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Powered by Shades of Green

SPO Spotlight

Second Party Opinions - March 2024

Mar. 28, 2024

This report does not constitute a rating action.

Contents

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Overview

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Key Takeaways

- After rolling out its integrated Shades of Green approach for assessing use-of-proceeds financing on July 27, 2023, S&P Global Ratings produced 72 SPOs as of Feb. 29, 2024.
- Among them, 17 were sustainability-linked SPOs using our legacy approach, and 55 used the integrated methodology.
- The vast majority of SPOs pertained to issuers in Europe, the Middle East, and Africa (EMEA).
- Of the 40 green SPOs, 80% were assessed as Medium green or Dark green.

SPOs by the numbers

40
Green SPOs

9
Sustainability SPOs

5
Social SPOs

17
Sus-Linked SPOs

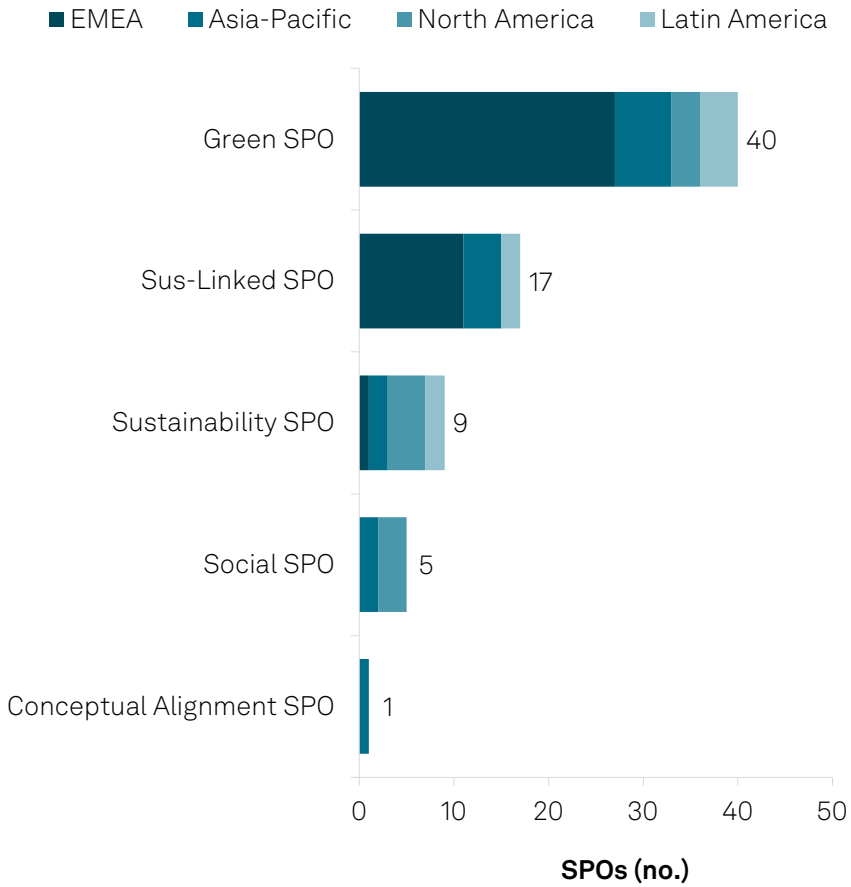
1
Conceptual Alignment SPO

535+
Legacy SPOs

Data as of Feb. 29, 2024. Public, confidential, and private SPOs are included. Source: S&P Global Ratings.

SPO Distribution By Type And Region

- Green SPOs remain the largest category by far, reflecting trends in the overall sustainable bond market.
- The geographic distribution shows a large representation from EMEA, similar to overall issuance in the sustainable bond market.
- North America is well represented among social and sustainability SPOs, mainly reflecting the financing of housing and essential services projects.
- In Asia-Pacific, most of our use-of-proceeds SPOs were on green and sustainability-linked financing.



Data from Jul. 27, 2023, through Feb. 29, 2024.
Source: S&P Global Ratings.

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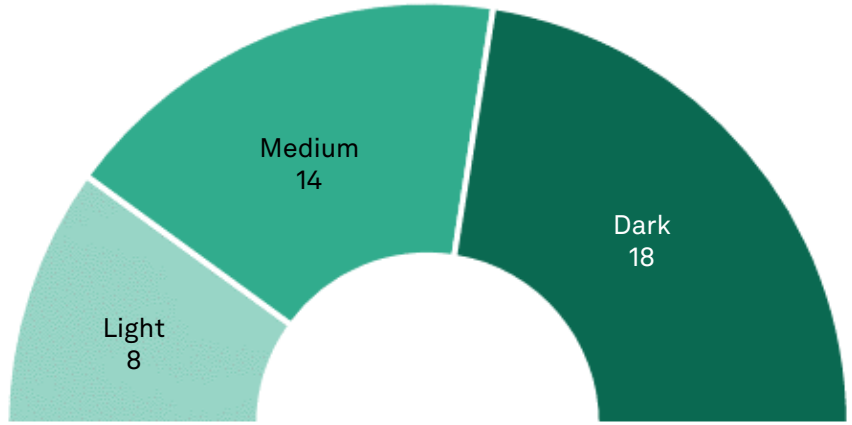
Green SPOs: Distribution Of Assessments

- We assessed most of the 40 green frameworks we reviewed from July 27, 2023, to Feb. 29, 2024, as Medium or Dark green.
- Dark green or Medium green shades were frequently attributed to renewable energy, clean transportation, and climate adaptation.
- There was a large representation of Light green and Medium green shades in the green buildings category.

Distribution of Green Shades



Data from Jul. 27, 2023, through Feb. 29, 2024. Source: S&P Global Ratings. See next page for definitions of the green shades.

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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. If a project category includes activities with multiple Shades, we may determine an interval across two adjacent Shades. For example, if a project category includes Medium green and Dark green activities, we may determine an interval of Medium green to Dark green. We use an interval of Shades to show variation within a project category. A shading interval cannot extend across more than two adjacent Shades. There cannot be, for example, a shading interval of Dark green to Light green. If a project category includes activities of all Shades of green, we may designate either a single Shade or an interval to the project category, depending on its characteristics.

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).

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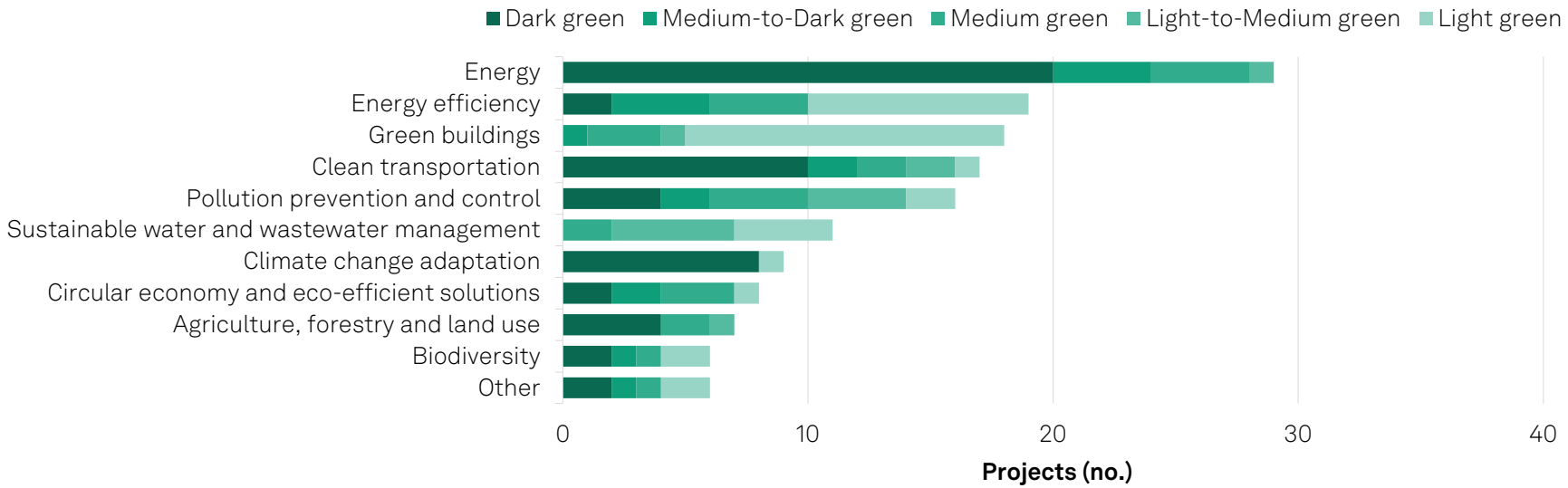
Shade Of Green By Project Category

- We have assigned 145 project categories a Shade of green since we rolled out the integrated approach in 2023.
- Renewable energy and clean transport earned the most Dark green shades by the number of SPOs in those project categories, but climate adaptation had the highest share of Dark green.
- Most energy efficiency and green building project categories were assessed as Light green.



Data from Jul. 27, 2023 through Feb. 29, 2024. Note: We have recently renamed and reclassified some project categories to better align with external classifications. Source: S&P Global Ratings.

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Our Use-of-Proceeds SPOs Have Four Main Components

SPOs are a point-in-time analysis of a sustainable finance instrument, program, or framework and the relevant characteristics of the issuing entity.

Project analysis	Issuer sustainability context	Alignment assessment	EU Taxonomy assessment
We highlight the key analytical considerations following our analysis of eligible projects, based on their environmental benefits and risks, using our Shades of Green methodology.	This provides an analysis of the issuer's sustainability management and the embeddedness of the financing framework within its overall strategy.	This provides an analysis of the financing framework's alignment to applicable generally accepted financing principles and standards.	Here we opine on whether an eligible project aligns with the EU Taxonomy when the economic activity is covered by the technical screening criteria in European law.

See Analytical Approach: Second Party Opinions: Use Of Proceeds, published Jul. 27, 2023.

Our SPOs include S&P Global Ratings' opinion on whether the documentation of a sustainable finance instrument, framework, or program, or a financing transaction aligns with certain third-party published sustainable finance principles. Certain SPOs may also provide our opinion on how the issuer's most material sustainability factors are addressed by the financing. We assume no obligation to update or supplement the SPO to reflect any facts or circumstances that may come to our attention in the future. An SPO is not a credit rating and does not consider credit quality or factor into our credit ratings.

Green Projects

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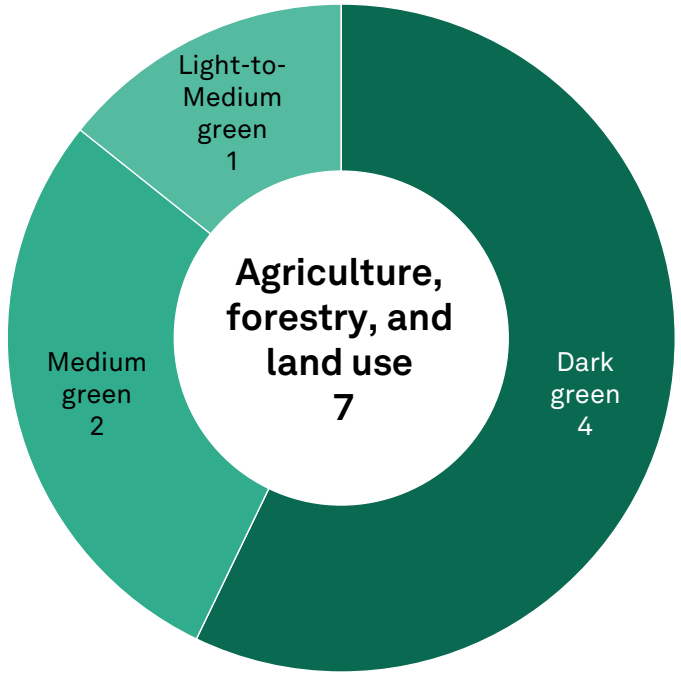
Agriculture, Forestry, And Land Use Projects

Agriculture, forestry, and other uses of land are responsible for 22% of global greenhouse gas emissions, according to the IPCC's 6th Assessment report. The bulk of emissions come from deforestation, raising livestock, and fertilizer use. Therefore, avoiding land conversion for agricultural projects, careful management of forestry projects, and effective soil management are critical for the climate, biodiversity, and human health.

Chronic shifts in temperature and precipitation patterns, more frequent droughts, floods, and wildfires, can harm the agriculture and forestry sectors. These impacts will be seen directly in lower yields, crop damage, or reduced plant and animal productivity. Indirectly, they can affect water availability and quality, and introduce new pests and diseases.

The EU Taxonomy does not currently cover agriculture.

Distribution of Shades



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Source: S&P Global Ratings.

Agriculture, Forestry, And Land Use Projects

- ✓ Cultivation practices that enhance soil health and, consequently, water absorption and carbon levels, which are crucial for an LCCR future. Such regenerative practices involve avoiding land conversion or tillage, minimizing fertilizer usage, and incorporating cover crops to manage soil erosion.
- ✓ Eligibility criteria tied to certification schemes and ensuring mitigation of environmental risk (such as biodiversity loss) for forestry projects. However, certification systems differ in strictness. We also assess the transparency and robustness of carbon accounting methodology for managing forests as carbon sinks.
- ✓ An adequate assessment of agricultural conservation projects' exposure to physical climate risks, as well as robust resilience and adaptation plans.
- ✓ Conservation of local biodiversity and ecosystems that is resilient, and reduction of fossil fuel-powered equipment in agricultural and forestry activities

Agriculture, Forestry, And Land Use Projects

Medium to Light green

Romania is the seventh largest producing country of agricultural commodities in Europe, with around 60% of its land cover for pasture, arable land, and permanent crops. Meanwhile, forests cover about one-third of Romania's surface area and are an important component of the vegetation cover, particularly in the mountains. The framework's eligible expenditures for agriculture include compensatory payment for crop farmers that are limiting the use of chemical fertilizers and increasing the use of organic farming practices as well as livestock farmers that are implementing manure management measures.

All the above contributed to our view of the positive environmental benefits of the project category. However, livestock projects may lead to an expansion of grazing land capacity (alongside potential deforestation for animal feed) which is a relevant limitation. Forestry projects include investments in Romania's forest fund, compensatory payments to forest owners for meeting certain requirements, and new areas of urban forests. The eligibility criteria for this category include certifications, such as FSC or PEFC. Such certifications can cover many important environmental topics and can verify improved on-site practices. At the same time, certification systems vary significantly in stringency, can contain loopholes and pitfalls, and in many cases cannot adequately address larger systemic issues.

Agriculture, Forestry, And Land Use Projects

Dark green

Ontario Teachers is a global investor with net assets of $249.8 billion (as of June 30, 2023) invested in more than 50 countries in a broad array of assets including natural resources. Eligible expenditures for agriculture and forestry (wood) will be certified with one of multiple certifications, including FSC and PEFC.

Agriculture will be certified with either Leading Harvest, which addresses 13 sustainability principles, such as sustainable agriculture, energy use and climate change, and waste and material management; or by CCOF Certified Organic, which means crops are organically grown without sewage sludge, GMOs, ionizing radiation, and most synthetic pesticides and fertilizers.

The framework has clear exclusion criteria for projects not aligned with a low-carbon economy such as deforestation-prone crops and any kind of agriculture that risks the conversion of virgin forest.

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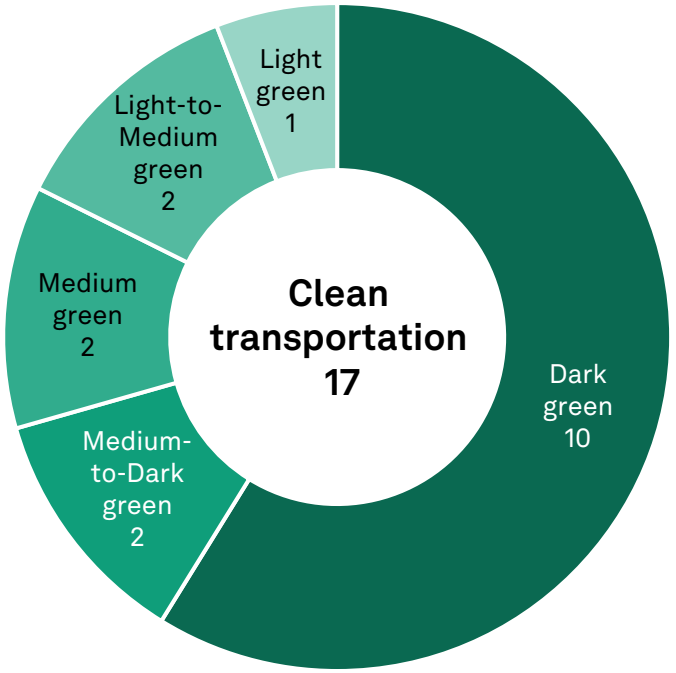
Clean Transportation Projects

This is one of the highest emitting sectors globally, with road transport by far the largest source of emissions. Technology exists to decarbonize large portions of road and rail transport, mainly via electrification. But economically viable solutions for aviation and shipping are not yet available at sector scale, and alternative fuels create climate and environmental risks.

Decarbonization requires further development of low-carbon power and transport infrastructure (such as charging points for electric vehicles). A shift in modes of transport--e.g. to public low-carbon from private fossil-fuel powered--is also crucial. Transport infrastructure is typically highly exposed to physical climate risk, e.g. roads and railway networks, or ports (vulnerable location).

The EU Taxonomy includes several activities in respect of transport, including the modes and infrastructure. For aviation, it is limited to activity related to low-carbon airport infrastructure.

Distribution of Shades



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Clean Transportation Projects

- ✓ Demonstrated efforts in respect of emissions and environmental risks associated with battery production, extending to consideration of recyclability and use of recycled raw materials.
- ✓ The use of sustainable biofuels or low-emission fuels in aviation and long-distance shipping, and the adoption of battery electric vessels (such as for commuter ferries) where possible.
- ✓ Investments in research and development to increase the feasibility and scalability of decarbonized solutions for aviation and long-distance shipping.

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Clean Transportation Projects

Dark green

DSB is Denmark's public railway company. Under its financing framework, it will invest in projects relating to electrified rail, one of the lowest-emitting modes of land transport. As well as investments in electrified rolling stock, DSB can invest in maintenance workshops dedicated to such rolling stock.

Per the framework's eligibility criteria, such workshops must, as a minimum, obtain a DGNB Gold certification for sustainable construction (or equivalent). This criterion is viewed positively, highlighting the importance of asset-specific climate and environmental considerations, even when assets are dedicated to Dark green modes of transportation.

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Clean Transportation Projects

Dark-to-Medium green

Saudi Awwal Bank: In respect of clean transportation, the bank's framework includes a broad project category whereby proceeds can be allocated to the production, establishment, acquisition, expansion, upgrade, maintenance, and operation of zero tailpipe emission vehicles and supporting infrastructure.

The key role of electric vehicles in decarbonizing Saudi Arabia's transport sector is acknowledged. These projects rely on the electrification of the economy, however, and a shift away from fossil fuels in the power mix to reducing lifecycle emissions. Charging stations will be connected to the national grid, in which fossil fuel is the major source of electricity production in the region.

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Clean Transportation Projects

Medium green

Cadeler is a Denmark-based shipping and construction company. Most of the proceeds under its framework will be used to purchase two new hybrid vessels and upgrade two existing fossil-powered vessels. Per the eligibility criteria, these vessels must derive at least 95% of their annual turnover from the installation and maintenance of offshore renewable energy activities.

Given the vessels are dedicated to and enable offshore renewable energy, and in light of the shipping sector's challenges regarding the use of 100% low-emission fuels or electric power, these investments are considered to play a relevant role in the low-carbon transition, notwithstanding their reliance on fossil-fuels.

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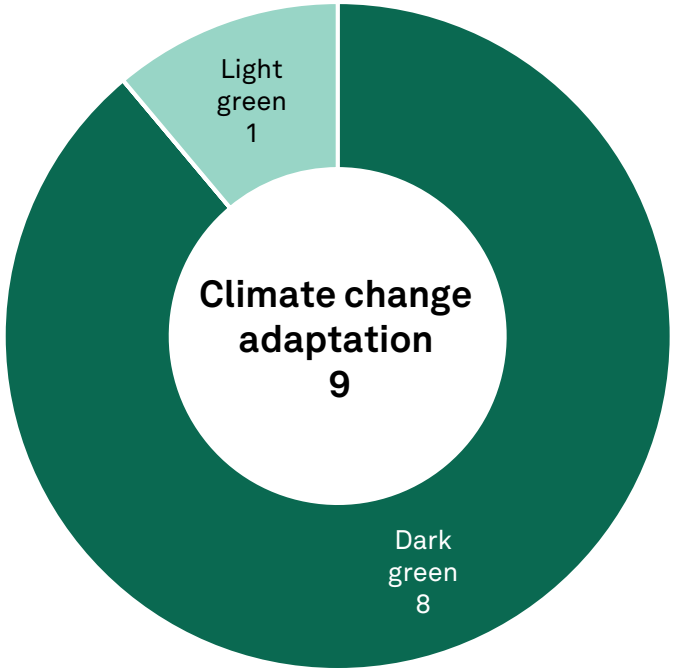
Climate Change Adaptation Projects

Adaptation and resilience measures help reduce exposure to climate change. Without adaptation, increasing physical climate risks can affect many economic activities. Rising greenhouse gas emissions will lead to more frequent and severe climate hazards, such as heatwaves, floods, and wildfires. The direct impact of these are typically felt most by local communities.

Investment in adaptation and resilience can decrease vulnerability to physical climate risk. For example, a water utility may invest in a desalination plant, thereby reducing the vulnerability of communities and industries to droughts. If an activity focuses primarily on improving resilience, we consider how effectively it reduces physical risk, alongside any transition risk it introduces.

The EU taxonomy considers both adapted activities and activities enabling adaptation, recognizing that the two may overlap.

Distribution of Shades



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Climate Change Adaptation Projects

- ✓ Effective reduction of physical risk, without introducing material transition risk, and therefore consistent with the long-term vision of an LCCR future.
- ✓ Clear process to identify and prioritize measures, and their fit with national or regional adaptation policies (such as in developing countries' national adaptation plans), or credible scenario analysis to identify key physical risks for the location.
- ✓ No maladaptation or significant harm to other sustainability objectives. Consideration and management of associated climate impacts while ensuring projects do not lock-in fossil-fuel-based activities and take biodiversity and communities into account.
- ✓ Preference for nature-based solutions given their co-benefits and avoided emissions compared to adaptation measures that involve construction.

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Climate Change Adaptation Projects

Dark green

Grupo Energía Bogotá (GEB) commits to assessing its exposure to physical climate risks using climate scenarios. The company commits to performing a climate risk vulnerability assessment for all assets financed under the framework. It also commits to developing an adaptation plan modeled after EU Taxonomy requirements, which we view as a strength. This will begin with its Colombian electricity transmission and gas transportation in 2024.

GEB aims to allocate a portion of proceeds to build additional resilience to its electricity transmission lines. The Dark green assessment is for adaptation projects that will exclusively serve eligible network upgrades for renewable energy transmission and distribution.

Climate Change Adaptation Projects

Dark green

Acute weather events--like storms--can make operations complex and immobilize marine transportation assets, such as vessels. To combat this, Danish shipping and construction company **Cadeler** will finance the installation of weather stations onboard vessels with the aim of improving marine meteorological observation and supporting long-term understanding of the global climate. The weather stations onboard vessels will help provide greater visibility of the impacts of climate change and we understand that this will help manage the resilience of the vessels in the future, which we view as a strength.

It is a further positive that the issuer commits to sharing its research findings, which will provide valuable insights for other maritime transport operators, including real time conditions and potentially reduce risks for the sailing and operational plans of various stakeholders.

Climate Change Adaptation Projects

Dark green

Energy companies such as **Stockholm Exergi** are particularly exposed to physical climate risks due to the fixed nature of their assets. We view as positive that all major investments are subject to climate-related scenario analysis to identify long-term physical climate risks. Moreover, Stockholm Exergi is conducting indepth physical climate risk analyses at its production facilities and is developing adaptation solutions.

Although we understand that the issuer's solutions will be primarily engineering based, which entails notable embodied emissions, we view as positive that they may also consider nature-based ecosystem solutions. The solutions financed for the assets will vary in practice based on several factors, including the requirements of the assets, potential environmental challenges, and the availability of resources.

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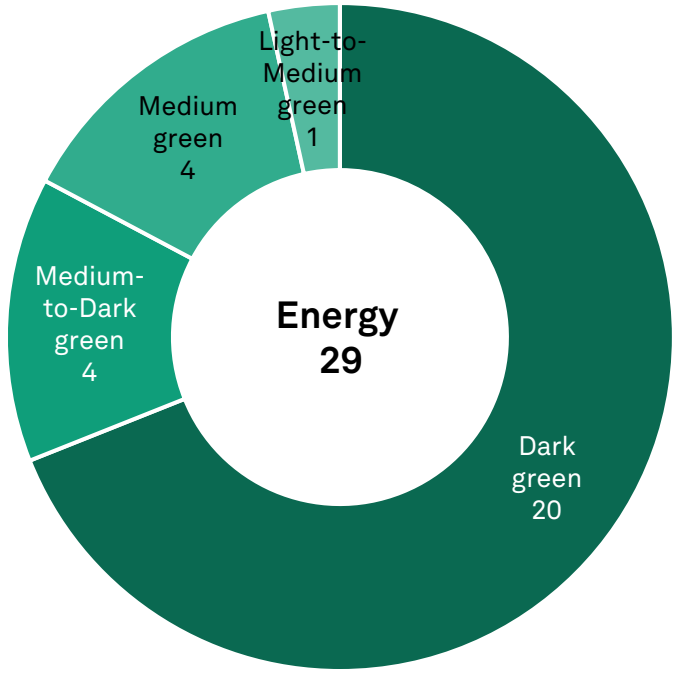
Energy Projects

Emissions from energy systems must drop rapidly to reach the Paris Agreement's target. Among other things, this entails massively lower fossil fuel use, net zero electricity systems by 2050, widespread electrification, and wide use of alternative energy sources such as hydrogen and bioenergy. Fossil fuel demand could peak before 2030 if current policies are put in place, but must fall quickly for emissions to be net zero by the midcentury.

Investment in clean energy has risen 40% since 2020. Wind and solar are now the cheapest sources of electricity in most markets. Energy assets and infrastructure are vulnerable to physical climate risks. They also require large land areas, which may affect ecosystems and compete with other land uses.

In the EU taxonomy, most renewable energy projects are to show lifecycle emissions lower than 100 grams of CO2 equivalent per kilowatt hour and meet the "Do No Significant Harm" (or DNSH) criteria.

Distribution of Shades



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Energy Projects

- ✓ Power generation with low associated life-cycle emissions.
- ✓ Incentives for suppliers to reduce their greenhouse gas emissions and establish due-diligence processes through procurement.
- ✓ Incorporation of biodiversity, mineral sourcing visibility, end-of-life treatment, and no locking-in of fossil fuel-based activities
- ✓ Effective reduction of physical risk. Specific project categories that consider associated climate impacts and measures to contain or reduce those.

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Energy Projects

Dark green

Hafslund AS is an energy and infrastructure company fully owned by the city of Oslo, Norway. Under its framework, most of the proceeds for renewables will be directed to hydropower facilities. The issuer expects the projects to have a power density higher than 5 watts per square meter, lifecycle emissions below 100 grams of carbon dioxide (CO2) equivalent per kilowatt hours, and run-of-river plants without artificial reservoirs, in line with the EU taxonomy.

Physical risks stem from heightened precipitation and river flooding associated with hydroelectric facilities, which the issuer mitigates by investing in the same category in adaptation solutions, such as dams. Hafslund aims to maximize usability by monitoring maintenance needs for durability, recyclability, and end-of-life considerations of the assets.

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Energy Projects

Medium green

Bruce Power L.P. is Canada's only private-sector nuclear power generation company. Under its financing framework, it expects to allocate all net proceeds to finance or refinance new and/or existing investments and expenditures for its nuclear assets. This includes investments associated with its Life-Extension Program, increasing the output of existing units, and new installations at the site.

Nuclear power is a low-carbon source of electricity with a land use footprint that is smaller than for other low-carbon sources, such as renewables. Although empirical evidence shows nuclear power generation in Canada to be a safe form of electricity and the risk of nuclear incident to be remote, a significant nuclear incident at any nuclear power plant could have devastating consequences. Long-term storage of spent fuel is a key concern for nuclear power that remains unresolved in Canada. Strong policies and risk management are in place to minimize environmental and social risks from uranium sourcing.

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Ratings

Energy Projects

Dark green

Scatec ASA, which is headquartered in Oslo, Norway, and its subsidiaries provide renewable energy solutions worldwide. Under its financing framework, it aims to invest in potential green hydrogen projects that relate to different parts of green fuel value chains and green ammonia. This includes renewable energy assets to power green hydrogen production and the processing to end products.

Hydrogen production will be based entirely on renewable energy, and the risk of hydrogen leakage is limited due to its conversion to fuel and ammonia. Scatec has developed internal physical climate risk expertise and has built an internal tool that it will apply to all new projects. The tool uses regional data from the World Bank Climate Change Knowledge Portal and considers relevant hazards.

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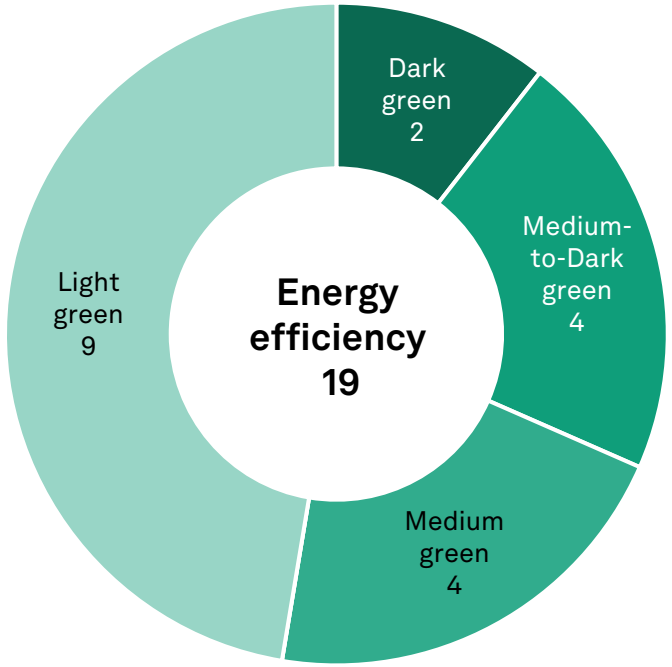
Energy Efficiency Projects

Increasing energy efficiency is critical to limiting global warming to below 2°C. According to the IEA's net zero emissions by 2050 scenario, a 35% improvement in energy efficiency, equivalent to 4% per year, is necessary by 2030. But the average improvement from 2017 to 2021 was only 1.3%. Yet across sectors, electrification is increasing; e.g. heating buildings is 3x to 4x more efficient using electric pumps than fossil fuel-powered devices.

Reducing energy use is difficult in some processes, such as steel and cement production. Energy efficiency necessitates significant behavioral changes, including transport modes and increased recycling. Also, rebound effects, where higher energy efficiency leads to greater energy production or consumption, should be considered.

The EU Taxonomy encompasses energy efficiency measures in equipment for construction, real estate, and manufacturing; including by property type, and considers Directive 2010/31/EU on energy performance of buildings.

Distribution of Shades



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Energy Efficiency Projects

- ✓ Significant contributions to the transition of cross-sector technologies or processes to align with an LCCR future, with a low risk of fossil fuel lock-in.
- ✓ Measures and aims to meet minimum quantitative performance thresholds through lifecycle assessment studies, helping provide transparency to projects' overall impact.
- ✓ Energy efficiency improvements, if made directly to fossil-fuel assets, are done sparingly and only in hard-to-abate sectors (those with a high dependence on fossil fuels and no simple solutions for reducing emissions, such as steel or chemicals), with transition measures still going beyond regulatory compliance and business-as-usual practices.
- ✓ Incorporation of potential rebound effects, that is, the risk that more efficient products or processes encourage higher energy use.
- ✓ Incorporation of value chain environmental impacts, for example due to the use of metals (aluminum and steel), sensitive materials (lithium, cobalt), or hazardous waste generation.

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Energy Efficiency Projects

Dark green

Lyse, a Norwegian energy provider of primarily hydropower, financed the expansion and maintenance of its grid infrastructure and increased smart grid efficiency, which are vital to an LCCR future, since renewable energy substantially reduces emissions associated with power, heat, and district cooling.

This project category supports the electrification of economic activities and transport, and smart grid investments aimed at curbing energy consumption. Additionally, the grid emissions factor in Norway is already low and the issuer has confirmed that investments in this category exclude funding for connections to fossil-fuel-intensive assets or clients.

Lyse also upholds minimum quantitative performance thresholds for its renewable energy initiatives to help illustrate the projects' overall impact, which we view as a best practice.

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Energy Efficiency Projects

Light green

Alfa Proxima-X, a Hungarian consumer foods producer, commits to using its green bond framework to finance the refurbishment of its existing buildings (which is less energy intensive than new construction). This would help improve primary energy demand by one Hungarian energy performance certificate (EPC) category and achieve 30% primary energy savings. It therefore follows the EU Taxonomy's substantial contribution criteria for contributing to climate mitigation for building renovations and the IEA's recommendation for improving building efficiency by 2025. Further, improvements in fossil fuel heating systems do not qualify as eligible, which we view as strong practice.

The Light green assessment for these projects, however, reflects that within the eligibility criteria of improving one Hungarian EPC category, the issuer does not quantify a minimum level of energy use reduction. A building moving from one Hungarian EPC level to the next may not, in absolute terms, constitute a material improvement in energy performance, which could limit the refurbished building's climate contribution, in our view. Finally, the eligibility criteria do not consider other significant issues, such as embodied emissions, global warming potential, refrigerant threshold, the type of material used, recyclability and repairability considerations, or physical risks.

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Energy Efficiency Projects

Light green

Zhangzhou Jiulongjiang Group Co. Ltd., a Chinese pharmaceutical company, used its green finance framework to fund energy efficient building equipment and renovations, aiming for a minimum 15% reduction in energy consumption across its portfolio.

Despite the issuer's indirect exposure to fossil fuels, mainly through the electricity sourced from China's coal-dominated power grid, its energy efficiency upgrades exclude fossil-fuel based equipment or machinery, aligning with best practices.

Additionally, Zhangzhou Jiulongjiang implements rigorous due diligence throughout its processes' value chain and includes end-of-life considerations. The Light green Shade assigned to this project category reflects similar analytical considerations for the renewable energy project category.

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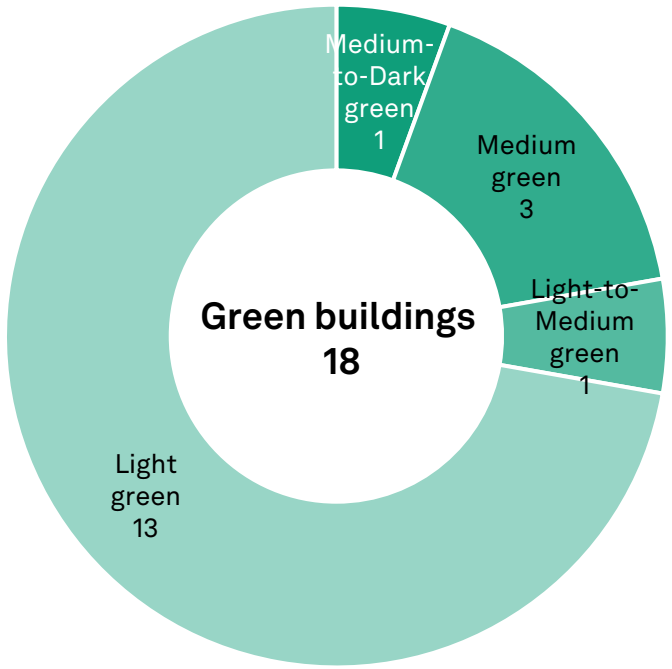
Green Buildings Projects

The building sector accounts for over one-third of global energy consumption and emissions. Building materials and construction activities are responsible for about 10% of energy-related greenhouse gas emissions. Lack of data, and differences in practices and standards impede emissions and strategy benchmarking. In the IEA's net zero emission (NZE) scenario, floor area is set to rise 75% in 2020-2050, implying a dramatic increase in emissions, absent decarbonization efforts.

Many existing buildings use fossil-fuel-powered heating and appliances. The IEA projects in its NZE scenario that the two main channels for decarbonizing the sector will be energy efficiency and electrification. All buildings will likely face increasing physical climate hazards, such as flooding.

Among other things, the EU Taxonomy requires new construction to show 10% lower net primary energy demand versus national regulations, and renovations to deliver 30% greater energy efficiency.

Distribution of Shades



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Green Buildings Projects

- ✓ Reduction of embodied emissions from the construction of buildings, and, for development projects, whether refurbishment is prioritized over new construction.
- ✓ Voluntary environmental certifications such as LEED and BREEAM, which can help manage the environmental impact of buildings but cannot guarantee a reduction in emissions or climate resilience.
- ✓ Use of energy efficiency targets that exceed national regulations and the selection of low-carbon energy sources.
- ✓ Use of scenario analyses to evaluate and mitigate physical climate risks.

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Green Buildings Projects

Dark-to-Medium green

Vasakronan. Overall, we see as particularly strong, the energy use thresholds, physical climate risks assessment, green building certifications, and advanced consideration of embodied emissions, which have Dark green characteristics. Vasakronan owns, manages, and develops 2.4 million square meters across 166 office and retail properties in Sweden.

We view as positive that Vasakronan aims to align its eligibility requirements with the EU Taxonomy criteria, including DNSH. For new construction buildings, for example, this includes no development project in greenfield areas, which limits biodiversity risks in our view. Additionally, 90% of non-hazardous construction waste of new buildings should be eligible for reuse or recycling. This is also a positive differentiator for this framework because it is more ambitious than the 70% threshold in the EU taxonomy.

For construction projects, we note as positive the threshold regarding embodied emissions being applied to construction and renovation projects. Although we believe the threshold chosen will reduce embodied emissions compared to the sector norm, it still falls short of what is needed for new construction to be climate neutral.

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Green Buildings Projects

Light green

Jinan Hi-tech mainly relies on green building certifications to address a given building's environmental and climate impact, such as embodied emissions, material sourcing, energy, water, and waste management.

While some green building certifications offer credit for addressing the above, certifications differ considerably in their requirements. Point-based systems imply that the framework's minimum certifications could be achieved without guaranteeing a low-carbon building.

The framework does not target the highest certifications. For example, although Jinan Hi-tech anticipates most buildings will obtain Chinese Green Building Evaluation Label 2-star certifications, 1-star label (the lowest ranking) remains an eligible criterion.

Green Buildings Projects

Light green

Ontario Teachers' Pension Plan (OTPP) includes energy efficiency thresholds through the ENERGY STAR certification, which leads to, on average, 35% lower energy demand than for similar buildings. To achieve ENERGY STAR, the facility must perform in the top 25 percent of similar facilities nationwide for energy efficiency.

We note, however, given the global scope of OTPP's investments, there will be variations in baseline values. The absolute impact will therefore vary by location. Further, green buildings may be heated by district heating, which often has fossil fuel elements in the energy mix or direct natural-gas-based heating. Similarly, buildings may be powered by fossil fuel-generated electricity. OTPP has not specifically excluded fossil-fuel companies as tenants.

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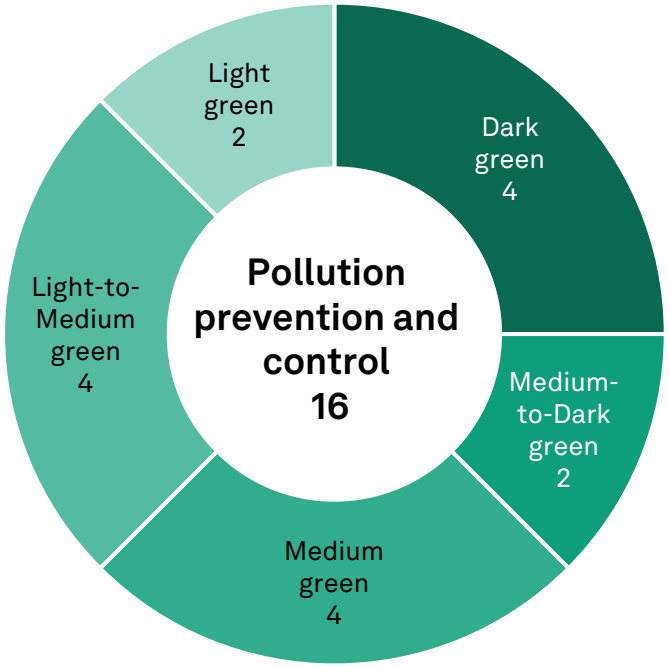
Pollution Prevention And Control Projects

This activity is critical for the climate, natural resources, biodiversity, and human health. Waste management affects air, water, and soil pollution, with the severity of impact depending on the approach. At least one-third of solid waste globally is estimated to be poorly managed via open dumping or burning. Other options, such as landfilling, generate emissions and other air pollutants and can contaminate water and soil through leachate.

Turning waste into new materials can help avoid the extraction and processing of resources that drive emissions and land impacts. Pollution prevention involves reducing, eliminating, or preventing the release of hazardous substances or contaminants into the environment at their source. Air, water, and soil quality are closely linked to the climate and ecosystems.

The EU taxonomy includes depollution and dismantling of end-of-life products, with substantial contribution criteria linked to with waste, equipment, or scrap vehicles.

Distribution of Shades



Data from Jul. 27, 2023, through Feb. 29, 2024.
Source: S&P Global Ratings.

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Ratings

Pollution Prevention And Control Projects

- ✓ A waste hierarchy that prioritizes waste prevention and reduction, followed by reuse, recycling, and recovery, before disposal. Extending product lifetimes through repair can be a key tool for waste prevention.
- ✓ Careful evaluation and mitigation of energy intensity, greenhouse gas emissions, and pollutants from waste management.
- ✓ Capture of emissions from carbon-intensive processes, with permanent long-term storage, robust leakage detection during transport and storage, and effective physical risk assessment.
- ✓ Environmental clean-up activities that improve the quality of air, water, and soil and restore the effective functioning of ecosystem services.

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Pollution Prevention And Control Projects

Dark green

Hafslund AS is an energy and infrastructure company fully owned by the city of Oslo. Under its framework, it will invest in the development, construction, installation, operation, improvement, repair, and maintenance of facilities, as well as related infrastructure, connected to carbon capture and storage (CCS).

The CCS project is intended for the Klemetsrud plant, a large industrial waste-to-energy facility critical to Norway's Longship project and supports Hafslund and Oslo municipality's greenhouse gas emissions targets. Key strengths are the capture and storage of about 200,000 tons of fossil-fuel and biogenic CO2 emissions, power for the facility coming from Norway's largely decarbonized grid, effective physical risk assessment, and strict regulation on storage.

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Pollution Prevention And Control Projects

Dark green

Solör Bioenergi provides renewable energy and district heating based on forestry waste and is headquartered in Stockholm. Under its framework, it will invest in recycling facilities, such as environmental terminals handling impregnated and treated wood waste, enabling recycling as well as energy recovery, and technologies and systems that reduce emissions to air and water, including nitrogen oxides, flue gas, sulfur, particle pollution, and other toxic pollutants.

By financing recycling facilities to repurpose forestry waste as an energy feedstock, Solör Bioenergi is able to reduce waste associated with its suppliers' forestry operations and repurpose impregnated and treated wood waste, thereby promoting circular economy practices by repurposing materials that were previously considered to be waste. Filter technologies to mitigate pollution from energy plants also reduces and prevents the discharge of harmful chemicals and particulates into the air.

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Pollution Prevention And Control Projects

Dark-to-Medium green

Brookfield Renewables owns and operates renewable and transition assets around the world. Direct-air carbon or methane capture and storage projects are an important component of a sustainable low-carbon future, while projects aimed at reducing air, water, and soil pollution support overall environmental quality and reduce local pollution.

However, this project category leaves some uncertainties regarding risks and required benefits of projects without specific thresholds available. All physical assets are exposed to physical climate risks considered as part of the issuer's overall physical risk management practices.

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Sustainable Water And Wastewater Management Projects

Water and wastewater infrastructure activities benefit the environment. The former support water supply, and the latter remove pollutants. Water stress can have many sustainability impacts, including changing aquatic ecosystems, harming agricultural yields, and endangering human health. Major changes in water quantity can also influence water temperature and the levels of pollutants.

Investments to increase water supply and strengthen wastewater treatment can reduce water stress and help increase resilience to climate risks. For example, a desalination plant can reduce the vulnerability of local communities and industries to droughts. Wastewater treatment reduces water pollution as well as harm to humans and the environment. Potential environmental co-benefits include recovery of resources (such as fertilizers and energy) from methane.

The EU taxonomy notably covers the construction or operation of water supply systems and urban wastewater treatment.

Distribution of Shades

Data from Jul. 27, 2023, through Feb. 29, 2024.
Source: S&P Global Ratings.

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Sustainable Water And Wastewater Management Projects

- ✓ Mitigation of downstream environmental impacts, such as waste/sludge generation, harm to the aquatic ecosystem or hydrology, and greenhouse gas emissions.
- ✓ Investments focusing on sourcing and treating water to meet users' needs, and use of grey, recycled, or brackish water, and sea water where possible rather than fresh water.
- ✓ Best available technology approaches for resource recovery, including water, methane, nutrients, and industrial or chemical contaminants.
- ✓ End uses that are green or have a negligible negative impact on achieving an LCCR future.

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Sustainable Water And Wastewater Management Projects

Medium to Light green

Concessionária de Saneamento do Amapá (CSA) is a water and wastewater services provider in Amapá, Brazil, with performance requirements to expand service coverage. CSA will increase sewage treatment in Amapá, where part of the Amazon rainforest is located, which could benefit the rainforest by reducing excess nutrients in the water.

CSA's new water systems will use less environmentally impactful surface intakes, almost all its systems run on renewables, and it has no plans to construct high environmental impact reservoirs and/or dams. However, the company has no commitments related to emissions and pollution associated with the infrastructure, and physical climate risk identification is nascent.

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Sustainable Water And Wastewater Management Projects

Medium to Light green

Saudi Awwal Bank's framework includes a range of eligible projects related to financing or refinancing the establishment, acquisition, capacity expansion, and upgrades of facilities and technologies to treat, distribute, and conserve water.

Wastewater treatment and improvement to water infrastructure are important from a climate perspective, to reduce emissions, improve resilience, and reduce negative environmental impacts, such as water pollution.

While desalination projects reduce the dependence on fresh water, they are highly energy intensive. Also, while Saudi Awwal Bank is mindful of the unavoidable byproduct of desalination projects, like brine, temperature, and chemicals present, the projects' actual environmental impact is uncertain.

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Sustainable Water And Wastewater Management Projects

Medium green

Stockholm Exergi's framework finances projects related to process water used in its district heating systems. These include the construction, modernization, operation, and maintenance of facilities, systems, and technologies to treat and reuse wastewater, such as water purification processes, water loss prevention, increased water use efficiency, and energy efficiency investments that reduce energy consumption or environmental impacts.

This project category has a significant connection with the district heating network, which we also assess as Medium green. While wastewater management and treatment are important from a climate perspective, the issuer does not rigorously consider scope 3 emissions.

Social Projects

Read on ↓

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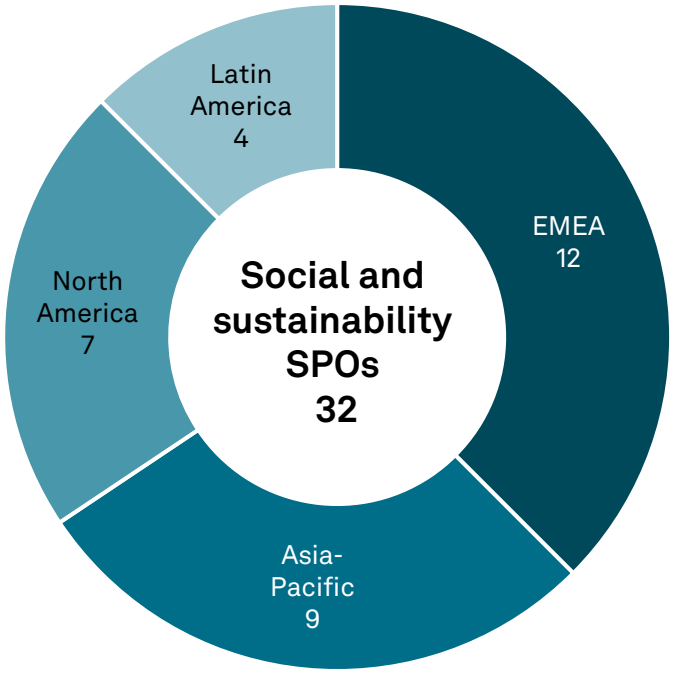
Social Projects

Issuers tackle a range of social issues through social or sustainability financing. In social projects, there is a need to define both the objective and target population. Some of the UN's sustainable development goals that social project categories refer to often rely on the local context. These include access to essential services, employment creation, and socioeconomic advancement. Housing or infrastructure projects may affect the environment.

Governments, development banks, and non-profit bodies fund social projects through sustainability debt. Private-sector projects can also align with social/public policy objectives, such as affordable housing, or essential services to a target population. Social projects may also complement environmental objectives, e.g. in supporting local communities.

The minimum safeguards in the EU Taxonomy for green activities apply to all activities. A social taxonomy has been proposed.

Regional distribution



Data from Jul. 27, 2023, through Feb. 29, 2024. EMEA--Europe, the Middle East, and Africa. Source: S&P Global Ratings.

Social Projects

- ✓ Clear demonstration of the social benefits and alignment with policy mandates where relevant.
- ✓ Clear definition of the target population in the local context, for example through a link with a local or central government definition.
- ✓ Clear and transparent safeguards, exclusions, processes, or access and affordability criteria that help demonstrate how the issuer identifies, manages, and mitigates perceived environmental and social risks associated with the projects.

Affordable housing

Korea Land & Housing Corp. (LH) has a mandate to improve the quality of life in South Korea through the provision of housing. LH commits to providing these houses to the target populations with capped or subsidized rents. To date, it has offered housing to 2.6 million people with rentals ranging from 30% to 80% of the prevailing market rates, depending on the type of lease.

The target population is well defined with national statistics, such as the first- and second-income quintile in South Korea. These groups represent low-income citizens, earning less than 50% of the median of the national income distribution. LH is legally bound to offer energy efficient social housing (i.e. Zero Energy Building Grade five) from 2023.

Socioeconomic advancement and empowerment

Grupo Energía Bogotá (GEB) financing goes to programs aimed at developing capabilities on topics such as energy transition, job-specific development training for women, and education infrastructure for underserved communities. The company has already participated in these initiatives in previous years and aims to continue these projects to enable more people to have access to education.

Education programs consider vulnerable population segments like women, people with disabilities, youth and minorities based on race, ethnic background, and sexual identity or orientation. The company clearly defines the target population of financed programs, including the use of local regulation (Colombian and Peruvian) references to define low-income individuals, which we view as a strong practice.

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Ratings

Social Projects

Affordable housing

We believe **Connecticut Housing Finance Agency** (CHFA)'s use of AMI, a metric used by the U.S. Department of Housing and Urban Development, is a best practice when defining low-income target populations.

For single-family homes, the agency's income limit is 100% of AMI for homes with fewer than three people and 115% for homes with three people or more. In connection with any eligible mortgage loan, CHFA may pair bond proceeds to support savings-constrained homebuyers with Downpayment Assistance Program (DAP) amortizing loans and savings- and income-constrained homebuyers with "Time to Own" forgivable loans.

CHFA also offers additional interest-rate discounts for home purchases in target areas or for certain targeted populations, including disabled residents, teachers, military service members and veterans, and other underserved groups.

EU Taxonomy Assessment

Read on ↓

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EU Taxonomy Assessment

What it is

A comprehensive classification system introduced by EU regulation that aims to align economic activities with a net-zero trajectory by 2050 and with broader environmental objectives. Its goals include providing investors with clarity, promoting realistic, climate friendly practices, and facilitating sustainable investments in line with the European Green Deal and the Paris Agreement.

Activities aligned with the EU taxonomy must:

- Show a substantial contribution to an EU objective,
- Do no significant harm (DNSH) to other objectives, and
- Incorporate minimum safeguards.

The first two are defined by the TSC (technical screening criteria) of the six environmental EU objectives that currently cover more than 100 economic activities. The Platform on Sustainable Finance's 2022 Final Report on Minimum Safeguards helps companies and investors navigate these criteria.

EU Taxonomy Assessment

- ✓ Use of proxies associated with international standards to demonstrate compliance with the DNSH criteria, especially for assets in countries outside the EU.
- ✓ A robust climate vulnerability assessment, using IPCC scenarios, that includes adaptation solutions for all assets and is publicly available.
- ✓ Robust human rights due diligence that integrates adequate identification of direct risks and suppliers, monitoring, mitigation, and remediation, with the approach and results made public.
- ✓ Mapping eligibility of capital and operating expenditure, revenue, and alignment, all verified in the annual report by a third party.

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Ratings

EU Taxonomy Assessment

Partially aligned

Maersk is the world's second largest shipping company. We assessed its financing framework as Medium green.

- All eligible economic activities Maersk identified as in line with the EU Taxonomy are aligned with the substantial contribution criteria (SCC) for climate change mitigation or adaptation. Maersk explicitly notes in its framework which financing activities are not expected to align with each of the requirements of the EU Taxonomy.
- All activities meeting the SCC also meet the DNSH criteria, except those related to the procurement of green methanol. This is because Maersk will not be assessing suppliers against the DNSH requirements for these activities at this stage.
- Maersk's procedures are aligned with the EU Taxonomy's requirements for minimum safeguards.

Overall, most proceeds of financing issued under the framework will be allocated to activities that we consider already meet the requirements of the EU Taxonomy.

Note: Alignment opinions are based on meeting the TSC and adherence to minimum safeguards.

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EU Taxonomy Assessment

Fully aligned

Île-de-France Mobilités (IDFM) manages a large network of bus routes, metro, tram, and train lines in and around Paris. We assessed its financing framework as Dark green.

- The economic activities urban and suburban transport, and road passenger transport, are aligned with the substantial contribution and DNSH criteria of the EU Taxonomy.
- The economic activity infrastructure enabling low-carbon road transport and public transport is also aligned with the substantial contribution and DNSH criteria.
- The economic activity operation of personal mobility devices is aligned with the substantial contribution and DNSH criteria.
- IDFM's procedures are aligned with the EU Taxonomy's requirements for minimum safeguards.

Note: Alignment opinions are based on meeting the TSC and adherence to minimum safeguards.

Related Research

- Our public SPO reports can be found on spglobal.com/ratings
- Sustainability Insights Research: E-fuels: A Challenging Journey To A Low-Carbon Future, Mar. 25, 2024
- Sustainable Finance Newsletter Q4 2023, Feb. 15, 2024
- Sustainability Insights Research: Sustainable Bond Issuance To Approach $1 Trillion In 2024, Feb. 13, 2024
- Sustainability Insights: Climate Transition Risk: Historical Greenhouse Gas Emissions Trends For Global Industries, Nov. 22, 2023
- Analytical Approach: Second Party Opinions: Use Of Proceeds, Jul. 27, 2023
- Analytical Approach: Shades Of Green Assessments, Jul. 27, 2023
- Sustainability Insights: Research: Carbon Capture, Removal, And Credits Pose Challenges For Companies, June 8, 2023
- Purchased Energy Emissions In Second Party Opinions And ESG Evaluations, Mar. 23, 2023

Analytical Contacts

Patrice Cochelin
Analytical Governance, Sustainable Finance
Paris

Victor Laudisio
Agriculture, forestry, and land use
Sao Paulo

Tim Axtmann
Clean transportation
Oslo

Catherine Baddeley
Climate change adaptation
London

Luis Solis
Energy | EU Taxonomy Assessment
Madrid

Christina Sewell
Energy efficiency
San Francisco

Maria Knudsen
Green buildings
Oslo

Bruno Massinga
Analytical Governance
London

Corinne Bendersky
Pollution prevention and control
New York

Erin Boeke Burke
Sustainable water and wastewater management
New York

Bruce Thomson
Social projects
New York

Alan Bonilla
Social projects
San Francisco

Carina Waag
Sustainable Finance Methodologies
Oslo

Irina Velieva
Issuer sustainability context
Stockholm

Jesus Palacios
Issuer sustainability context
Washington D.C.

Sustainable Finance Leadership

Bernard de Longevialle
Global Head of Sustainable Finance Practice
Paris

Christa Clapp
Global Head of Sustainable Finance Market Analytics
Oslo

Harald F. Lund
Global Head of Sustainability Methodology & Research
Oslo

Michael T. Ferguson
Sustainable Finance, Americas
New York

Florence Devevey
Sustainable Finance, EMEA
Paris

Bertrand Jabouley
Sustainable Finance, Asia-Pacific
Singapore

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