



VR Group Green Finance Second Opinion

May 02, 2022

The VR Group (VR) is a Finnish state-owned service company focusing on travel, logistics and maintenance with their main turnover coming from travels. VR provides public transport services in long-distance and commuter traffic through trains, buses and trams. VR's main geographical area is Finland, but the group also has some activities in Russia. Under the current circumstances, the issuer informed us that VR Group's operations in Russia are suspended indefinitely, but that it still has operations related to Russia.

The green finance framework intends to raise funds through loans and bonds within Clean Transportation, Renewable Energy, and Energy Efficiency, with the majority of proceeds being allocated to Clean Transportation. In this category, most proceeds are expected to be allocated to Dark Green investments focusing on electric locomotives and trains (approx. 55%) and electric buses and charging stations (approx. 25%). OPEX is eligible (approx. 5% of proceeds) and will focus on maintenance of electric trains and locomotives. Investors should be aware that the electric locomotives will be equipped with auxiliary diesel engines for use when electricity is not available (1% of the duty hours). VR transports some fossil fuels even though no financing will be dedicated to fossil fuel transportation. Proceeds raised under the framework will be used in Finland.

VR has a high focus on sustainability and has established targets to reduce greenhouse gas (GHG) emissions and improve energy efficiency, both by 15% per unit of output within 2025 (from 2019 levels). VR reduced its total GHG-emissions by 5% from 2019 to 2021, however, GHG-emissions per output increased by 2% from 2019 to 2021. The selection process is strong and includes a consideration of controversial issues and life cycle assessments. VR has a good understanding of its Scope 3 emissions, representing around 2/3 of the total emissions, and is working to further reduce these emissions. However, the issuer does not have specific targets related to Scope 3 emissions as a whole. Impact reporting includes relevant KPIs, and the issuer informs that impact reporting mostly will be based on data verified by an external party.

As a company focusing on transport services VR is exposed to extreme weather events like storms, heavy rain and snow loads, that might cause delays and increase costs as well as disturbances in the supply chain. Even if the issuer is aware of some of the climate risks they are exposed to, VR has not carried out systematic climate risk assessments but considers starting reporting in line with the TFCFD recommendations.

Based on the overall assessment of the projects that will be financed under this framework, and governance and transparency considerations, VR's green finance framework receives a **CICERO Dark Green** shading and a governance score of **Excellent**. VR's green finance framework aims to contribute to a strengthening of electric transportation in Finland, and by this to a reduction of greenhouse gases. To improve the framework further, VR could scale up its efforts on climate risk assessments.

SHADES OF GREEN

Based on our review, we rate the VR's green finance framework **CICERO Dark Green**.

Included in the overall shading is an assessment of the governance structure of the green finance framework. CICERO Shades of Green finds the governance procedures in VR's framework to be **Excellent**.



GREEN BOND AND GREEN LOAN PRINCIPLES

Based on this review, this Framework is found in alignment with the principles.





Contents

1	Terms and methodology	3
	Expressing concerns with 'Shades of Green'	3
2	Brief description of VR's green finance framework and related policies	4
	Environmental Strategies and Policies	4
	Use of proceeds	5
	Selection	5
	Management of proceeds	6
	Reporting	6
3	Assessment of VR's green finance framework and policies	8
	Overall shading	8
	Eligible projects under the VR's green finance framework	8
	Background	9
	Governance Assessment	10
	Strengths	11
	Weaknesses	11
	Pitfalls	11
	Appendix 1: Referenced Documents List	12
	Appendix 2: About CICERO Shades of Green	13



1 Terms and methodology

This note provides CICERO Shades of Green's (CICERO Green) second opinion of the client's framework dated **May 2022**. This second opinion remains relevant to all green bonds and/or loans issued under this framework for the duration of three years from publication of this second opinion, as long as the framework remains unchanged. Any amendments or updates to the framework require a revised second opinion. CICERO Green encourages the client to make this second opinion publicly available. If any part of the second opinion is quoted, the full report must be made available.

The second opinion is based on a review of the framework and documentation of the client's policies and processes, as well as information gathered during meetings, teleconferences and email correspondence.

Expressing concerns with 'Shades of Green'

CICERO Green second opinions are graded dark green, medium green or light green, reflecting a broad, qualitative review of the climate and environmental risks and ambitions. The shading methodology aims to provide transparency to investors that seek to understand and act upon potential exposure to climate risks and impacts. Investments in all shades of green projects are necessary in order to successfully implement the ambition of the Paris agreement. The shades are intended to communicate the following:

Shading	Examples
 Dark Green is allocated to projects and solutions that correspond to the long-term vision of a low-carbon and climate resilient future.	 Solar power plants
 Medium Green is allocated to projects and solutions that represent significant steps towards the long-term vision but are not quite there yet.	 Energy efficient buildings
 Light Green is allocated to transition activities that do not lock in emissions. These projects reduce emissions or have other environmental benefits in the near term rather than representing low carbon and climate resilient long-term solutions.	 Hybrid road vehicles

Sound governance and transparency processes facilitate delivery of the client's climate and environmental ambitions laid out in the framework. Hence, key governance aspects that can influence the implementation of the green bond are carefully considered and reflected in the overall shading. CICERO Green considers four factors in its review of the client's governance processes: 1) the policies and goals of relevance to the green bond framework; 2) the selection process used to identify and approve eligible projects under the framework, 3) the management of proceeds and 4) the reporting on the projects to investors. Based on these factors, we assign an overall governance grade: Fair, Good or Excellent. Please note this is not a substitute for a full evaluation of the governance of the issuing institution, and does not cover, e.g., corruption.



2 Brief description of VR's green finance framework and related policies

VR Group (VR) is a Finnish state-owned service company focusing on travel, logistics and maintenance, with their main turnover coming from travels. VR provides public transport services in long-distance and commuter traffic through trains, buses, and trams. VR's main customers include HSL and large logistics companies in Finland. VR's industrial customer base mainly consists of forestry companies, but also includes other large industrial companies, waste companies, and a small percentage of companies producing oil and gas. Transportation of fossil fuels represents approximately 4% of the total transportation volume.

Logistic services are offered both on rail and road through VR's business area VR Transpoint, and the subsidiary VR FleetCare that offers rail fleet maintenance and lifecycle services (VR does not own the infrastructure). VR also have activities within real estate, and owns buildings related to their activity, such as warehouses and railway stations. The parent company is VR-Group Plc.

VR is employing approximately 5,600 professionals and is generating approximately 840 million Euros in revenue. VR operates mainly in Finland, but also has activities in, e.g., Russia. Operations in Russia are mainly logistical, and Finnlog (a subsidiary of VR-Group Plc.) is the main company operating in Russia. Under the current circumstances, the issuer informed us that VR Group's operations in Russia are suspended indefinitely. However, the issuer informed us that it still has ongoing operations related to Russia. VR Transpoint operates within Finnish borders and is a strategic partner and a guarantor of raw material and end-product supply to Finnish industries. Russia-related exposure arises from rail transportation from Russian border to Finland. The impact of potentially decreasing Russia -related transport flows will most likely be mitigated by increasing freight traffic within Finland.

Environmental Strategies and Policies

VR recognizes their responsibility to achieve Finland's climate targets and has established new environmental goals for 2021-2025. VR has a target to reduce greenhouse gas (GHG) emissions and improve energy efficiency, both by 15% within 2025, from 2019 levels. According to the issuer, they can use offsets to achieve the targets corresponding to approximately 5% of their total emissions. VR also has a target to increase the share of renewable energy used and focuses among others on purchasing certificates for electricity generated from hydropower.

Currently, electric rail passenger traffic constitutes approximately 98% of the total passenger rail traffic, and around 80% of the rail logistics is conducted on electric trains. 56% of the Finnish railways are currently electrified, and the remaining network is available only by diesel-powered locomotives. For road passenger traffic in Helsinki Region, Turku and Tampere, currently approximately 15% is electric through the use of electric buses. Railways are government owned, and electrifying the railways is not a part of VR's responsibility. However, the issuer informs that they discuss environmental benefits of electrification in its dialogue with the state authorities. To achieve the goals related to energy efficiency and GHG-reductions, the issuer has added more electric transportation including electric buses and trains, adopted more energy-efficient traffic stock, and increased the size of the trains. VR has a target to increase the share of electric locomotives from current 49% to above 60%.

VR has calculated GHG-emissions according to the Greenhouse Gas protocol since 2019. The issuer reports progress on the environmental KPIs¹ in their annual sustainability report. GHG-emissions per output increased by 2% from 2019 to 2021 and energy consumption per output increased by 8% from 2019 to 2021. The targets showed no progress in 2021 mainly as a result of lower passenger volumes due to Covid-19. However, the total GHG-emissions went down by 5% from 2019 to 2021, due to, for example, increased energy efficiency and use of

¹ CO₂e-emissions intensity per output (Scope 1, 2 and road logistics only from Scope 3), Energy efficiency per output (Scope 1, 2 and road logistics only from Scope 3).



renewable energy. In addition, in passenger services, the energy efficiency per output improved by 1.5% from 2020 to 2021. The issuer believes that it will meet its energy efficiency and GHG-reduction targets for 2025.

Main emissions for VR are in Scope 3, representing around 2/3 of the total emissions. The issuer seems to have a good overview of the Scope 3 emissions and have included also construction and sub-contracting. To reduce Scope 3 emissions the issuer is, e.g., requiring an environmental product declaration when purchasing trains, and life cycle assessments including, e.g., energy consumption, vehicle weight, maintenance costs are considered. When purchasing electric buses, the issuer requires information on the environmental effects of the batteries during their lifecycle as well as whether the batteries were manufactured under ethical conditions. Emissions from subcontracted logistics transport represent around half of the Scope 3 emissions, and is covered by VR's reduction targets. However, the issuer does not have specific targets related to Scope 3 emissions as a whole.

VR has established a Code of Conduct (CoC) targeting their employees, as well as a CoC targeting their suppliers and subcontractors. The CoC for suppliers lays down principles related to, e.g., workers' rights and corruption and states that the suppliers shall ensure that their operations do not violate environmental legal frameworks approved by the European Union, and that they shall minimise the harmful effects of its operations on the environment. To ensure that the CoC is followed in higher risk countries like Russia, the supplier CoC is attached to contracts.

VR does not own tracks and is as such not responsible for potential climate risks related to planning and construction of new tracks. The issuer informs that they are exposed to extreme weather events like storms, heavy rain and snow loads, that might cause delays and increase costs and that their main climate risk exposure is related to disturbances in the supply chain. The green transition might also lead to an increased customer base that will have positive financial implications for VR. Even if the issuer is aware of some of the climate risks they are exposed to, VR has not carried out systematic climate risk assessments. The issuer informs us that they consider starting reporting in line with the TFCD recommendations.

VR joined the UN Global Compact initiative in 2020 and is committed to adopting, supporting and implementing the ten principles of the initiative. The issuer has reported the progress in the sustainability report for 2021.

Use of proceeds

The net proceeds of the green finance instruments issued by VR will be used to finance or re-finance, in part or in full, eligible assets and projects that have been evaluated and selected by VR in accordance with the green finance framework. Share of refinancing is 20-25% and refinancing of eligible operating expenditures will have a look-back period of no longer than 3 years from the time of issuance. Green assets will qualify without a specific look-back period provided that at the time of issuance they follow the eligibility criteria listed below. Proceeds raised under the framework will be used in Finland.

According to the issuer, eligible assets are on a best effort basis aligned with the EU Taxonomy's Technical Screening Criteria, substantially contributing to Climate Change Mitigation, but alignment to the EU Taxonomy has not been assessed in this SPO.

Selection

The selection process is a key governance factor to consider in CICERO Green's assessment. CICERO Green typically looks at how climate and environmental considerations are considered when evaluating whether projects can qualify for green finance funding. The broader the project categories, the more importance CICERO Green places on the governance process.

VR has established a green finance committee (GFC) to ensure that only projects aligned with the eligibility criteria detailed in the green framework are selected as eligible assets. The GFC has members from management, treasury, sustainability, fleet management, real estates and business control. The VR Group General Counsel holds the overall responsibility regarding sustainability and the Environmental Manager has environmental/climate change



competence. The CFO is the chair of the committee, and the sustainability representatives hold a veto regarding selection of eligible assets. The Green Finance Committee will meet at least once a year.

The GCF has established the following process when selecting and evaluating eligible projects: The VR Group's Investment Board will propose potential eligible assets and projects to the GFC, which will evaluate the eligibility of the proposals based on the eligibility criteria in the green framework and remove projects that do not meet the criteria. Investment proposals are screened for controversial projects, and include a summary of identified ESG risks and related control actions. VR is conducting life cycle assessment including screening for energy use before making investment decisions. The GCF will verify the eligibility of the remaining proposed assets and projects and make the final approval.

Management of proceeds

CICERO Green finds the management of proceeds of VR to be in accordance with the Green Bond and Green Loan Principles. VR will establish a green finance register in relation to the green finance instruments issued by VR to monitor the eligible assets and projects and the allocation of the net proceeds from green finance instruments to eligible assets and projects. The proceeds will be allocated to individual disbursements. VR will over the duration of the outstanding green finance instruments build and maintain an aggregate amount of assets and projects in the green finance register that is at least equal to the aggregate net proceeds of all outstanding VR green finance instruments. Assets and projects will be removed, and if needed replaced, from the green finance register if they cease to meet the eligibility criteria of the green framework. Green assets will not be financed by several green finance instruments at the same time.

Unallocated proceeds temporarily held by VR will be placed on the company's ordinary bank account or in the short-term money market. The issuer confirms that unallocated proceeds cannot be placed in assets associated with fossil fuels. VR will consider ESG criteria in the short-term money market. The green finance register will form the basis for the impact reporting.

Reporting

Transparency, reporting, and verification of impacts are key to enable investors to follow the implementation of green finance programs. Procedures for reporting and disclosure of green finance investments are also vital to build confidence that green finance is contributing towards a sustainable and climate-friendly future, both among investors and in society.

VR will provide an annual public report on the allocation and impact of green bonds issued under the green finance framework. Where relevant, VR seeks to align the reporting with the ICMA and the guidelines in the Nordic Public Sector Issuer's Position Paper, as well as with the EU Taxonomy. VR may choose to report the impact and allocation of other green finance instruments directly, and non-publicly, to the lenders or counterparts. Reporting on bonds will always be made public in a public green bond investor report. Reporting will be on an aggregated level, but the issuer will report on the spilt for each category and when relevant, also give case examples of investments financed. The CFO will be responsible for the reporting.

The allocation report will, to the extent feasible, include a list of all eligible assets and projects funded including amounts allocated and unallocated if any, descriptions and case studies of selected eligible assets and projects financed, and amounts invested in each category as defined in the use of proceeds, and the relative share of new versus refinancing. The allocation reporting will be externally verified.

VR will strive to report on the actual environmental impact of the investments financed by the green bonds. If/when actual impact for some reason is not observable, or unreasonably difficult to source, estimated impact will be reported. Relevant impact metrics will be provided. The impact report will, to the extent feasible, also include a



section on methodology, baselines and assumptions used in impact calculations. The issuer informs that impact reporting mostly will be based on data verified by an external party.



3 Assessment of VR’s green finance framework and policies

The framework and procedures for VR’s green bond investments are assessed and their strengths and weaknesses are discussed in this section. The strengths of an investment framework with respect to environmental impact are areas where it clearly supports low-carbon projects; weaknesses are typically areas that are unclear or too general. Pitfalls are also raised in this section to note areas where VR should be aware of potential macro-level impacts of investment projects.

Overall shading

Based on the project category shadings detailed below, and consideration of environmental ambitions and governance structure reflected in VR’s green bond framework, we rate the framework **CICERO Dark Green**.

Eligible projects under the VR’s green finance framework

At the basic level, the selection of eligible project categories is the primary mechanism to ensure that projects deliver environmental benefits. Through selection of project categories with clear environmental benefits, green bonds aim to provide investors with certainty that their investments deliver environmental returns as well as financial returns. The Green Bonds Principles (GBP) state that the “overall environmental profile” of a project should be assessed and that the selection process should be “well defined”.

Category	Eligible project types	Green Shading and some concerns
Clean Transportation  	Investments in locomotives, train sets and wagons <ul style="list-style-type: none"> Investments into new locomotives, train sets and wagons, and renovation, improvements and maintenance of existing rolling stock. Examples of investments in this category are last-mile equipped Sr3² locomotives and SmX³ electric trains. Investments made in locomotives solely running on diesel will not be considered Eligible Assets and Projects. Investments in other clean transportation solutions.	Dark to Medium Green <ul style="list-style-type: none"> ✓ Close to a 100% of the proceeds will be used in this category. Green proceeds will mainly be used in Finland. Proceeds will not be used in Russia as the framework excludes Russian operations under any green finance. ✓ OPEX share in the use of proceeds is estimated to around 5% and is mainly related to maintenance of electric trains and locomotives. Green proceeds will not be used for new tracks, as this is no longer part of VR business areas. ✓ The issuer informs that around 55% of the green proceeds will be related to electric locomotives and trains (Sr3 and SmX). Even though investments are not made in locomotives solely running on diesel, the Sr3 locomotives will be equipped with auxiliary diesel engine units for use when electricity is not

²Sr3 locomotive is VR’s first electric locomotive equipped with radio remote control function and auxiliary diesel engine units. These additional functions are intended for carrying out shunting work where electricity is not available, in which case the entire transport chain can be operated with one and the same locomotive. Sr3’s can switch directly from electric to diesel, which means old diesel locomotives are no longer needed in either end of the transport chain.

³ SmX electric trains will have almost double the passenger capacity compared the older Sm2 trains. Focus on the design of the train will be high recyclability and recoverability rates of the vehicle. The vehicle will be designed and built on the use of lightweight components that are easy to replace and dismantle which is regarded as crucial for and environmentally friendly rail transport. New trains include new highly developed systems which can for example help driver to reduce energy consumption compared to older train models.



	<p>Investments into other clean transportation solutions such as fully electrified buses and related bus charging stations.</p> <p>Investments in control systems</p> <p>Investments into control systems (ETCS⁴) for the train operations.</p> <p>Investments will not be used to finance control systems related to diesel locomotives.</p>	<p>available (estimated by VR to be 1% of the duty hours). It is VR's target to maximize the usage of electric traction for cost, energy and emission reasons, but with ca 44% of Finnish railway infrastructure not electrified, the issuer informs that diesel traction will be needed (especially for freight services).</p> <ul style="list-style-type: none"> ✓ Around 25% of the proceeds will be used for electric buses and charging stations, and around 5% for signal systems. ✓ Locomotives may be used to transport fossil fuels, as some of the VR's customers produce fossil fuels. However, no locomotives will be exclusively used for transportation of fossil fuels.
<p>Renewable energy</p> 	<p>Investments in renewable energy projects</p> <ul style="list-style-type: none"> • Investments into solar power systems for buildings owned by VR Group and solar power plants. 	<p>Dark Green</p> <ul style="list-style-type: none"> ✓ Less than 1% of the proceeds will be used in this category. ✓ Green proceeds can be used for both roof-based solar systems mounted on VR's own buildings and electricity will be directly used by the issuer.
<p>Energy Efficiency</p> 	<p>Investment in energy efficiency for VR Group owned or operated buildings</p> <ul style="list-style-type: none"> • Investments into projects related to energy efficiency of buildings owned or operated by VR Group. This includes, but are not limited to lightning fixtures, replacements of air handling units. 	<p>Medium Green</p> <ul style="list-style-type: none"> ✓ Around 1% of the proceeds will be used in this category. ✓ No minimum improvement thresholds are required, but the issuer informs that projects like changing the lighting system in train pits has improved the energy efficiency by more than 30%. Large savings are also achieved by updating the air control units (e.g., heat recovery). ✓ A few of VR's buildings are currently heated by oil, but VR informs us that they have a target to replace oil as a primary source within the coming years.

Table 1. Eligible project categories

Background

Global transport emissions increased by less than 0.5% in 2019 (compared to 1.9% annually since 2000) owing to efficiency improvements, electrification and greater use of biofuels. Nevertheless, transportation is still responsible for 24% of direct CO₂ emissions from fuel combustion. Road vehicles account for nearly three-quarters of transport CO₂ emissions, and emissions from aviation and shipping continue to rise, highlighting the need for greater international policy focus on these hard-to-abate subsectors⁵. The transport sector is in a critical transition. Existing measures to increase efficiency and reduce energy demand must be deepened and extended for compliance with the Sustainable Development Scenario (SDS).

⁴ European Train Control System (ETCS) is a signaling and control component of the European Rail Traffic Management System (ERTMS). ERTMS and, as part of it, ETCS will be a mandatory interoperability and safety-enhancing system in Europe. EU Member States are obliged to move gradually from the current more than 40 separate access control systems to one ETCS system.

⁵ [Tracking Transport 2020 – Analysis - IEA](#)



Rail transport plays a crucial role in achieving society's environmental and climate goals. Compared to other modes of transport, trains are more energy efficient and make only a marginal contribution to local air pollution. The Paris Agreement sets a clear course for future, such that global client initiatives and businesses and society will have to adjust to new climate goals. Rail and train transport is generally considered as the most climate and pollution friendly mode of land transportation.

Finland has a target to be carbon-neutral in 2035 and carbon-negative soon after that. The national renewable energy target set for 2030 in the National Energy and Climate Strategy (2016) is 50% of the gross final energy consumption⁶. Finland's 2030 target for non-ETS greenhouse gas emissions is -39% compared to 2005 as set in the Effort Sharing Regulation (ESR)⁷. Furthermore, the Finnish Government made a resolution in May 2021 to reduce domestic transport-related greenhouse gas emissions by 50% by 2030⁸. Greening the railway will be an important part of reaching this target. The Finnish railway system is a mix of electrified and non-electrified legs, and currently 56% of the railways are electrified. The electrification is underway in several locations and the trend is expected to continue, enabling higher usage of electric locomotives and making the shift from diesel to electric a reality.

Another important step is to increase grid capacity. The Climate and Energy Strategy and Medium-term Climate Change Policy Plan (KAISU) will be updated by 2022. The emission factor of electricity production in Finland is currently 91 gCO₂/kWh and the emission factor for electricity consumed in Finland 111gCO₂/kWh for 2021.⁹

Governance Assessment

Four aspects are studied when assessing the VR's governance procedures: 1) the policies and goals of relevance to the green bond framework; 2) the selection process used to identify eligible projects under the framework; 3) the management of proceeds; and 4) the reporting on the projects to investors. Based on these aspects, an overall grading is given on governance strength falling into one of three classes: Fair, Good or Excellent. Please note this is not a substitute for a full evaluation of the governance of the issuing institution, and does not cover, e.g., corruption.

VR's business model is to provide responsible transportation services and aim to contribute to Finland's carbon neutrality target. The issuer has established concrete targets to reduce GHG-emissions and improve energy efficiency and has established plans to reach the targets.

VR has a good understanding of its Scope 3 emissions, representing around 2/3 of the total emissions, and is working to further reduce these emissions. However, the issuer does not have specific targets related to Scope 3 emissions as whole.

⁶ https://ec.europa.eu/energy/sites/ener/files/documents/fi_final_necp_main_en.pdf

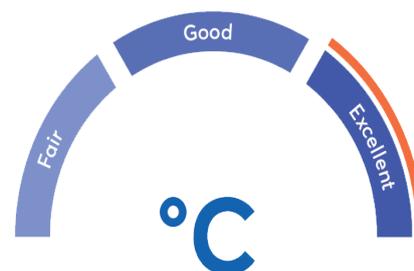
⁷ Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013.

⁸ <https://valtioneuvosto.fi/en/-/government-decided-on-means-of-reducing-emissions-from-road-transport-emissions-to-be-halved-by-2030>

⁹ <https://www.fingrid.fi/en/electricity-market/electricity-market-information/real-time-co2-emissions-estimate/>



Selection is consensus based, considers controversial issues, and includes life cycle assessments before making major investment decisions. The issuer has not carried out systematic climate risk assessments but considers starting reporting according to the TCFD recommendations. Relevant KPIs have been identified. Impact reporting will mostly be based on data verified by an external party.



The overall assessment of VR's governance structure and processes gives it a rating of **Excellent**.

Strengths

It is considered a strength that VR aims to achieve a substantial modal shift towards electric locomotives and electric buses and aims at increasing the share of electric locomotives from currently 49% to above 60% by 2031 (the highest share of electric locomotives possible with the current railway electrification status). This represents a dark green solution for clean and low carbon transport in a 2050 perspective and contributes to the necessary transition of the transport sector in Finland. VR informs that they cannot determine the speed of electrification but focuses on increasing electric transport where possible. The issuer also has a continuous dialogue with the government to increase the speed of electrification.

It is considered a strength that VR has concrete targets on GHG-emissions reductions and on energy efficiency and is working systematically to reach the targets. GHG-emissions per output increased by 2% from 2019 to 2021 mainly as a result of lower passenger volumes due to Covid-19, however, the total GHG-emissions decreased by 5% from 2019 to 2021.

VR's selection process is considered a strength. The issuer is among others screening for controversial projects and is including life cycle assessments in the investment decision process. It is furthermore positive that VR is including environmental and social requirements to their suppliers and subcontractors, and that they require environmental product declaration for big purchases.

Weaknesses

We find no material weaknesses in the VR's green finance framework.

Pitfalls

VR is aware of some of the physical climate risks they are exposed to but are not conducting systematic climate risk assessments to identify the most salient risks for their operations and supply chain. However, the issuer is currently considering reporting in line with the TCFD-guidelines.

The framework specifically excludes investments in locomotives solely run on diesel and fossil fueled equipment. However, investors should be aware even though investments are not made in locomotives solely run on diesel, the Sr3 locomotives will be equipped with auxiliary diesel engine units for use when electricity is not available (estimated by VR to be 1% of the duty hours). VR will transport fossil fuels (representing approx. 4% of the total transportation volume) even though no financing will be dedicated to fossil fuel transportation. VR might also have other emission intensive customers.



Appendix 1: Referenced Documents List

Document Number	Document Name	Description
1	Green Finance Framework, dated May 2022.	Green Finance Framework.
2	VR Group's Environmental Policy including environmental targets.	Environmental policy given on the VR's website.
3	VR Group's Code of Conduct.	Code of Conduct given on the VR's website.
4	VR Group's Code of Conduct for suppliers.	Code of Conduct for suppliers given on the VR's website.
5	VR Group's Corporate Responsibility report, dated April 2021	Report summarizing VR's corporate responsibilities.
6	VR Group's presentation, dated September 9, 2021.	Presentation prepared for meeting with CICERO Shades of Green.



Appendix 2: About CICERO Shades of Green

CICERO Green is a subsidiary of the climate research institute CICERO. CICERO is Norway's foremost institute for interdisciplinary climate research. We deliver new insight that helps solve the climate challenge and strengthen international cooperation. CICERO has garnered attention for its work on the effects of manmade emissions on the climate and has played an active role in the UN's IPCC since 1995. CICERO staff provide quality control and methodological development for CICERO Green.

CICERO Green provides second opinions on institutions' frameworks and guidance for assessing and selecting eligible projects for green bond investments. CICERO Green is internationally recognized as a leading provider of independent reviews of green bonds, since the market's inception in 2008. CICERO Green is independent of the entity issuing the bond, its directors, senior management and advisers, and is remunerated in a way that prevents any conflicts of interests arising as a result of the fee structure. CICERO Green operates independently from the financial sector and other stakeholders to preserve the unbiased nature and high quality of second opinions.

We work with both international and domestic issuers, drawing on the global expertise of the Expert Network on Second Opinions (ENSO). Led by CICERO Green, ENSO contributes expertise to the second opinions, and is comprised of a network of trusted, independent research institutions and reputable experts on climate change and other environmental issues, including the Basque Center for Climate Change (BC3), the Stockholm Environment Institute, the Institute of Energy, Environment and Economy at Tsinghua University and the International Institute for Sustainable Development (IISD).



- ★ **2020 External Assessment Provider Of The Year**, Environmental Finance Green Bond Awards
- ★ **2020 Largest External Review Provider In Number Of Deals**, Climate Bonds Initiative Awards
- ★ **2019 External Assessment Provider Of The Year**, Environmental Finance Green Bond Awards
- ★ **2019 Largest Green Bond SPO Provider**, Climate Bonds Initiative Awards
- ★ **2018 External Assessment Provider Of The Year**, Environmental Finance Green Bond Awards
- ★ **2018 Largest External Reviewer**, Climate Bonds Initiative Awards
- ★ **2017 Best External Assessment Provider**, Environmental Finance Green Bond Awards
- ★ **2016 Most Second Opinions**, Climate Bonds Initiative Awards