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Second Party Opinion

Royal Schiphol Group N.V.'s Green Finance Framework

May 13, 2024

Location: The Netherlands

Sector: Airport services

Alignment With Principles

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✗

✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)

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

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Light green

Activities representing transition steps in the near-term that avoid emissions lock-in but do not represent long-term low-carbon climate resilient solutions.

Our [Shades of Green Analytical Approach](#) >

Strengths

Eligible projects in the framework will help Schiphol reduce its greenhouse gas (GHG) emissions and reach net-zero operations by 2030. This target covers scope 1 and 2 emissions, and some scope 3 ones (ground-support equipment, employee commuting, and business travel). The company plans to phase out natural gas and improve energy efficiency of buildings; phase out fossil fuels for its vehicle fleet and ground support equipment; and increase solar generation capacity.

We also positively view the steps Schiphol has taken to address its downstream scope 3 emissions. The group has introduced differentiated fees for airlines that reward the use of cleaner, quieter, and more efficient aircraft. Also, it intends to introduce sustainable aviation fuel (SAF) at scale at its airports to reach 14% or more by 2030.

Weaknesses

As an airport operator, Schiphol is intrinsically linked to the aviation sector, a highly emitting industry exposed to high transition risks. Only certain projects included in the framework, such as the development of sustainable aviation fuel infrastructure, focus on decarbonizing the aviation sector more broadly. The rest of the projects help Schiphol reduce its scopes 1 and 2 emissions, which only partly address transition risks the airport operator faces.




Areas to watch

Projects under this framework include investment in airport infrastructure such as new piers and terminals. Although Schiphol's Dutch airports have almost reached full capacity in terms of number of flights per year, there is still uncertainty on how the regulated capacity and associated emissions will evolve. We understand management intends to reduce capacity, but the timing and magnitude are unclear.

Schiphol's green building criteria do not include embodied emissions or systemic assessments of physical climate risks. However, the company views embodied emissions as material, and is currently setting up a program with its main contractor partners to measure the Building Circularity Index, which could help reduce embodied emissions in the future. The framework does not include systematic assessment of physical risks for the project categories.

Eligible Green Projects Assessment Summary

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

Green buildings	 Light green
Investment in the construction and acquisition of buildings	
Investment in building renovation measures	
Construction, modernization, and operation of low-carbon airport infrastructure	
Investment in air transport ground handling operations	
Renewable energy	 Medium green
Investment in strengthening the internal and local electricity grid	
Investment in energy efficiency equipment	
Solar panels	
Clean transportation	 Dark to Medium green
Construction and modernization of infrastructure enabling low-carbon transportation and investment to improve access to public transportation at airports	
Investments in electric equipment incidental to air transportation	

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

Royal Schiphol Group N.V. and its subsidiaries develop, manage, and operate airports in the Netherlands and elsewhere. It owns and operates Amsterdam Airport Schiphol, the largest Dutch airport. Before the pandemic, the airport served almost 72 million passengers and was the third-largest in Europe by number of passengers and cargo volumes. Schiphol has a virtual monopoly on air travel originating and ending in the Netherlands and remains a major driver of the Dutch economy. The company also owns and operates Lelystad and Rotterdam Airports, holds a 51% stake in Eindhoven Airport, and, since 2023, holds a 40% stake in Maastricht Airport. Its international operations include a 19.61% stake in Brisbane Airport, a 35% stake in Hobart International Airport (Tasmania), and a management contract for Terminal 4 of John F. Kennedy Airport in New York.

Schiphol operates in four main business lines: aviation (62% of 2023 revenue); consumer products and services, including retail and parking (17%); real estate (11%); and alliances and partnerships (10%).

Schiphol is 69.8% owned by the Netherlands, 20% by the Municipality of Amsterdam, and 2% by the Municipality of Rotterdam, with the remaining 8% being treasury shares. The company was incorporated in 1958 and is based in Schiphol.

This framework focuses exclusively on the issuer's operations within the Netherlands, so we do not evaluate the international operations in this report.

Material Sustainability Factors

Climate transition risk

Transportation is the fastest-growing source of emissions worldwide, and industries like airlines, autos, and freight account for more than one-third of global greenhouse gas emissions, according to the International Environmental Agency (IEA). Infrastructure design and operation have major effects on GHG emissions, and existing transportation infrastructure can require investment to support wider decarbonization trends. Infrastructure development also produces significant emissions due to land use changes and reliance on carbon-intensive materials such as steel and cement. Schiphol and its partners are exposed to transition risks from increasingly ambitious policies and tighter regulations in the Netherlands and internationally, such as stricter rules for transportation emissions and implementation of zero-emissions urban environments. Public scrutiny of, and demand for, the improved climate performance of transportation infrastructure is likely to rise as the cost of more emissions-intensive modes of transportation increases.

Physical climate risk

The transportation infrastructure industry is highly exposed to physical climate risks such as snowstorms, and extreme precipitation, wildfires, and floods that can impair, disrupt, or destroy assets. Both acute and chronic risks--changing temperature and precipitation patterns and sea level rise--can shorten the useful life and availability of essential infrastructure including mass transit systems like airports. Although disruptions have typically been temporary, the increasing frequency and often severity of acute physical risks and the assets' long-term nature and fixed locations point to them becoming more significant. Therefore, we expect greater capital expenditure (capex) and ongoing investment in adaptation measures. For companies like Schiphol in western Europe, it is likely that extreme precipitation, particularly during the winter, and associated flooding from heavy rainfall or snowmelt, will increase.

Access and affordability

Given the essential nature of transportation infrastructure, access and affordability is highly material because they could weigh on household purchasing power, affect access to means of livelihood or essential services, and limit economic activity. Projects that extend or improve service for some communities while potentially isolating others could prompt public opposition; these are regional issues but can have severe adverse effects on vulnerable populations. Tariff increases for toll roads, airports, or mass transit are subject to strong regulatory oversight and, if considered excessive, could lead to strong opposition from users or communities as well as regulatory or political actions reducing demand. This might also limit the infrastructure provider's ability to make ongoing investments to maintain reliable service.

Customer health and safety

Constructing and maintaining safe transportation infrastructure is key to policymakers and users, especially for tunnels, bridges, mass transport, and rail. In case of fatal or large-scale injury incidents, issues related to customer health and safety can not only undermine public trust but question an entity's license to operate, lower demand, result in litigation, and disrupt opportunities. Also, possible severe travel restrictions during health events, such as the COVID-19 pandemic, challenge the industry's capacity to operate during public health risks. The pandemic had major financial impacts for airports and mass transit. It is a clear

example of a low-frequency, high-impact event, but we recognize that these subsectors will remain highly sensitive to these events, particularly if they become more frequent.

Impact on communities

Developing infrastructure can be highly disruptive to existing communities, particularly in cases of redevelopment. This can include permanent demolition of existing structures (in some cases involving eminent domain) and temporary service interruptions for essential utilities and existing transportation routes. Greenfield development might reduce the amount of green space, affecting quality of life. Also, during operation, projects can have negative effects on communities, notably due to noise pollution; this can constrain operations, such as with restricted operating hours at airports. In the Netherlands, both the government and Schiphol face local pressure to curb noise pollution affecting residents near the airport. Among other measures, Schiphol penalizes noisier and less efficient aircraft through tariff differentiation, and proposes a potential ban on night flights (less than 3% of the total) and private jets by 2026.

Issuer And Context Analysis

The framework's project categories aim to deal with Schiphol's most significant sustainability factors. Investments in green buildings, renewable energy, and clean transportation address transition risks because the projects will assist the issuer's decarbonization efforts.

The projects under the framework will help Schiphol achieve its target to reduce its GHG emissions and become net-zero operations by 2030, exceeding the national targets of the Dutch Climate Act and the latest IPCC recommendations. This target covers scope 1 and 2, and some categories of scope 3 emissions (ground-support equipment, employee commuting, and business travel). Schiphol plans to phase out natural gas and improve energy efficiency of buildings; phase out fossil fuels for its vehicle fleet and ground support equipment; and increase solar generation capacity. The emissions in scope represent about 1% of Schiphol's overall footprint. The remaining emissions arise from the aviation sector (approximately 93% of Schiphol's overall footprint in 2022) and other categories of upstream scope 3 emissions (4%). While some projects under the framework aim to tackle scope 3 emissions from aviation, such as the development of sustainable aviation fuel infrastructure, most of the activities focus on decarbonizing the company's own operations (scope 1 and 2).

Schiphol's airline operator partners are exposed to additional transition risks from emissions mitigation policies and SAF blending mandates, as well as uncertainty about mitigation of noncarbon-dioxide climate impacts. The issuer engages policymakers, suppliers, and passengers with the aim of supporting the aviation sector climate transition. Through partnerships and initiatives, it focuses on funding SAF-related research and development, expanding production capacity, and contributing to responsible sourcing policies and stimulating SAF demand within the industry (through subsidies for airlines using SAF, among other measures). Although eventual technological breakthroughs and significant decarbonization outcomes from these partnerships are expected over longer time horizons, they create a base for improvements in a difficult-to-abate sector. In this regard, Schiphol intends to introduce SAF at scale at its airports to reach 14% or more by 2030. To achieve this, in 2022, it introduced a financial incentive of €15 million for airlines refueling SAF at Schiphol airport. It has also set up a system by which airport charges include a differentiated structure that rewards the use of cleaner, quieter, and more efficient aircraft. At Schiphol airport, aircraft with superior environmental performance pay charges up to 5x lower than traditional aircraft. Rotterdam The Hague and Eindhoven airports have similar differentiation within their charges structure.

The Dutch government intends to approve a cap on Schiphol airport's capacity. We assume the capacity cap will take effect in late 2024 following local opposition to noise pollution affecting residents near the airport. We understand the cap would be in place for up to five years while the Dutch government develops alternative environmental limits.

Physical climate risks play a role in framework considerations because transportation infrastructure, including airports, are highly exposed to acute and chronic weather impacts.

Schiphol airport is in a complex urban area over four meters below sea level. As such, we consider it vulnerable to the impact of climate change, including rising sea levels. Key threats to the airport include increased frequency of extreme rainfall events, flooding, and extreme heat. For Schiphol's airline partners, extreme weather events such as storms and droughts can hinder fossil-based jet fuel and biofuel production and transportation. To mitigate physical climate risks, Schiphol considers spatial design elements, such as flood-resilient airport water management systems or heat stress mitigation measures such as green roofs. Green building projects can address physical climate-related risks if adaptation measures are considered from the design phase.

Schiphol provides climate transition solutions to enhance airport accessibility. Through clean transportation projects, the issuer encourages collective and electric transportation such as trains, electric buses, and electric taxis, or space designed for car-sharers parking. Additionally, all parking space includes charging stations for electric vehicles (EVs) and free-of-charge options for bicycles.

Schiphol intends to balance out aviation's negative impacts, including health impacts and noise nuisance. The airport works to improve air quality by lowering ultrafine particle levels and nitrogen emissions. To do so, it launched an action plan in 2019 to reduce its emissions by electrifying its machinery and vehicle fleets. The plan also encourages airlines to become more sustainable lowering the fares for the cleanest and most silent planes (55% of prices for conventional aircrafts). Through these and other measures such as alternating flight paths, Schiphol works to reduce noise pollution from air traffic.

Alignment Assessment

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

Alignment With Principles

Aligned = ✓ Conceptually aligned = ○ Not aligned = ✗

✓ Green Bond Principles, ICMA, 2021 (with June 2022 Appendix 1)

✓ Use of proceeds

The framework's green project categories are shaded in green, and the issuer commits to allocate an amount equal to the net proceeds issued under the framework exclusively to finance or refinance eligible projects. Refer to Analysis of Eligible Projects section for more information on our analysis of the environmental benefits of the expected use of proceeds.

The issuer will allocate proceeds to finance new and existing projects under its green framework, and further specifies that investments financed under the framework can be asset values, investments, capex, and operating expenditure (opex). The framework does not reference a look-back period for refinanced eligible projects, as recommended by the principles. The project categories include green buildings, renewable energy, and clean transportation.

✓ Process for project evaluation and selection

The framework outlines the process to select and approve eligible projects and assets. To facilitate this, Schiphol established a sustainability committee that includes members of corporate treasury, ESG reporting, and corporate development departments (where corporate sustainability is vested); and is tasked with selecting eligible assets and including them in Schiphol's green asset portfolio. Furthermore, the committee will regularly monitor the allocation of eligible assets to the green project portfolio and is responsible for identifying and managing both environmental and social-related risks associated with the eligible projects. An asset will be excluded if it does not comply with the eligibility criteria in the framework. There is no exclusion list within the evaluation and selection process, which we view as a limitation.

✓ Management of proceeds

Schiphol will track that net proceeds are allocated to projects meeting the framework's criteria. Furthermore, under the framework, the issuer will ensure that the green project portfolio's value matches or exceeds that of green finance instruments for the bond's duration. Additional eligible green projects will be added to the issuer's portfolio as needed to allocate net proceeds from the green finance instrument. Unallocated proceeds will be placed in cash, placed in cash equivalents, or used for other treasury business temporarily. We view positively that Schiphol will seek verification of the proceeds' allocation from an external auditor one year after issuance, full allocation, or any material events.

✓ Reporting

Schiphol will report annually on the allocation of net portfolio proceeds and wherever feasible, on the portfolio's impact, at least at the category level, until full allocation of the proceeds and or following any material events. The allocation reporting will include a description of the eligible projects, information of the total investment and expenditure in the eligible green project portfolio, assets' geographical distribution, the number of investments and projects, the balance of unallocated proceeds, and the EU Taxonomy aligned percentage, if relevant. The impact report will include a short description of the eligible green projects and metrics, of which the framework includes a few examples, such as annual carbon dioxide emission reduction, installed capacity in kilowatt-hour (kWh), and number of EVs. Schiphol commits to reporting on the portfolio as a whole rather than project by project, which would provide more transparency to the market, in our view.

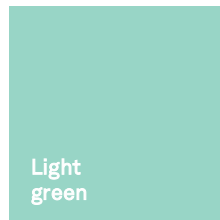
Analysis Of Eligible Projects

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

Schiphol expects to allocate over 90% of proceeds to activities under the green buildings category, primarily for new buildings.

Overall Shades of Green assessment

Based on the project category shades of green, and considering environmental ambitions reflected in Schiphol's green finance framework, we assess the framework Light green.



Light green

Activities representing transition steps in the near-term that avoid emissions lock-in but do not represent long-term low-carbon climate resilient solutions.

Our [Shades of Green Analytical Approach](#) >

Green project categories

Green buildings

Assessment

 Light green

Description

- Investment in sustainable infrastructure and buildings (with sustainability certifications), such as:
 - Buildings built before Dec. 31, 2020, with at least an Energy Performance Certificate (EPC) class A
 - Buildings built after Dec. 31, 2020, with a Primary Energy Demand at least 10% lower than the threshold for nearly zero-energy buildings (NZEB)
 - Refurbished buildings with at least two steps improvement in energy label (approximately 30% improvement)
 - LEED Platinum and Gold
 - BREEAM Outstanding, Excellent, and Very Good with EPC of A, A+, and A++
- Investment in building renovation measures consisting in installation, maintenance, or repair of energy efficiency equipment including upgrading climate control and heating, ventilation, and air conditioning; LED lighting installations; efficiency devices on heat pumps; insulation; and software for cooling systems
- Construction, modernization, and operation of low carbon airport infrastructure (such as terminals, piers, gates, cargo facilities, and security facilities) as well as for the provision of fixed electrical ground power and preconditioned air to stationary aircraft (such as sustainable aviation fuel infrastructure) required for zero tailpipe carbon dioxide operation of aircraft or the airport's operations
- Investment in air transport ground handling operations (such as baggage handling halls), including ground services activities at airports and cargo handling

Analytical considerations

- Construction and renovation of green buildings can mitigate climate change because it allows for improved energy use, lower embodied emissions in material use, and sound management of physical climate risk, which are needed to achieve low-carbon environments in line with the 2050 Paris Agreement vision. These projects lead to other environmental benefits as well, including reduced water consumption. However, these can also contribute to the lock-in of emissions from the aviation sector. As such, we have shaded this category Light green considering both the climate benefits and climate risks associated with new construction and renovation of buildings that follow stringent energy efficiency and climate risk adaptation criteria.
- Airport infrastructure development facilitates airport traffic which generates significant emissions and is exposed to transition risk. According to the IEA, international aviation accounted for about 2% of GHG emissions globally in 2022. It is one of the most difficult sectors to decarbonize, considering that the improvements in energy intensity have not been sufficient to counterbalance demand growth in recent years, which is expected to continue through 2030. In this regard, the uncertainty around the increase in airport traffic and its associated emissions are important considerations in our assessment.
- While there is some uncertainty, the issuer says the new buildings are intended to alleviate the current infrastructure, and it does not expect the capacity of airports in scope to increase through the eligible projects, given that the group's Dutch airports are already reaching capacity in terms of number of annual flights. Also, the government of the Netherlands intends to cap Schiphol airport's capacity. While this regulation is on hold, it is expected to enter force soon in 2024.
- Nevertheless, the cap could give airlines incentive to purchase larger aircrafts to increase the number of passengers per flight, which would be more efficient in terms of emissions intensity per passenger and kilometer, but could produce higher overall emissions. As such, additional piers and terminals could increase the number of passengers and contribute to the lock-in of increased aviation emissions. To counteract this, Schiphol has enacted a system by which airport charges include a differentiated structure that rewards the use of cleaner, quieter, and more efficient aircraft, and introduced a financial incentive of €15 million in 2022 for airlines refueling SAF at Schiphol. Also, emissions associated with any increase in air traffic are covered by "Dutch Aviation, Smart and Sustainable" action plan, which requires aviation businesses to reduce total emissions by 35% by 2030 and will be mitigated through a transition to SAFs and electric aviation.
- We understand the issuer will primarily seek to provide financing for the construction of new green buildings with a Primary Energy Demand at least 10% lower than the threshold for NZEBs. We view this in line with a light green score considering this is above the BENG regulation in the Netherlands for new buildings that was introduced in 2021. Building construction leads to negative environmental impacts despite certification-level practices, such as with embodied emissions in construction materials, construction waste, water use, and emissions from fossil fuel-powered equipment and transport vehicles. It is crucial for newer buildings to be constructed with the ambition of minimizing emissions from materials and construction.
- Schiphol will finance the acquisition of buildings with green certifications including LEED Platinum or Gold for terminal buildings and BREEAM Outstanding, Excellent, and Very Good for commercial properties. Our assessment of these types of investments is Light green, reflecting that while the use of the BREEAM Very Good and LEED Gold certification include considerations of buildings' GHG footprints and a physical climate risk assessment, but lack minimum requirements for energy use, the issuer considers certifications as additional criterium to the energy label requirements and commits to all buildings certified as BREEAM Very Good to have an EPC A, A+, or A++, which is above the requirement of EPC C in the Netherlands for existing buildings.
- The issuer will finance the acquisition of refurbished existing buildings, with at least two-step improvement in energy labels (an approximately 30% advancement) and has informed us that it will not finance buildings heated with fossil fuels. Nevertheless, the framework does not include an exclusion list, which we view as a limitation.
- We understand the construction of baggage handling halls and parking space is eligible under new buildings. Regarding the latter, we view positively that it will include parking space for EVs and charging stations but note that it also facilitates fossil fuel transport. As we understand, the proceeds will not finance parking facilities separate from buildings, which supports our Light green assessment.

- We view the construction and modernization of low-carbon airport infrastructure such as investments to facilitate the development of SAF facilities as Light green solutions given the key role sustainable aviation fuels play in decarbonizing the aviation sector in the near term. However, we note the land use and biodiversity risks associated to its production.
- The issuer will finance building renovation measures consisting in installation, maintenance, or repair of energy efficiency equipment, including upgrading climate control and heating, ventilation, and air conditioning; LED lighting installations; efficiency devices on heat pumps; insulation; and software for cooling systems. The criteria do not include a specific threshold for energy efficiency improvement, which we view as limiting our overall shading assessment.
- By their nature, buildings are exposed to significant physical climate risk. Although the framework does not include systematic assessment of physical climate risks for project categories, we understand from Schiphol's public disclosures that it considers spatial design elements, such as flood-resilient airport water management systems or heat stress mitigation measures such as green roofs, to mitigate physical climate risks.

Renewable energy

Assessment

 **Medium green**

Description

- Investment in strengthening internal and local electricity grid
- Investment in energy efficiency equipment
- Purchase of solar panels

Analytical considerations

- Reliable, efficient, and well-functioning electricity transmission and distribution networks are important in achieving the necessary electrification to reach a low carbon and climate resilient economy by 2050. Investment in strengthening grids, coupled with energy efficiency measures, can boost reliability and flexibility, while offering feasible medium-to-long-term solutions with both mitigation and adaptation benefits.
- A more reliable grid could facilitate the issuer's climate transition, enabling the deployment of necessary infrastructure to decarbonize activities, such as fast chargers for EVs. However, if the energy sources powering the grid are not clean, climate benefits may be limited. Schiphol's airport currently operates on 100% renewable wind electricity via a dedicated power purchase agreement (PPA) with Dutch wind farms. We view physical PPAs as having a larger sustainability benefit than virtual PPAs as they help displace fossil fuel-generated electricity. The Netherlands' grid showcases emissions slightly higher than other EU-countries (for example emissions are under 153 grams of carbon dioxide per kWh (g CO₂/kWh) in Spain, 307g CO₂/kWh in Italy, and 370g CO₂/kWh in the Netherlands), and, while we view positively that through its PPA Schiphol ultimately helps the country in its decarbonization efforts, we still identify as best practice a grid whose threshold is of 100 g CO_{2e}/kWh or below. Furthermore, electricity demand could rise with the planned grid reinforcement. Lastly, given that the electricity transmitted goes to all airport activities, the potential for lock-in emissions needs to be flagged. Overall, the project meets a Medium green shade.
- A low-carbon transition also depends on renewable energy sources such as solar power. For renewable energy, Schiphol aims to focus on the financing of on-site solar panels for further feeding the internal grid. In fact, the airport's 2030 goal is to generate 21 megawatts at peak, which accounts for approximately 10% of energy requirements. Nevertheless, we see potential environmental impacts, as well as transportation and embodied emissions in the solar panel supply chains. Furthermore, downstream, end-of-life solar infrastructure can be linked to waste and local pollution risks. Nevertheless, renewable energy investments for this framework are shaded Dark green.
- The framework further encompasses investments in energy efficiency. The issuer previously focused on LED lighting, replacing old telecom and IT equipment, and upgrading the heating, ventilation, and air conditioning. Current expected investments include smart energy monitoring and metering systems, among others. The issuer further disclosed that a small portion of the proceeds will be allocated to these technologies, compared to internal grid and renewables onsite. We view positively the potential of such investments, but the lack of thresholds or further technical information partially constraints our shading outcome. Therefore, we shade these investments as Light green.

- While the climate transition benefit of the project category is clear, the framework does not provide further information on the investments' local environmental impact, and detailed disclosure of the considerations on physical climate risk. Based on this, we view the category's overall shading as Medium green.

Clean transportation

Assessment

 **Dark to Medium green**







Description

- Construction and modernization of infrastructure enabling low-carbon transportation and investments to improve access to public transportation at airport premises. Activities include EVs for passenger transportation at the airport premises, electric charging points, and investments to improve access to public transportation.
- Investments in electric equipment incidental to air transportation (ground handling), including ground services activities at airports and cargo handling, such as loading and unloading of goods from aircraft such as equipment for electric aircraft taxiing, any electric equipment such as lifting aids used for baggage handling, or aircraft power supply infrastructure.

Analytical considerations

- The issuer intends to fund the acquisition and leasing of EVs for passenger transportation at the airport premises, electric charging points for these vehicles, and charging points for taxis and consumer cars. We view this solution as Dark green considering that electrification of transportation modes is critical to decarbonizing the economy. Schiphol owns and leases a mixed fleet consisting of light and heavy vehicles, with all light vehicles set to be replaced by EVs. However, some activities in the category, such as construction of infrastructure to improve accessibility to public transportation, could increase the risks of emissions lock-ins and represent a Medium green element to the overall shading.
- We view measures to improve accessibility to public transportation infrastructure and to facilitate the increased use of low-carbon public transport as a Dark green solution. Schiphol airport's bus fleet has been 95% electric since 2021. However, the infrastructure could be used by buses running on fossil fuels or biogas, mainly at other airports managed by Schiphol. Hence view as it as Medium green (representing significant steps toward a low-carbon economy scenario).
- The production of batteries and sourcing of raw materials to make EV components can have substantial climate and environmental impacts. The issuer does not require life-cycle analyses of in-scope EVs components, which we view as a limitation.
- Aircraft emissions during the taxiing, landing, and take-off (LTO) phases amount to approximately 5% of total aviation emissions at the group's airports. Schiphol pursues solutions that contribute to a decrease in kerosene consumption and therefore reduce aircraft emissions and pollution. These include operational measures such as single-engine taxiing, reduced kerosene-driven auxiliary motors usage, and towing and sustainable taxiing solutions, an umbrella term that involves taxiing while aircraft engine is turned off. While current solutions for sustainable taxiing still use fossil fuels for propulsion, at Rotterdam The Hague Airport, all ground power units to supply power to aircrafts (GPUs) will be zero emission by 2026, and all ground-support equipment by 2027. At Eindhoven Airport, over 65% of GSE is already zero-emission. In this regard, we view investment in the purchase of electric equipment incidental to air transportation as representing significant steps towards reducing aircraft emissions during LTO phases and so view these investments as Dark green.
- We view the electrification of equipment for loading and unloading goods from aircraft, baggage handling (including electric lifting aids), and aircraft power supply infrastructure as incidental to contribute to phasing out fossil fuel use for airport operators and contributing to reduce their scope 1 and 2 emissions. We also view this solution as Dark green, considering electric machinery will be part of a low-carbon future.

S&P Global Ratings' Shades of Green

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

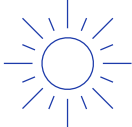



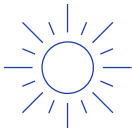
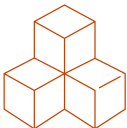


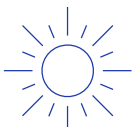
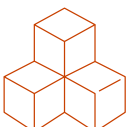


Note: For us to consider use of proceeds aligned with ICMA Principles for a green project, we require project categories directly funded by the financing to be assigned one of the three green Shades.

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

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

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

This framework intends to contribute to the following SDGs:

Use of proceeds	SDGs			
Green buildings				
	7. Affordable and clean energy	9. Industry, innovation and infrastructure	11. Sustainable cities and communities*	13. Climate action
Renewable energy				
	7. Affordable and clean energy*	9. Industry, innovation and infrastructure*	11. Sustainable cities and communities*	13. Climate action
Clean transportation				
	7. Affordable and clean energy	9. Industry, innovation and infrastructure	11. Sustainable cities and communities*	13. Climate action

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

Related Research

- [Analytical Approach: Second Party Opinions: Use Of Proceeds](#), July 27, 2023
- [Analytical Approach: Shades Of Green Assessments](#), July 27, 2023
- [FAQ: Applying Our Integrated Analytical Approach For Use-Of-Proceeds SPOs](#), July. 27, 2023
- [ESG Materiality Map: Transportation Infrastructure](#), July. 20, 2022

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Second Party Opinion: Royal Schiphol Group N.V.'s Green Finance Framework

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