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Second Party Opinion

Hafslund AS Green Finance Framework

Jan. 2, 2024

Location: Norway

Sector: Power generator

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Alignment With Principles

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✗

- ✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)
- ✓ Green Loan Principles, LMA/LSTA/APLMA, 2023

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

Hafslund's framework focuses on financing low-carbon solutions that the company deems will make a significant contribution to a low-carbon and climate-resilient future.

It also has a robust sustainability strategy that concentrates on expanding clean energy and technologies offered to customers, and aims to become climate positive by 2030.

The issuer is implementing adequate adaptation measures to address its high exposure to physical climate risks. We view positively that climate adaptation measures (fortifications and dams) are also included in the renewable energy category to be financed in the framework.

The issuer commits to align its reporting with ICMA's Harmonized Framework for Impact Reporting, which is stronger practice than minimal requirements. External auditors will provide limited assurance for allocation reporting.

Weaknesses

No weaknesses to report.

Areas to watch

The issuer's waste incineration plants expose the company to significant carbon emissions and air pollution. Although waste incineration plant financing is specifically excluded from the framework, it is still associated with negative environmental impacts. Planned investments in carbon capture and storage (CCS) may reduce this exposure, given the substantial amounts of CO2 expected to be removed.

Proceeds raised under this framework may be used for equity investments, including minority stakes. We believe this could limit the issuer's ability to track the environmental benefits associated with the investments and control investees' activities. Hafslund will include companies where at least 90% of revenues are attributed to green projects, which we view as pure-play companies, and commits to keep in the portfolio only those investments over which it has sufficient control.

Eligible Green Projects Assessment Summary

Eligible projects under issuer’s green finance framework are assessed based on their environmental benefits and risks, using Shades of Green methodology.

Renewable Energy	 Dark green
Investments and expenditure related to the generation of electricity from wind power	
Investments and expenditure related to the generation of electricity from solar power	
Investments and expenditure related to the generation of electricity from hydro power	
Energy Efficiency	  Dark to Medium green
Investments and expenditure related to facilities connected to waste heat recovery	
Investments and expenditure related to facilities connected to district heating and cooling infrastructure	
Investments and expenditure related to facilities connected to centers for data processing, storage, facilities that store electricity and return it later in the form of electricity, and store thermal energy	
Pollution, Prevention and Control	 Dark green
Investments and expenditure related to facilities connected to carbon capture and storage	
Terrestrial and aquatic biodiversity conservation	 Dark green
Investments and expenditure related to the protection, preservation, and restoration of marine and watershed environments, and natural landscapes related to the rivers supplying water to the hydropower facilities	

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

Hafslund AS is an energy and infrastructure company fully owned by the City of Oslo, Norway, with annual revenue of €2.3 billion as of 2022. The company operates mainly through its three subsidiaries. Hafslund AS directly and indirectly holds 78% of Hafslund Eco, the second-largest power producing company in Norway. Hafslund Eco owns and operates over 80 hydropower plants across the country, with energy production of about 21 TWh per year. Hafslund Oslo Celsio (60% owned by Hafslund AS) is Norway's largest district heating and cooling producer. For district heating Hafslund Oslo Celsio primarily uses waste heat, electric boilers, and renewable fuels such as wood pellets, bio-oil, and biodiesel to produce heat. An important source of waste heat is the waste incineration plants at Klemetsrud and Haraldrud in Oslo. The third main subsidiary, 100%-owned Hafslund Vekst, tests and develops new business models related to electrification, sustainability, and the new production and storage of power, as well as providing advisory services.

Material Sustainability Factors

Climate transition risk

Power generation is the largest direct source of greenhouse gas emissions globally, making this sector highly susceptible to the growing public, political, legal, and regulatory pressure to accelerate on climate goals. With no direct emissions, and as they become more mature and cost-competitive, renewable energy technologies have a vital role to play in reducing emissions associated with power and heat, which will be key to limiting the global temperature rise to 1.5C.

Waste-to-energy (WtE) technologies are exposed to the incineration of waste materials containing high percentages of carbon, such as plastic, which are major sources of emissions. In the European context, specifically Norway, climate and environmental regulations are more ambitious than other regions, with a strong push toward low carbon and clean energy sources.

Physical climate risk

Given fixed assets, generators are more exposed to physical climate risks than other sectors. For stakeholders, extreme weather events, including wildfires, hurricanes, and storms, are becoming more frequent and severe and can result in power outages for large populations of users. As water is often a significant resource for hydro, exposure to flooding, drought, or warmer temperatures can also negatively impact operations. In turn, these dynamics, coupled with regulatory pressure to preserve security of supply, are driving players to enhance the resilience of assets. Physical climate risks generally involve significant financial losses for operators due to repairs, but more importantly from exposure to extreme power price spikes or claims due to business disruption. Key risks in Norway include rising sea levels, rainfall floods, and increases in annual mean temperatures and precipitation.

Pollution

Entities in waste incineration may face liability under environmental laws if their operations lead to air, water, or soil contamination. Norway has an ambient air quality standard according to the OECD.

Impact on communities

Community impacts intensify for stakeholders given how close networks are to where people live and work, and that energy and water services are essential for community health and wellbeing globally. Stakeholder impacts arise from the construction and siting of lines especially in areas unaccustomed to industrial development and in indigenous territories.

In waste management the mismanagement of waste collection and treatment can lead to adverse health impacts for nearby communities, as well as other disruptions such as unpleasant odors. As a result, facilities located in populated areas tend to meet opposition from local people.

Biodiversity and resource use

Renewable power projects, which are increasing to meet climate goals, require large land areas that are often in sensitive habitats where they can alter ecosystems, harm threatened species, and compete with other valuable land uses (agriculture for example). This is especially pertinent for hydropower plants, which, if not properly managed, can pose biodiversity risks such as habitat disruption, modified water flows, and hindrances to fish migration.

Issuer And Context Analysis

Eligible projects that the framework aims to finance address Hafslund's most material sustainability factors. Investments in wind, hydro, and solar power generation, as well as energy storage, are important steps to mitigate climate transition risk, which we consider to be the most significant sustainability factor for the group. We note positively that the company plans to address greenhouse gas emissions and pollution associated with waste-heat recovery and district and local heating through CCS. Additionally, biodiversity factors are a relevant concern for hydro-power plants. The issuer intends to invest in reparations and improvements to watershed and marine habitats, which will help to reduce biodiversity risks. We also believe that climate physical risks and impacts on communities are highly relevant across most project categories in the framework, and the issuer's process will play a key role in mitigating these risks.

The projects are well integrated with Hafslund's sustainability strategy, which focuses on increasing clean energy and green solutions offered to customers, and on becoming climate positive by 2030 with positive contribution to biodiversity. Specifically, the group is working toward a 90% reduction in scope 1 and 2 greenhouse gas emissions and a 50% reduction in scope 3 emissions by 2030 compared to 2019 levels. For direct emissions, Hafslund Eco Vannkraft aims to boost renewable power production. Over the past five years, the company has completed six new power plants, adding 1 terawatt-hour (TWh; one trillion watt hours) of clean energy. It is also a partner in Blåvinge, a long-term collaboration that, together with business collaborators is aiming to develop both fixed and floating offshore wind. Achieving the scope 1 target also involves the construction of a CCS plant, expected to be operational by fiscal 2026. Hafslund Oslo Celsio, the City of Oslo, and the Norwegian Government have signed an agreement to finance the CCS plant. It will be connected to the waste incineration facility in Klemetsrud, which is currently responsible for the largest share of the group's direct greenhouse gas emissions (96% of scope 1 emissions in fiscal 2022). To reduce value-chain emissions, in 2022 Hafslund Oslo Celsio introduced procurement guidelines for environmental requirements, including climate requirements that it will gradually implement, as will Hafslund Eco Vannkraft for its hydropower assets.

The issuer's physical climate risk assessment focuses on hydropower facilities but also considers other activities such as the district heating grid. According to the World Bank, Norway has high exposure to droughts, floods, extreme heat, and rising sea levels, and the fixed location of Hafslund's assets makes them particularly vulnerable. To understand and hedge the risks, in 2023 the group performed a climate risk analysis for hydro power generation and the district heating grid, aligning with EU taxonomy requirements and TCFD recommendations. Hafslund Oslo Celsio has also investigated potential risks associated with sea levels rising and is working to mitigate these concerns.

Hafslund addresses biodiversity risks, which could be introduced when constructing new projects, by doing an Environmental Impact Assessment (EIA). The issuer conducts an EIA on its new power plants, ensuring that they meet preservation regulations and are subject to statutory supervision during the operational phase. District heating systems near rivers and water streams have protection mechanisms to prevent oil and chemical leakages. Furthermore, to achieve positive contribution to biodiversity, the group aims to reduce land use in new projects. Construction areas will be restored, following natural revegetation requirements and topsoil utilization to protect species, habitats, and ecosystems.

The construction, development, and maintenance of energy and heating facilities could introduce risks to Hafslund's relationships with local communities, despite no previous community pushback. Hafslund has formed strong ties with local communities and power plant municipalities via active engagement with local service providers and partners. In 2022, it involved stakeholders, both nationally and locally, in 95% of its large hydropower projects. It is managing human-rights-related social risks along the supply chain through responsible procurement practices and a suppliers' code of conduct.

Environmental impact management at Hafslund Oslo Celsio involves monitoring and controlling emissions from waste incineration and heating plants. Various fuels it uses can cause local air pollution, but the largest facilities adhere to strict emissions requirements to prevent harm. Cleaning equipment is installed as needed, and robust measurement and reporting systems ensure immediate action on non-conformities. Hafslund Eco Vannkraft mitigates the risk of oil and chemical discharges through vigilant reporting, tracking, and prompt implementation of corrective measures.

Alignment Assessment

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

Alignment With Principles

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✗

- ✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)
- ✓ Green Loan Principles, LMA/LSTA/APLMA, 2023

✓ Use of proceeds

We assess all the framework's green project categories as a shade of green. The issuer commits to allocate the net proceeds issued under the framework exclusively to eligible green projects. Proceeds can also finance acquisitions and investments in share capital, including refinancing debt instruments, where at least 90% of revenues can be attributed to green projects. The issuer will not use funds to finance investments linked to fossil fuel generation or the potentially environmentally harmful resource extraction activities on its exclusion list. In partnerships where Hafslund is not the majority shareholder, it will seek to maintain control related to change of business, typically by requiring unanimity for amendments to the partnership's articles of association and including board representation. When an investment no longer meets the 90% revenue threshold, it will be replaced by another green project as soon as possible. The projects are limited to the Nordic region, and include renewable energy, energy efficiency, pollution prevention, and biodiversity investments. We view positively that the framework connects the renewable energy and energy efficiency categories to EU taxonomy-eligible activities. The issuer can finance and refinance eligible projects, with a maximum look-back period of three years from issuance for operating expenditure. See the Analysis of Eligible Projects section for more information on our analysis of the environmental benefits of the expected use of proceeds.

✓ Process for project evaluation and selection

Hafslund has established a Green Finance Committee that is responsible for deciding the allocation of proceeds based on the green eligibility criteria and the environmental, social, and governance risks of the projects, among other aspects. The committee includes members from the management, operations, finance, and sustainability teams and, when needed, different experts can be brought in to support the selection process. The framework states that the process involves the issuer considering sustainability and environmental aspects of each project, such as climate mitigation and adaptation or pollution. Additionally, in its annual report Hafslund will explain how it identifies and mitigates environmental risks. Hafslund also screens for potential social risks related to its investments, including health and safety, and worker rights.

✓ Management of proceeds

The issuer commits to earmarking an equal amount of the net proceeds from the issued green finance instrument for the financing and refinancing of the eligible green projects as stated in the framework. Hafslund's treasury will ensure that the value of green projects at all times exceeds the total amount of green finance instruments outstanding. Unallocated proceeds will be held in cash or cash equivalent. We note that Hafslund commits to applying its project exclusion list, which includes fossil fuel energy, nuclear energy generation, weapons, and tobacco, to temporary holdings but only to the extent it is feasible.

✓ Reporting

Hafslund commits to reporting annually on the allocation of proceeds and the impact of the green financing instrument issued under the framework, in a Green Finance Report on its website, for as long as these instruments are outstanding or until full allocation. Reporting will include examples of projects financed, the share of capital versus operating spending, the amount each project receives, and the share of new financing versus refinancing. We view positively that its impact reporting aligns with the ICMA's Harmonized Framework for Impact Reporting and its allocation reporting will receive limited assurance by an auditor.

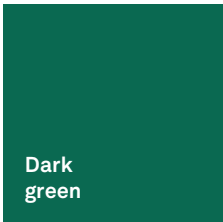
Analysis Of Eligible Projects

This section provides details of our analysis of eligible projects, based on their environmental benefits and risks, using the Shades of Green methodology.

Over the three years following issuance of the financing, Hafslund expects to allocate around 65% of proceeds to renewable energy, including activities related to biodiversity restoration, 20% to energy efficiency, and the remaining 15% to pollution prevention categories.

Overall Shades of Green assessment

Based on the project category shades of green detailed below, and considering the environmental ambitions reflected in Hafslund's Green Finance Framework, we assess the framework as Dark green.



Activities that correspond to the long-term vision of a low-carbon climate resilient future.
Our [Shades of Green Analytical Approach](#) >

Green project categories

Renewable Energy	
Assessment	Description
Dark green	Investments and expenditure related to the development, construction, installation, operation, improvement, repair, and maintenance of facilities, as well as related infrastructure, connected to the generation of electricity from: - Wind power - Solar power - Hydropower projects, including the fortification of hydropower facilities and dams to ensure they can withstand higher levels of precipitation and improve river flooding prevention

Analytical considerations

- We assess the issuer's investments in wind, solar, and hydropower as Dark green, as these projects support the modelled pathways that limit global warming to well below 2°C. These pathways imply that almost all electricity is supplied from zero or low-carbon sources by 2050.
- Most of the proceeds for renewables will be directed to hydropower generation facilities. We view positively that the issuer expects the projects to have a power density above 5W/m2, or life-cycle emissions below 100 g CO2e/kWh, or run-of-river plants without artificial reservoirs, in line with the EU taxonomy's substantial contribution technical screening criteria for the climate mitigation objective.
- Physical climate risks stem from heightened precipitation and river flooding associated with hydroelectric facilities, which the issuer mitigates by investing in adaptation solutions such as dams. The development and operation of hydropower plants concern municipalities and local communities because of the associated environmental impacts and its important contribution to the energy supply, among others. Hafslund carries out mitigation measures and maintains ongoing dialogue with local municipalities and communities on these topics.
- For wind and solar projects, legal requirements in Norway mandate consequence assessments. These are central to the concession process and include climate risk evaluations. For coastal power plants, for instance, a key identified risk is rising sea levels, requiring the implementation of suitable detection and monitoring systems.
- Across all projects, including hydropower, solar, and wind power projects, Hafslund is considering dedicated measures to increase the share of circular solutions in purchased goods and materials. Hafslund aims to maximize usability by monitoring

- maintenance needs for durability, recyclability, and end-of-life considerations of the assets. Wind concessions last up to 30 years, with a mandatory capital allocation for dismantling starting in year 12. Solar land leases are for about 40 years.
- Renewable energies like solar, wind, and hydro are vital, but their infrastructures can affect local biodiversity if not managed properly. For hydropower, the issuer is implementing risk management measures. We note positively that the issuer intends to finance the "Terrestrial and aquatic biodiversity conservation" activity that will address river and land biodiversity aspects.

Energy Efficiency	
Assessment	Description
Dark to Medium green	Investments and expenditure related to the development, construction, installation, operation, improvement, repair, and maintenance of facilities, as well as related infrastructure for distribution, connected to: - Waste heat recovery (for avoidance of doubt, excluding expenditures directly related to waste incineration facilities, which are mainly fueled by residues from households and/or commercial activities) - District heating and cooling infrastructure - Centers for data processing, storage, and related activities, which are located in Norway and have design power usage effectiveness (PUE) of maximum 1.2 - Facilities that (a) store electricity and return it later in the form of electricity, including batteries and pumped hydropower storage; (b) store thermal energy and return it at a later time in the form of thermal energy or other energy vectors

Analytical considerations

- We acknowledge that energy efficiency is key to reaching the goal of limiting warming to well below 2°C. According to the IPCC, the breakdown of average mitigation investment flows and investment needs until 2030 shows that energy efficiency is one area that requires the most significant investments.
- We assign a Dark to Medium green shading to this entire category, reflecting that the issuer will use proceeds evenly across different projects that we see as consistent with a low carbon and climate resilient (LCCR) scenario, such as energy storage, and others that represent significant steps toward LCCR.
- Waste heat recovery projects reduce CO2 emissions by utilizing otherwise wasted heat energy. This improves energy recovery in industrial and waste incineration processes and contributes to a lower carbon footprint and resource conservation. Furthermore, waste heat technology itself is not locked into using the energy, and therefore causing the associated emissions, from WtE plants. We view this flexibility as positive. Yet, WtE plants can emit sulfur and nitrogen oxides, potentially generated during combustion, which require adequate handling. The group's largest facilities have strict emissions requirements related to these gases. We therefore assess waste heat recovery projects as Medium green.
- The issuer also intends to finance district heating and cooling infrastructure, which we see as key to a low-carbon future when linked to renewable sources. In 2022, 55.3% of the total heat supplied by the district heating network was produced during the WtE process, which accounts for most of the group's scope 1 emissions. Its investment in CCS technology at its WtE plants, outlined in this framework, aims to mitigate these emissions if successful. We also factor into our assessment that the network is not inherently restricted to utilizing energy and associated emissions from WtE plants. All things considered, we assess this investment as Medium green.
- For data center investments with a design PUE of 1.2, we've shaded the project Medium green. This shade reflects the issuer's commitment to high energy efficiency standards that also encompass an Energy Reuse Factor (ERF) estimated between 65% and 95%, which shows efficient levels of energy reused or recycled within a system compared to the total energy input. However, an optimal scenario would involve an operational PUE, rather than a design PUE. Furthermore, although a dry cooling system with fans is less efficient than liquid-based solutions, it notably enhances cooling efficiency when supplying heat to the district heating network. While the material climate benefits from digitalization and expanding networks are still disputed, we

- see as a strength that data centers will be in Norway where the renewable share of the energy mix is already high. The shading also reflects a lack of information as to how Hafslund considers physical risk for its data center investments.
- The issuer's energy-storage-eligible projects are consistent with a climate-neutral scenario and our assessment that such projects are Dark green. Batteries, pumped hydropower, and thermal energy bolster the efficiency by storing the renewable energy surplus, curbing reliance on fossil fuels, tackling the intermittence of renewables, and ultimately cutting CO2 emissions. Hydropower, operating in an open-loop system, has lower local environmental impacts (reduced disruption to river habitats for example). The issuer also mandates a pre-construction environmental and landscape plan for any expansion or rehabilitation projects. Despite their benefits, batteries encounter upstream supply-chain challenges, particularly in mineral extraction. The issuer intends to extend procurement practices, reflecting those in place for hydropower facilities, to address this concern in future. Lastly, given that thermal energy storage is done through underground and aquifer thermal storage systems, following the substantial contribution EU taxonomy criteria, we highlight that these technologies may need to manage potential impacts on subsurface hydrology, groundwater chemistry and thermal balance, and microbiology.
 - We view positively that the issuer did a physical risk screening covering the whole district heating pipeline. Rising sea levels is a key risk that might result in water submersion, leading to corrosion in the network and potentially causing operational disruptions. For this risk, the issuer has already implemented mitigation actions, such as detection systems, for a part of the network. Furthermore, for hydropower and pumped hydropower facilities, the physical risk assessment determined floods, droughts, and debris flows as key potential risks. Consequently, the issuer upholds stringent standards, regulatory facility maintenance, and continuous watercourse monitoring for enhanced preparedness.

Pollution, Prevention and Control

Assessment	Description
 Dark green	Investments and expenditure related to the development, construction, installation, operation, improvement, repair, and maintenance of facilities, as well as related infrastructure, connected to carbon capture, where the captured carbon is safely transported and stored at certified locations

Analytical considerations

- CCS will be necessary in the future to limit global warming to well below 2°C, particularly for carbon-intensive processes. We assess the issuer's CCS project as Dark green because it is a necessary technology to achieve a net-zero future. CCS involves the removal from the atmosphere, and permanent storage of, emissions from hard-to-abate processes such as WtE.
- The CCS project is intended for the Klemetsrud plant, forming a crucial component of Norway's Longship project. In this initiative, captured CO2 will be securely stored in injection wells beneath the North Sea, and could contribute significantly to the country's decarbonization efforts.
- The CCS project will likely help Hafslund and Oslo municipality progress toward their targets (the municipality aims to cut CO2 emissions by 95% by 2030, against a 2009 baseline). The project is estimated to capture 400,000 tons of CO2 annually, of which half is of fossil origin and the other is biogenic, therefore removing about 200,000 tons of CO2 from the atmosphere per year.
- CCS technology might require considerable energy, which raises concerns about local grid emissions. At the same time, according to the Association of Issuing Bodies (AIB) 2022, Norway's grid has one of the lowest production fuel mix factors (measured in kgCO2e per kWh) in Europe.
- Additional significant risks involve emissions during transportation and potential leaks during transportation and storage. While the site's proximity to Oslo Harbor enables viable liquid CO2 transport by boat, the issuer exclusively oversees transportation from the waste incineration facility to the harbor, relying on external parties for marine transportation and storage. Therefore, the issuer has not disclosed information on the leakage detection process at the storage facility. As a partial mitigant, the partners must comply with strict Norwegian regulations on storage location.
- The CCS technology is situated on the Klemetsrud site, close to the district heating facilities, leading to its inclusion in the overall physical risk assessment, akin to WtE facilities. Additionally, potential risks are identified in the transportation phase, particularly when conveying carbon from the plant to the harbor.

Terrestrial and aquatic biodiversity conservation

Assessment	Description
Dark green	Investments and expenditure related to the development, construction, installation, operation, improvement, repair, and maintenance of facilities, as well as related infrastructure, connected to protection, preservation, and restoration of marine and watershed environments natural landscapes related to the rivers supplying water to the issuer's hydropower facilities

Analytical considerations

- Maintaining the resilience of biodiversity and ecosystem services, globally, depends on the effective and equitable conservation of 30%–50% of the Earth's land, freshwater, and ocean areas, including currently near-natural ecosystems. The protection and restoration of terrestrial and freshwater ecosystems can generate multiple benefits, such as biodiversity conservation, and are consistent with the 2030 targets of the Convention on Biological Diversity. We therefore assess these solutions as Dark green.
- The projects in this category provide several benefits to the environment, both to local habitats and as a climate adaptation measure. In fact, protection measures can help prevent soil erosion and sedimentation, preserve water quality, and maintain the integrity of riverbeds and aquatic habitats--remediating or avoiding potential harm caused by Hafslund's hydropower investments and facilities. Furthermore, while restoration efforts might often be in line with biodiversity requirements, they also contribute to climate change adaptation by creating resilient ecosystems that can better withstand extreme weather events and changes in precipitation patterns.
- Example of projects include, but are not limited to, enhancing fish habitats through expanding spawning grounds by adding gravel, modifying riverbeds, and opening tributaries. Furthermore, in different locations, the issuer is testing new water flow schedules to increase brown trout migration.
- Hafslund Eco Vannkraft is engaging in research projects to further biodiversity in watercourses, such as its cooperation with the Norwegian Institute for Nature Research and NORCE LFI, Norwegian Research Centre, which regularly evaluates the status and impact of measures to watercourses.

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).

Related Research

- [Analytical Approach: Second Party Opinions: Use of Proceeds](#), July 27, 2023
- [FAQ: Applying Our Integrated Analytical Approach for Use-of-Proceeds Second Party Opinions](#), July 27, 2023
- [Analytical Approach: Shades of Green Assessments](#), July 27, 2023
- [S&P Global Ratings ESG Materiality Maps](#), July 20, 2022

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