition or investment in pure-play companies whose activities align with the criteria laid out in this category as well as Climate Bonds Initiative thresholds. CMPC Ventures has previously invested in Swedish company Modvion, which is active in the development of wood-based wind turbine towers. Replacing conventional, steel-based turbine towers with wooden alternatives can further contribute to emissions reduction in the energy sector.

Energy efficiency

Assessment

 Light green

Description

Expenditures related to projects and/or studies that result in increased energy efficiency, using a best-effort basis to achieve at least 10% energy efficiency improvement compared with the baseline scenario.

Eligible projects include:

- Financing of electric-powered machinery or incorporation of energy saving technologies, including LED lighting technology;
- Financing energy storage systems, energy efficient heating, ventilation, air conditioning (HVAC), refrigeration, and electrical equipment;
- Acquiring more efficient electric engines, valves, and pumps; and
- Optimizing projects in CMPC’s plants: projects that allow the use of other fuels, helping to decouple CMPC’s energy matrix from fossil fuels, including switching from fuel oil to natural gas or biofuel.

Analytical considerations

- Energy efficiency measures are necessary to transition to a low-carbon economy, but their climate benefits and risks vary. Exposure to climate risk arises, for example, when these energy efficiency activities take place in high emitting sectors or lock in high-energy processes or fossil fuel use.
- We view positively that CMPC includes a 10% threshold for eligible energy-efficiency investments, in line with Chile’s 2010 Energy Efficiency Law, which aims to achieve a national energy intensity reduction of at least 10% by 2030. That said, this category may include investments directed at equipment or systems running on natural gas or other fossil fuels as long as they are substitutes for coal or fuel oil. Following the closure of the coal-fired boiler at the Guaíba plant in Brazil, the company consumed no coal in 2024, so we expect coal-powered assets to be excluded from this category. For this reason, we assign a shade of Light green.
- The majority of CMPC’s energy consumption comes from its cellulose business line. The cellulose production process creates black liquor as a byproduct, which is then combusted to provide energy back to the cellulose production, creating a self-supply loop. Some of CMPC’s energy use also comes from its boilers, which use fossil fuels to reach the high temperatures necessary for processing. Some efficiency improvements may include fuel switching from fuel oil to natural gas. While natural gas perpetuates the use of fossil fuels, high-temperature kilns are relatively hard-to-abate assets, and natural gas kilns can later be retrofit to use non-fossil fuel sources, such as gasified biomass.
- CMPC identified the optimization of oil consumption, replacement of electrolysis cells in chlorine-soda areas, and increased turbo pump efficiencies as the primary energy efficiency initiatives in 2024. These projects, in addition to other efficiency

initiatives, reduced the company’s energy consumption by 259 gigawatt-hours (GWh) in 2024. These energy-efficiency projects are spread across the entirety of the company’s operations, and the company maintains detailed reporting of annual energy efficiency initiatives as well as the energy reduction that results from each initiative.

Green buildings

Assessment

 Light green

Description

Expenditures related to the acquisition, financing, construction, or retrofitting of buildings in line with Green Building Standards (planning and design, energy efficiency, green roofs, water efficiency and conservation, material conservation and resource efficiency, and environmental quality).

A building is eligible when at least one of the following is met:

- 30% or more emissions/energy performance improvements over baseline such as ASHRAE 90.1 2022 or equivalent;
- The level of energy performance of the building belongs to the top 15% of the national stock of the respective region (based on Primary Energy Demand and/or Carbon Emissions Intensity);
- The building receives/targets a design, post-construction, or in-use environmental certification. Eligible certification standards include LEED Gold certified or higher, BREEAM Excellent or higher, HQE Excellent or higher, or other equivalent local or regional sustainability certifications; or
- New product to enter the construction market through structural wood using mainly structural timber where the production will be 1,000 cubic meters/month.

Analytical considerations

- The International Energy Agency (IEA) emphasizes that reaching net-zero emissions in buildings demands major energy efficiency strides and fossil fuel abandonment. All properties must achieve high energy performance. New properties should additionally cut emissions from building materials and construction. Additionally, addressing physical climate risks is crucial for strengthening climate resilience across all buildings.
- We assign a shade of Light green to this project category, which reflects our view that the framework criteria ensure that financed buildings will be more energy efficient than required by regulation and have strong energy performance. This Light green shade also reflects that the issuer does not currently specify any thresholds or mitigation plans to address embodied emissions associated with all new construction activities, which are expected to account for the majority of the proceeds. On the other hand, while not relevant for all regions in the company’s countries of operation, heating in corporate buildings will be fully electric via HVAC systems.
- Certifications are widely used to demonstrate the sustainable characteristics of buildings because they cover a variety of environmental issues. However, they differ considerably in their requirements for energy efficiency, embodied emissions, construction materials, and climate resilience. Often their point-based systems do not guarantee low-carbon new construction or highly energy efficient existing buildings.
- Their robustness depends on a variety of factors, such as levels achieved and the type of certification. The certifications CMPC has chosen are the two highest levels for each certification, which we view positively. But, certification criteria can vary between standards and levels, leading to projects having varying climate risks and benefits.
- The ASHRAE 90.1 standard is a benchmark for commercial building energy codes in the U.S., though it has been applied as a benchmark globally. The standard provides minimum requirements for energy-efficient design of most building types, both for new buildings and new equipment for existing buildings. The standard is updated every three years, and the most recent version was released in 2022. While it may be difficult to compare building codes between Chile and the U.S., CMPC’s framework uses ASHRAE 90.1 2022 as the baseline, which we view positively. In addition, the company committed to at least 30% reduction of energy performance or emissions. We consider this threshold more advanced than regional practices.

- This category also includes structural wood products for construction. According to the World Economic Forum, sustainable timber used in building materials must become core building materials because they store vast amounts of carbon and can be used to replace conventional materials such as concrete and steel. The company also uses cellulose made from recycled paper as a building material, as it can be used as an insulator because of its ability to retain heat and reduce noise. We view favorably the company's use of 100% certified wood products as alternate building materials, leading to a shade of Medium green for these projects.

Sustainable water and wastewater management

Assessment

 Medium green

Description

Expenditures on projects related to sustainable water management projects, such as:

- Reduction of water consumption in industrial processes;
- Use of systems facilitating reuse of water in industrial processes;
- Implementation of technologies and systems that improve the quality of treated water, and reduce organic content and the volume of effluent; and
- Use of studies to identify or implement new water supply systems

Analytical considerations

- Systems to treat and convey water are energy-intensive and can generate significant waste, exacerbate water stress for other stakeholders, or pose disruptions to hydrology and aquatic ecosystems if not sufficiently managed. Water efficiency improvements help reduce demands on natural capital and reduce greenhouse gas emission associated with water treatment and conveyance and, as a result, provide important benefits to a low-carbon, climate-resilient future.
- Eligible expenditures include those related to the reduction and reuse of water in industrial processes, as well as projects to improve the quality of treated water. The company has a target to reduce water use per metric ton of product 25% by 2025. We believe that reducing water usage and encouraging its reuse in industrial processes is an effective resource management strategy and provides environmental benefit. But it is not clear whether the technologies or systems will run on fossil fuels or have the potential to lock in emissions. For these reasons, in addition to the absence of quantitative water reduction or reuse thresholds, we assign a shade of Medium green to this category.
- The issuer uses the World Resources Institute's Aqueduct Water Risk Atlas to assess the conditions of watersheds where it has operations, identifying areas with high and extremely high water stress. All of the company's operations in areas with water stress have individual water reduction plans in place, which we view positively.
- CMPC has implemented water management projects across many of its sites. As reported by the company, the projects that have made the largest impact include switching from liquid cooling to air cooling-based HVAC systems, rainwater recovery systems, and the recovery and recycling of white water (water that includes fibers, fillers, and other materials used in the papermaking processing). These projects promote circularity and reduce withdrawals from local waterways.
- CMPC notes that 92% of its total water withdrawal comes from surface water, and the remainder from groundwater or third parties. Much of this water is discharged back into waterways or local sanitation networks. The company's operations with industrial water use have water treatment plants designed to discharge in compliance with local regulations. In our view, investments that aim to improve the quality of treated water reduce the potential impact on ecosystems caused by industrial processes.

Pollution prevention and control	
Assessment	Description
Medium to Light green	Expenditures on projects related to pollution and prevention control: • Liquid and solid waste prevention and control projects; • Gas capture and incineration in production facilities; • Reduction of air emissions, greenhouse gas control, soil remediation, waste prevention, waste reuse, waste reduction, waste recycling and energy/ emission-efficient waste to energy. For waste to energy, waste incineration is to produce heat/cool and power that follows a waste hierarchy to ensure that as much of the waste as possible is reused and recycled before being converted to energy. The feedstock is certified by a credible third party and derived from non-waste feedstock; • Projects or equipment to reduce chemical usage and waste generated in the process; and • Projects and/or equipment to recover fiber wastes (which are reused as biomass). Expenditures for carbon capture, use and storage and carbon dioxide removal projects such as point source capture, direct air capture, e-fuels, synthetic fuels, addition of biochar to soils, and BECCS. Commercial scale BECCS projects shall have less than 100g CO2e/kwh of emissions, a sustainability sourced certification for feedstock, and permanent carbon storage of captured CO2 in appropriate underground geological formation and/or long-lived products/materials. Investments to enhance the recovery and recycling of packaging materials at the end of their life cycles include: • Projects for efficiency and capacity improvements of the recycled paper production plants; • Activities related to assuring the environmental requirements of the wastepaper wholesalers (CMPC's wastepaper suppliers).

Analytical considerations

- Waste management is an important pollution prevention measure that can prevent harm to human health and local ecosystems from waste streams. Recycling, if done properly, increases the useful life of materials, thereby reducing carbon and other air pollutants' emissions, energy, and natural-resource use. Waste prevention and reuse are the preferred solutions under the waste management hierarchy because they have the lowest negative environmental impact among waste management options, followed by recycling, energy recovery, and finally disposal. Waste collection and sorting projects can increase recycling and reuse rates, diverting waste from less environmentally beneficial disposal methods.
- Pollution remediation projects benefit local biodiversity and human health by reducing air and soil pollutants concentration. The treatment and recovery of contaminated soil and polluted water help address past environmental damage and set the stage for long-term ecosystem recovery. Because of the range of shades in this category, we assign an overall shade of Medium to Light green.
- The framework includes liquid and solid waste prevention and control projects. We assign these projects a Dark green shade because they contribute to waste prevention and reduction.
- The framework includes projects that focus on the reduction of air emissions, greenhouse gas control, soil remediation, waste prevention, waste reuse, waste reduction, and waste recycling. In addition, the category includes projects or equipment to reduce chemical usage and waste generated in processes. We assign all of these projects a Light green shade.
- We also consider in this category projects for efficiency and capacity improvements of the recycled paper production plants, fiber waste recovery to be reused as biomass, and activities related to assuring the environmental requirements of the wastepaper wholesalers (CMPC's wastepaper suppliers). We assign these projects a Medium green shade.

- Waste management is an important pollution prevention measure that can avoid harm to human health, the environment, and local ecosystems. Waste-to-energy projects may provide a disposal option for waste that cannot be recycled, reused, or avoided, and is preferable to landfilling. Nevertheless, unabated waste-to-energy plants that incinerate municipal waste create significant carbon and other pollutant emissions and therefore represent near-term transition steps.
- The framework includes gas capture and incineration in production facilities. We assign these projects a Light green shade. Currently, CMPC uses the captured gas as a byproduct, but it has not ruled out the possibility of using it as a carbon certificate in the future or incorporating the final capture into construction or other projects.
- The framework also includes energy/emissions-efficient waste to energy. Regarding the energy/emissions-efficient waste to energy, this project type includes waste incineration to produce heat/cool and power, which follows a waste hierarchy to ensure that as much of the waste as possible is reused and recycled before being converted to energy. We assign these projects a Light green shade. These projects reduce waste and pollution but are typically associated with high emissions and other air pollution risks.
- Carbon capture, utilization, and storage is likely to play a critical role in the low-carbon, climate-resilient future. CO2 may be directly removed from the air or captured at power generation or industrial facilities. Captured CO2 is then transported to long-term geological storage facilities, or it can be used as an input in other industrial processes. However, potential negative impacts include the risks of leaks during CO2 transportation and storage, the level of permanence and potential for reversibility, and the energy-intensive nature of the process. Therefore, it is important for these projects to have adequate leakage monitoring and detection systems and to be subject to a comprehensive life cycle emissions assessment. If tied to fossil fuel extraction, production, or power generation, carbon capture, utilization, and storage can support activities that are inconsistent with a low-carbon, climate-resilient future.
- The framework includes expenditures for carbon capture, use, and storage and carbon dioxide removal projects such as point source capture, direct air capture, e-fuels, synthetic fuels, addition of biochar to soils, and BECCS. Commercial scale BECCS projects shall have less than 100g CO2e/kWh of emissions, a sustainability sourced certification for feedstock, and permanent carbon storage of captured CO2 in appropriate underground geological formation and/or long-lived products/materials. We assign these projects a Medium green shade.
- CMPC does not sell the carbon captured on its industrial process to fossil fuel-related sectors.

Clean transportation

Assessment	Description
Medium to Light green	Expenditures related to the acquisition, modernization, and maintenance of our transport fleet, including transportation with zero direct emissions (i.e. electric vehicles) and low GHG emissions heavy vehicles (i.e Hybrid vehicles). Hybrid passenger vehicles are excluded from this Framework. Intended expenditures include: • Fully electric passenger and freight vehicles; • Rolling stock and vehicles for electrified public transport, such as buses, electrified rail, trams, trolleybuses, and cable cars; • Buses (fully electric); • Use of low or zero-carbon biofuels in the fleet; • Possible alliances with external carriers; and • Purchase of fully electric heavy mobile construction equipment and heavy-duty trucks. Expenditures related to the installation, acquisition, modernization, and maintenance of infrastructure projects associated with electric vehicles, including charging stations.

Analytical considerations

- Mitigating greenhouse gas emissions from transportation will be crucial to meet global decarbonization goals. The transport sector accounts for 23% of global energy-related greenhouse gas emissions, according to the Intergovernmental Panel on Climate Change. Fossil-fuel powered vehicles also create air pollution, such as nitrogen oxides and sulfur oxides.
- Electric road (and rail) transport is key to decarbonizing land transportation. The use of biofuels and synthetic fuels may also contribute to lower emissions, as long as climate and environmental risks such as feedstock sourcing, direct and indirect land-use change, and energy intensity of production are effectively managed. While not fully aligned with a low-carbon, climate-resilient future, hybrids, especially for heavy-duty vehicles, provide a clear benefit over internal combustion engine vehicles, leading to a Light green shade for these assets. Electric mobility options, such as passenger vehicles, freight vehicles, rolling stock, and buses are fully aligned with a low-carbon and climate resilient future, leading to a Dark green shade for these projects. As a result of the range of shades within this category, we assign an overall shade of Medium to Light green.
- We expect the majority of financing under this category to be allocated to hybrid freight vehicles to be used on CMPC's various sites, given the relatively limited supply of fully electric road freight vehicles and related infrastructure. Chile currently has a lower share of electric and low-emission vehicles than the global average, but the government has ambitious plans to fully electrify passenger transport, supporting the inclusion of electric vehicles CMPC's framework.
- As long as upstream risks are effectively mitigated, the use of biofuels in internal combustion engine vehicles reduces lifecycle emissions compared with gasoline. Although, the extent of these emissions reductions will depend on the feedstock of the biofuel used. CMPC has clarified that eligible expenditures will include the purchase of biofuels, as opposed to the purchase or acquisition of vehicles that will run on biofuels. The company defines low-carbon biofuels as those derived from waste or non-waste feedstocks. For waste-based feedstocks, the company will exclude animal waste from industrial-scale livestock operations and waste from noncertified palm oil operations. Non-waste feedstocks may need to present a lifecycle emissions reduction of at least 65% less than the fossil fuel baseline as well as a certification from a credible third-party scheme. We assign these projects a shade of Light green.
- Electrified heavy mobile construction equipment are rare due to constraints linked to their energy demand, size, and weight. We view the inclusion of these technologies in the framework positively, though some risks may exist in electric vehicle supply chain, specifically relating to the sourcing of batteries.
- The decarbonization of all modes of transport will require a significant expansion of low-carbon transport infrastructure. In infrastructure projects, value chain emissions and environmental impacts can be significant, and it's important that they're carefully managed, for example, by choosing low carbon construction materials. Physical climate risks are also a material consideration for all infrastructure projects.

Renewable energy

Assessment



Dark to Medium green

Description

- Investments and expenditures related to the development, construction, maintenance, acquisition, and operation of renewable energy projects, such as solar (photovoltaic and concentrated solar power) and wind (onshore and offshore).
- The purchase of renewable energy from PPAs and virtual PPAs that are long term (five years or more), including those entered into prior to the issuance of the relevant SFI and any subsequent extensions, provided they comply with the framework criteria.
- Projects and equipment that promote the substitution of fossil fuels with renewable sources or the generation of energy from renewable sources, including:
 - Biomass boilers and related facilities utilizing wood waste (such as twigs, scraps, bark) and black liquor from FSC or CERFLOR (PEFC) certified forests and other mill residues as feedstock.

- Use of hydrogen from electrolysis processes in kilns to optimize the combustion process allowing us to further increase the use of alternative fuels.
- Production of biogas and biofuel as well as transformation of biogas to hydrogen; electricity and combined heat and power from biomass.
- Acquisitions or investments in companies where a minimum of 90% of the acquired company's revenues are derived from activities aligned with the criteria outlined in the renewable energy category of this framework, including:
 - Biogas, biofuel, electricity, and combined heat and power from biomass; or
 - Green hydrogen using electrolysis technology.
- Transmission and distribution networks procurement (including land acquisition), development, installation, operational readiness, operation, and maintenance of electricity transmission and distribution networks supporting renewable energy consumption and the export of excess nonconventional renewable energy generated by CMPC to the public grid.
- Nonconventional renewable energy sources, such as photovoltaics or wind power.

Analytical considerations

- Renewable energy projects such as solar photovoltaic and concentrated solar power, wind, and hydroelectric are key elements in limiting global warming to well-below 2 degrees Celsius, provided their negative impact on the local environment and physical risks are sufficiently mitigated.
- The company's investments in wind and solar projects support the Paris Agreement modeled pathways. These imply that almost all electricity is supplied from zero or low-carbon sources by 2050. The framework's criteria also include the purchase of PPAs, bioenergy production, and the use of green hydrogen, and the issuer has included criteria to mitigate upstream risks associated with these projects. While many of the energy sources listed in the criteria are relatively low-carbon, the issuer does not include any thresholds for lifecycle emissions of eligible assets. Because of the range of shades present in this category, we assign a shade of Dark to Medium green as we expect proceeds to be allocated primarily to Dark and Medium green technologies in this category.
- We view physical PPAs as having a larger sustainability benefit than virtual PPAs because physical PPAs help displace fossil fuel-generated electricity. According to the IEA, approximately 37% of Chile's electricity generation comes from fossil fuel sources, and the remaining 63% from renewables such as hydro, solar, and wind. We view positively that eligible PPAs will have to adhere to the renewable energy criteria listed in the framework. But virtual PPAs may or may not directly support additional renewable energy generation and can correspond poorly to reduction in local grid emissions. For these reasons, we assign a shade of Light green to these projects.
- The use of biomass boilers to replace those powered by fossil fuels can significantly reduce emissions, depending on the feedstock used. We view positively that CMPC includes only certified wood waste or black liquor as eligible feedstocks because these safeguards ensure feedstock traceability and circularity in production. As a result of the safeguards around the feedstock, including the certifications, we assign these projects a shade of Dark green.
- Hydrogen used to co-fire with or replace fossil fuels can lower the greenhouse gas emissions associated with kilns, which typically require high operating temperatures. However, the amount of lifecycle emissions reduction will depend on the energy used to create the hydrogen. Oxygen is a byproduct of the electrolysis process used to create hydrogen, which can then be fed back into the kiln burners to increase flame control. This may present some fossil fuel lock-in risk by improving the efficiency of fossil fuel kilns. Hydrogen currently accounts for less than 1% of the company's overall energy consumption, and we do not expect this figure to increase greatly in the near term. Due to supply limitations, we expect initial low-carbon (green) hydrogen substitution rates to be low, and we assign a shade of Light green to these projects.
- Reliable transmission and distribution networks are important in supporting electrification and achieving a low-carbon economy. At the same time, carefully managing networks will help avoid disrupting habitats and harming biodiversity, particular in areas of high ecological value. We view positively that CMPC will incorporate excess renewable energy created by its operations back into the public grid because this will lead to an overall increase in the generation of renewable energy in Chile.

Biodiversity conservation and restoration

Assessment	Description
  Dark to Medium green	Sustainable forestry management and restoration. Expenditures on projects related to: - Restoration and conservation of existing natural resources or biodiversity, including maintenance, protection, and identification of endangered flora and fauna and the preservation and restoration of High Conservation Value Forests and High Conservation Value Areas; - Development and maintenance of conservation spaces for recreation (e.g., the Bosque Vivo network). These spaces are designed for low-impact activities like hiking and cycling, ensuring the preservation of native forests while fostering health and environmental awareness; - Sustainable forest management, including for eucalyptus and radiata pine plantations certified by FSC and CERTFOR (PEFC), or equivalent certification, such as the acquisition, planting, and maintenance of seedlings up to harvest and the development of hybrids without genetic manipulation to improve the productivity of plantations while reducing water consumption and increasing CO2 capture, pollination, and biological pest control; - All inputs and services required to restore native forest cover from degraded land leased by CMPC. Terrestrial and aquatic biodiversity conservation. Expenditures on biodiversity conservation projects inside and outside of protected areas, related to: - Planted hectares and preservation of biodiversity through the creation and maintenance of biological corridors to connect native species through the hectares of native forest that the company owns; - Rehabilitation of degraded lands with native or naturalized species; - Climate adaptation and resilience measures that also conserve or restore ecosystems; - Costs of legalization and environmental licensing costs related to developing new conservation areas on owned and leased lands; and - Specialized facilities and services to study and monitor the restored area, such as GIS analysis, satellite data, and data analysis. Terrestrial and aquatic biodiversity conservation. Expenditures related to the conservation of fauna, including: - Specialized facilities and services in studying and monitoring the behavior of species and fauna; and - Costs and investments related to rewilding extirpated and threatened native fauna species as well as treatments and accommodation implementing wildlife underpasses to connect biodiversity sections. Research and development. Expenditures on research and development technology that helps to identify, monitor, report on, and verify biodiversity and business impacts.

Analytical considerations

- Healthy ecosystems and biodiversity are an important part of a low-carbon, climate-resilient future, providing natural resources, water and soil management, and pollination services. Protecting or restoring biodiversity also often creates

climate co-benefits, such as carbon sequestration and adaptation measures. Well-designed projects can reduce threats such as unsustainable resource extraction, climate change risks, land-use change, pollution, and invasive species.

- CMPC has a nature, conservation, and biodiversity strategy that takes two approaches toward sustainable management. The first approach is to enhance the essential role of conservation areas, favoring the recovery of biodiversity within and outside CMPC assets. The second approach is to minimize the company's impact on ecosystems, preventing their degradation and promoting the functions they provide. Because of the range of shades among projects in this category, we assign a shade of Dark to Medium green.
- The strategy also has objectives, which include generating positive impacts on the environment, society, and the company through conservation related-activities; boosting the company's resilience in the face of climate change; and leveraging the goal of increasing the area of conservation, protection, and restoration by 100,000 hectares by 2030. The strategy is based on the four pillars of biodiversity, ecosystem services, nature-based solutions, and territoriality.
- The framework includes sustainable forestry management and restoration projects. Such projects are related to the restoration and conservation of existing natural resources or biodiversity, including maintenance, protection, and identification of endangered flora and fauna and the preservation and restoration of High Conservation Value Forests and High Conservation Value Areas. The framework also includes projects that include the development and maintenance of conservation spaces for recreation (e.g., the Bosque Vivo network). These spaces are designed for low-impact activities like hiking and cycling, preserving native forests while fostering health and environmental awareness. We assign these projects a Dark green shade.
- Under this category are terrestrial and aquatic biodiversity conservation projects. Some of the projects include planted hectares and the preservation of biodiversity through the creation and maintenance of biological corridors to connect native species through the native forest that the company owns. Also in this category are projects related to the rehabilitation of degraded lands with native or naturalized species for conservation purposes. The framework also includes projects that include climate adaptation and resilience measures that also conserve and/or restore ecosystems. We assign these projects a Dark green shade.
- We consider in this category the costs of legalization and environmental licensing costs related to developing new conservation areas on owned and leased lands and specialized facilities and services to study and monitor the restored area, such as GIS analysis, satellite data collection and data analysis. The framework also includes expenditures related to the conservation of fauna, including specialized facilities and services in studying and monitoring behavior, and costs and investments related to rewilding extirpated and threatened native fauna species as well as treatments and accommodation implementing wildlife underpasses to connect biodiversity sections. We assign these projects a Dark green shade.
- The framework includes research and development projects that include expenditures on research and development and technology that help to identify, monitor, report on, and verify biodiversity and business impacts. We assign these projects a Dark green shade.
- Forests can contribute to carbon sequestration and support biodiversity habitats. They can also provide ecosystem services, such as water regulation and soil stabilization, which improve climate resilience. Implementing sustainable forestry management practices, avoiding harmful land-use change, and managing physical climate risks, including wildfires and pests, are key to achieving these benefits.
- The framework includes sustainable forest management, including for eucalyptus and radiata pine plantations certified by FSC and CERTFOR (PEFC) or equivalent certification, such as the acquisition, planting, and maintenance of seedlings up to harvest and the development of hybrids without genetic manipulation to improve the productivity of plantations while reducing water consumption and increasing CO2 capture, pollination, and biological pest control. The framework states that all inputs and services are required to restore native forest cover from degraded land leased by CMPC. We assign these projects a Medium green shade.

Climate adaptation	
Assessment	Description
Dark green	Implementing the forest fire prevention and control strategy, through preventive operations and innovations in planting methods to reduce the risk of forest fires among other risk reduction strategies, such as: • Implementation of local education and other short-and long-term fire prevention programs; • Implementation of self-protected forest programs in CMPC's plantations and third parties' plantations; • Design of programs to reduce the occurrence of fires; • Training for firefighters; • Investments in improvements in the monitoring tower system, including the automatic fire outbreak detection systems and warnings of outbreaks via satellite; and • Investments in the expansion of firefighting equipment--water trucks, skidders, and helicopters.

Analytical considerations

- Climate scientists have been clear that some climate change is taking place even in the most optimistic scenarios. It is therefore crucial to plan and mitigate potential risks to reduce the potential financial and environmental impact of such events. Implementing adaptation measures can also reduce the resources needed and the emissions linked to rebuilding damaged assets.
- Projects aim to invest in physical assets and training programs to improve resilience and forest fire mitigation efforts in their areas of operations. In our view, these investments are especially important in limiting climate-related damage related to forest fires. Additional trainings and firefighting equipment may also provide benefits for the wider community, even beyond CMPC's operations. We assign a shade of Dark green because these projects provide a clear environmental benefit, and projects will not involve new construction. Although, they may include the use of fossil fuels.
- In the company's Chilean operations, CMPC has prioritized fire analysis to identify improvements in control processes and has added two ground brigades and tractors with water tanks. In its Brazilian operations, CMPC has implemented prevention programs in industrial neighborhoods as well as early detection systems. The company has access to a small fleet of airplanes, helicopters, brigades, and water trucks. Through its previous adaptation expenditures, the company reduced the number of hectares affected by forest fires in 2023-2024 by 31% compared with the previous season.

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).

Social project categories

Access to education

Disbursements that enhance access to educational services, including scholarships for primary, secondary, and higher education to target population. Examples include:

- Construye Futuro Scholarships, which benefit 1,000 highly vulnerable students mainly in the province of Arauco; and
- Scholarships for students in the CMPC DuocUC Nacimiento Campus Initiative, a technical training and community development school.

Contribute to equitable access to quality education in the areas of influence by developing educational infrastructure to foster learning and skills development and to promote local professional opportunities. The aim is to provide opportunities for talents in the region to train and develop professionally in their place of origin.

Analytical considerations

- Eligible projects under the access to education category include scholarships for undereducated and low-income population, which may be outside of urban areas. The average number of years of education for the population under 18 reached 12.1 years in 2024, slightly exceeding the country's 12 compulsory years of education.
- The issuer has clearly defined the target population for eligible projects under this category. It includes undereducated populations and low-income populations. CMPC's definition for undereducated populations is in line with Chile's School Vulnerability Index, which is calculated on an annual basis. In our view, these projects have a clear social benefit.

Access to basic infrastructure - water

Expenditures that enhance access to free essential services, such as clean drinking water and sanitation. Intended projects include:

- Desafío Agua program, with more than 4,000 families that now have water supply in their homes for the first time.

Analytical considerations

- Eligible projects under the affordable basic infrastructure category include initiatives aimed at expanding access to clean drinking water and sanitation services. Based on the 2017 national census, 47% of Chile's rural population lacks a formal water supply. Supporting such projects is essential in these regions, where many communities face persistent barriers to accessing basic services due to limited infrastructure coverage.
- The issuer has clearly defined the target population for eligible projects under this category. It includes households in the bottom two quintiles--Sections 1 and 2--of Chile's Socioeconomic Classification, as determined by income levels. Classification is based on the Household Social Register (Registro Social de Hogares), which serves as the primary public tool for identifying beneficiaries of social programs in Chile. The identification of this target group follows the definition and criteria established by the Ministry of Finance of Chile.

Socioeconomic advancement and empowerment

Examples include:

- Support small and midsize enterprises (SMEs), including training programs to expand opportunities for ventures, employment, or business development; and
- Programs that enhance employability and technical skills.

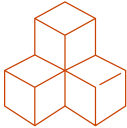
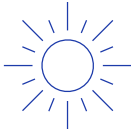
Analytical considerations

- CMPC follows the SME definition of each country in which it operates. For example, in Chile, it uses the definition from the Internal Tax Service, which classifies SMEs by their annual revenue size. Small enterprises have annual revenue from 2,500 Unidades de Fomento (UF) to UF 25,000 and midsize enterprises have annual revenue from UF 25,000 to UF 100,000. To be eligible, SMEs must meet the revenue size criteria and at least one of the following: (1) SMEs must either be located in underdeveloped/disadvantaged regions where CMPC operates, (2) SMES are majority owned by members of historically/marginalized/disadvantaged groups where CMPC operates, or (3) SMEs that face significant adversity as a result of a natural disaster or pandemic.
- In addition to SMEs, low-income populations are an eligible target population for this socioeconomic advancement and empowerment category. CMPC defines low-income populations as: the population is in the bottom two quintiles (Section 1 and 2) of Chile's Socioeconomic Classification system or CMPC uses the Household Social Register (Registro Social de Hogares), which is the main public instrument used for selecting beneficiaries of the different social programs in Chile. This target population is aligned to the definition and criteria established by the Ministry of Finance of the Republic of Chile.
- Eligible projects in this category aim to contribute to SMEs' growth and enhance employability and technical skills. We view positively the support CMPC offers, as investments in economic development often yield a multiplier effect, benefiting not only the targeted enterprises and populations but also the broader economy.
- Under this project category, CMPC will support SMEs through training programs aimed at expanding opportunities for ventures, employment, and business development. Eligible training programs refer to initiatives such as the Local Supplier Program, among others. In such programs, SMEs are trained to improve and optimize their businesses. Such programs could include the hiring of consulting or training services for workshops in priority territories. Beyond training programs, CMPC views that it is key to include local purchasing and employment programs, not only in relation to the CMPC supply chain, but also for other industries in the territory.

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
Circular economy adapted products, production technologies and processes	  9. Industry, innovation and infrastructure 12. Responsible consumption and production*
Energy Efficiency	 7. Affordable and clean energy*
Green Buildings	 11. Sustainable cities and communities*
Sustainable Water and Wastewater Management	 6. Clean water and sanitation*

Pollution Prevention and Control



13. Climate action



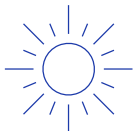
15. Life on land

Clean Transportation



13. Climate action

Renewable Energy



7. Affordable and clean energy*



13. Climate action

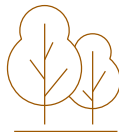
Biodiversity Conservation and Restoration



13. Climate action



14. Life below water*



15. Life on land*

Climate Adaptation



13. Climate action*

Access to Education



4. Quality education*

Access to Basic Infrastructure –
Water



**6. Clean water
and sanitation***

Socioeconomic Advancement and
Empowerment



1. No poverty*



**8. Decent work
and economic
growth***

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

Related Research

- [Analytical Approach: Second Party Opinions](#), Mar. 6, 2025
- [FAQ: Applying Our Integrated Analytical Approach For Second Party Opinions](#), Mar. 6, 2025
- [Analytical Approach: Shades Of Green Assessments](#), Jul. 27, 2023

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Second Party Opinion: Empresas CMPC S.A's Green, Social, And Sustainability-Linked Financing Framework

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