02 June 2022

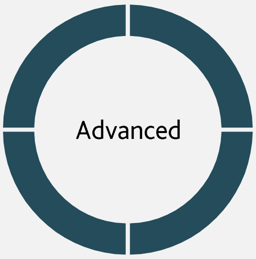
SECOND PARTY OPINION

on the sustainability of České dráhy's Green Finance Framework

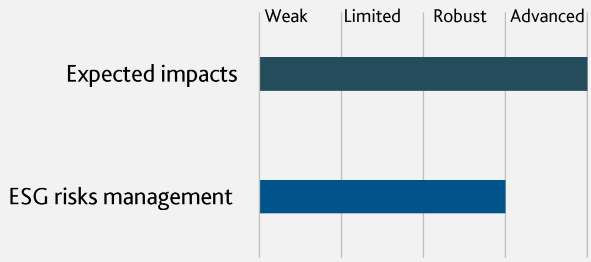
Moody's ESG Solutions considers that České dráhy's Framework is aligned with the four core components of the ICMA's Green Bond Principles 2021 ("GBP") and the LMA/APLMA/LSTA's Green Loan Principles 2021 ("GLP") .

Framework

Contribution to Sustainability:



Advanced Limited
Robust Weak



SDG Mapping

Characteristics of the Framework

Green Category	⇒ Clean transportation
Project Locations	Czech Republic
Existence of Framework	Yes
Share of Refinancing	To be disclosed prior to each issuance
Look-back Period	24 months

Issuer

Controversial Activities

The Issuer is involved in 4 of the 17 controversial activities screened under our methodology:

☒ Alcohol	☒ Fossil fuels industry	☐ High interest rate lending	☐ Pornography
☐ Animal welfare	☐ Coal	☐ Human embryonic stem cells	☐ Reproductive medicine
☐ Cannabis	☐ Gambling	☒ Military	☐ Tobacco
☐ Chemicals of concern	☒ Genetic engineering	☐ Nuclear power	☐ Unconventional oil and gas
☐ Civilian firearms			

ESG Controversies

Number of Controversies	None
Frequency	N/A
Severity	N/A
Responsiveness	N/A

Coherence

Coherent
Partially coherent
Not coherent

Moody's ESG Solutions considers that the contemplated Framework is coherent with České dráhy's strategic sustainability priorities and sector issues and that it contributes to achieving the Issuer's sustainability commitments.

Key findings

Moody's ESG Solutions considers that České dráhy's Green Finance Framework is aligned with the four core components of the GBP and GLP.

Use of Proceeds - aligned with the GBP and GLP and best practices identified by Moody's ESG Solutions

- The Eligible Category is clearly defined and detailed. The Issuer has communicated the nature of the expenditures, eligibility criteria and location of Eligible Projects for the category.
- The Environmental Objectives are clearly defined, relevant and set in coherence with sustainability objectives defined in international standards for the Eligible Category.
- The Expected Environmental Benefits are clear, precise, relevant and measurable. They will be quantified for the Eligible Category in the reporting.
- The Issuer has committed to transparently communicate to investors the estimated share of refinancing prior to each issuance. The look-back period for refinancing the Eligible Category will be equal to or less than 24 months from the issuance date, in line with good market practices.

Evaluation and Selection - aligned with the GBP and GLP

- The Process for Project Evaluation and Selection has been clearly defined and detailed by the Issuer. The process is well-structured in all the evaluation and selection steps (including the proposal, selection, validation and monitoring of the Eligible Category). The roles and responsibilities are clear and include relevant internal expertise. The process is publicly disclosed in the Framework.
- Eligibility criteria for project selection have been clearly defined and detailed by the Issuer, including relevant exclusion criteria, for the Eligible Category.
- The process applied to identify and manage potentially material ESG risks associated with Eligible Projects is publicly disclosed in the Framework. The process is considered robust: it combines monitoring, identification and corrective measures, for all Eligible Projects (see detailed analysis on pages 16 - 18).

Management of Proceeds - aligned with the GBP and GLP and best practices identified by Moody's ESG solutions

- The Process for the Management and Allocation of Proceeds is clearly defined and is publicly available in the Framework.
- The allocation period will be 24 months or less.
- The net proceeds of the Green Financing Instruments will be placed in the General Treasury and tracked by the Issuer in an appropriate manner and attested to in a formal internal process.
- Information on the intended types of temporary placement for the balance of the unallocated net proceeds is publicly disclosed.
- For as long as the Green Instruments are outstanding, the Issuer has committed to periodically adjust the balance of tracked net proceeds to match allocations to Eligible Projects.
- The Issuer has provided information on the procedure that will be applied in case of project divestment or postponement and has committed to reallocate divested proceeds to projects that comply with the Green Finance Framework.

Reporting - aligned with the GBP and GLP

- The Issuer has committed to report on the Use of Proceeds on an annual basis, until full allocation and on a timely basis in case of material developments. The report will be publicly available on the Issuer's website.
- The Issuer has committed to include in the reports relevant information related to the allocation of Bond proceeds and the expected sustainable benefits of the Eligible Category. The Issuer has also committed to report on material developments and controversies related to the Eligible Projects.
- The reporting methodology and assumptions used to report on environmental benefits of the Eligible Category will be publicly disclosed.
- An external auditor will verify the tracking and allocation of funds to the Eligible Category until bond maturity. The Issuer reports the intention to hire an external consultant for the first reporting periods on the environmental benefits of the Eligible Category.

Contact

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SCOPE

Moody's ESG Solutions was commissioned to provide an independent Second Party Opinion ("SPO") on the sustainability credentials and management of the Green Financing Instruments[1] to be issued by České dráhy's (the "Issuer") in compliance with the Green Financing Framework (the "Framework") created to govern their issuances.

Our opinion is established according to Moody's ESG Solutions' Environmental, Social and Governance ("ESG") exclusive assessment methodology and to the latest version of the voluntary guidelines of ICMA's Green Bond Principles ("GBP") - edited in June 2021 – and the LMA/APLMA/LSTA's Green Loan Principles ("GLP") - edited in February 2021 (referred together as the "GBP & GLP").

Our opinion is built on the review of the following components:

- Framework: we assessed the Framework, including the coherence between the Framework and the Issuer's environmental commitments, the Green Financing Instrument's potential contribution to sustainability and its alignment with the four core components of the GBP & GLP 2021.
- Issuer[2]: we assessed the Issuer's management of potential stakeholder-related ESG controversies and its involvement in controversial activities[3].

Our sources of information are multichannel, combining data (i) gathered from public sources, press content providers and stakeholders, (ii) from our exclusive ESG rating database, and (iii) information provided from the Issuer through documents.

We carried out our due diligence assessment from 28 April, 2022 to 2 June, 2022. We consider that we were provided access to all documents and interviewees we solicited. For this purpose, we made reasonable efforts to verify the accuracy of all data used as part of the assessment.

Type of External Reviews supporting this Framework

☒	Pre-issuance Second Party Opinion	☐	Independent verification of impact reporting
☒	Independent verification of funds allocation	☐	Climate Bond Initiative Certification

[1] The "Green Financing Instruments" are to be considered as the debt instruments to be potentially issued, subject to the discretion of the Issuer. The Green Financing Instruments may include bearer and registered bonds, promissory notes (*Schuldscheindarlehen*), commercial papers, loans or any other debt instruments. The name "Green Financing Instruments" has been decided by the Issuer: it does not imply any opinion from Moody's ESG Solutions.

[2] The Issuer is part of our rating universe. In agreement with the Issuer, this Second Party Opinion does not include the assessment of its ESG performance.

[3] The 17 controversial activities screened by Moody's ESG Solutions are: Alcohol, Animal welfare, Cannabis, Chemicals of concern, Civilian firearms, Coal, Fossil Fuels industry, Unconventional oil and gas, Gambling, Genetic engineering, Human embryonic stem cells, High interest rate lending, Military, Nuclear Power, Pornography, Reproductive Medicine and Tobacco.

COHERENCE

Coherent
Partially coherent
Not coherent

We consider that the contemplated Green Finance Framework is coherent with České dráhy's strategic sustainability priorities and sector issues and that it contributes to achieving the Issuer's sustainability commitments.

The UN Environment Programme reports that the transport sector contributes to roughly one-quarter of all energy associated greenhouse gas (GHG) emissions.[4] Currently, the transport sector is mainly reliant on fossil fuels, thus making it one of the main causes of urban and regional air pollution. According to the IEA, transport is the sector with the highest dependency on fossil fuels and accounts for 37% of CO_2 emissions from end-users.[5]

Within the sector, rail amounts to 8% of global passenger travel and around 9% of freight activity but only represents 3% of transport energy use.[6] To achieve the Net Zero targets at a global level, the passenger rail proportion compared to total transport should increase to at least 13% by 2030. To accomplish this goal, rail upgrades and digitalisation are regarded as ways to encourage a prompt change to rail. Rail is regarded as one of the most energy-efficient and least carbon-intensive means of transport, with rail and freight only emitting 1% of transport sector CO_2 emissions.[7]

One of the goals of the European Union and its Member States is to significantly lower its GHG emissions to realise the objectives of the Paris Agreement and reach climate neutrality by 2050.[8] This is conveyed in the European Green Deal, which calls for a 90% decrease in emissions by 2050 compared to 1990.

The European Environment Agency states that the GHG emissions from the European Union's transport sector grew continuously between 2013 and 2019.[9] Specifically, the EU's domestic transport emissions have increased by 0.8% between 2018 and 2019. Notwithstanding the decrease in emissions due to a lower activity caused by the COVID-19 pandemic in 2020, an increase could be expected until 2025 if no additional measures are applied, leaving transport emissions in 2030 approximately 10% above 1990 levels. However, if Member States perform additional measures targeted to reduce transport emissions, these could reach a level of 6% below 1990 by 2030. The majority of policies outline an encouragement of low-carbon fuels or electric cars, in addition to endorsing the choice of public transport. Considering the domestic transport categories, the only ones that have decreased since 1990 have been domestic navigation and railways. Trains are the most efficient way of passenger transport in the EU, generating GHG emissions per passenger kilometer travelled (pkm) that are only a small portion of most other modes. Rail freight emissions are also very low compared to the ones generated by heavy goods vehicles (HGV).[10]

In order to address air pollution and climate change as well as meet international and regional GHG emission reduction goals, it is therefore crucial for the sector to transition towards sustainable and low-emission transport modes, by shifting from private motor vehicles use to public transport and non-motorised transport[11]. Additionally, the Intergovernmental Panel on Climate Change (IPCC) has noted that electrification of the transport sector is critical for decarbonisation[12].

České dráhy environmental and sustainability commitments have been formalised in its conceptual paper "Strategic approach for Sustainable Development towards 2030"[13]. This Strategic approach for Sustainable Development has the objective to create sustainable value in České dráhy's activities whilst considering priority areas as identified by the company and its stakeholders with regards to corporate governance, environmental protection and social responsibility. This strategy outlines five key strategic areas that will be developed at group level: 1) Safety and reliability; 2) Environmentally friendly transport; 3) Clean transportation future; 4) Employer attractiveness; and 5) ESG corporate governance.

[4] https://www.unep.org/explore-topics/energy/what-we-do/transport#:~:text=The%20transport%20sector%20contributes%20approximately,urban%20and%20regional%20air%20pollution.
[5] https://www.iea.org/topics/transport
[6] https://www.iea.org/reports/rail
[7] https://ourworldindata.org/co2-emissions-from-transport
[8] https://www.eea.europa.eu/publications/rail-and-waterborne-transport
[9] https://www.eea.europa.eu/ims/greenhouse-gas-emissions-from-transport
[10] https://www.eea.europa.eu/publications/rail-and-waterborne-transport
[11] https://www.unep.org/explore-topics/energy/what-we-do/transport#:~:text=The%20transport%20sector%20contributes%20approximately,urban%20and%20regional%20air%20pollution.
[12] https://www.ipcc.ch/site/assets/uploads/sites/2/2019/02/SR15_Chapter2_Low_Res.pdf
[13] The summary of the Strategic approach for Sustainable Development towards 2030 is publicly available in the Issuer's Green Finance Framework. The Issuer has communicated that the strategy will be published during the course of 2022.

The second key area identified in the strategy, that is 'Environmentally friendly transport services', will be developed through the following initiatives:

- Actively contribute to the fulfilment of the European Union's environmental commitments and to increase the efficiency of České dráhy's activities in the interest of environmental protection.
- Systematically measure České dráhy's corporate carbon footprint and gradually certify all relevant ČD operations from an environmental point of view.
- Further improve the energy efficiency of the company's operations, gradually increase the share of renewable energies its current mix and develop strategies to reduce diesel operation in its railway rolling stock
- Through the renewal and modernisation of České dráhy's rolling stock and the improvement of its services, encourage greater use of environment-friendly rail transport while seeking solutions that will enable the Company to gradually improve the energy efficiency of its operations.
- Strive to reduce the amount of waste produced and to minimise any adverse impact on the environment.

The third key area in the strategy, 'Clean transportation future', will be developed through the following initiatives:

- Help meet the Czech Republic's EU commitments to switch to more clean transportation by 2030.
- Promote the "Green Railway" concept (a platform co-founded by CDs), develop and test new multimodal transport services and inspire state and other public authorities in the field of clean transport.

Additionally, as part of addressing the reduction of its GHG emissions footprint in all areas of its operations, the Issuer has also set a 'Climate change mitigation and decarbonisation strategy', which aims to lower emissions and energy consumption of railway vehicles by renewing rolling stock. All newly acquired electric traction vehicles count with the possibility of energy recovery systems, which allow to notably lower its energy consumption. In 2021, the energy consumption areas were divided in railway vehicles, buildings and other consumption and road vehicles. Railway vehicles accounted for 89% of total energy consumption, of which 39% is traction diesel oil and 61% is traction electricity. Buildings accounted for 10% of total energy consumption and road vehicles accounted for 1%. In order to lower emissions and energy consumption of railway vehicles, the main instrument considered is to renew stock.

By creating a Framework to finance clean transportation assets, České dráhy coherently aligns with its sustainability strategy and commitments, and addresses the main issues of the sector in terms of environmental issues.

FRAMEWORK

České dráhy has described the main characteristics of the Green Financing Instruments within a formalised Green Financing Framework (the last updated version was provided to Moody's ESG Solutions on June 2nd, 2022), that covers the four core components of the GBP and GLP 2021. The Issuer has committed to make this document publicly accessible on České dráhy's website, in line with good market practices.

Alignment with the Green Bond Principles and Green Loan Principles

Use of Proceeds

Not Aligned	Partially Aligned	Aligned	**Best Practices**

The net proceeds of the Green Financing Instruments will exclusively finance or refinance, in part or in full, projects falling under one Green Category ("Eligible Category)", as indicated in Table 1.

- The Eligible Category is clearly defined and detailed. The Issuer has communicated the nature of the expenditures, eligibility criteria and location of Eligible Projects for the category.
- The Environmental Objectives are clearly defined, relevant and set in coherence with sustainability objectives defined in international standards for the Eligible Category.
- The Expected Environmental Benefits are clear, precise, relevant and measurable. They will be quantified for the Eligible Category in the reporting.
- The Issuer has committed to transparently communicate to investors the estimated share of refinancing prior to each issuance. The look-back period for refinancing the Eligible Category will be equal to or less than 24 months from the issuance date, in line with good market practices.

BEST PRACTICES

⇒ The definition and eligibility criteria (selection and exclusion) are clear and in line with international standards for the category.
⇒ Relevant environmental benefits are identified and measurable for the category.
⇒ The Issuer has committed to transparently communicate to investors the estimated share of refinancing prior to each bond issuance.
⇒ The look-back period for refinanced assets is equal or less than 24 months, in line with good market practices.

Table 1. Our analysis of the Eligible Category, Sustainability Objectives and Expected Benefits as presented in the Issuer's Framework.

- Nature of expenditures: CAPEX and OPEX, and Eligible Green Assets
- Location of Eligible Assets: Czech Republic

ELIGIBLE CATEGORY	DESCRIPTION	SUSTAINABILITY OBJECTIVES AND BENEFITS	MOODY'S ESG SOLUTIONS' ANALYSIS
Clean Transportation	Zero emission rolling stock: Electric locomotives and associated freight and passenger vehicles that have zero direct CO_2 emissions. Assets under this category will also comply with the following EU Economic Activity: • Passenger interurban rail transport (NACE codes: H49.1.0, N77.3.9) • Freight rail transport (NACE codes: H49.2.0, N77.3.9) • Urban and suburban transport, road passenger transport (NACE codes: H49.3.1) Exclusions: • Diesel-fuelled rolling stock • Rolling stock that is dedicated to the transport of fossil fuels	Climate Change Mitigation GHG emissions avoided	The Eligible Category is clearly defined, the Issuer has communicated the nature of the expenditures, the eligibility criteria, and location of Eligible Assets. The Environmental Objective is clearly defined, it is relevant and set in coherence with sustainability objectives defined in international standards. The Expected Environmental Benefit is clear, it is considered relevant, measurable, and will be quantified in the reporting.

SDG Contribution

The Eligible Category is likely to contribute to 2 of the United Nations' Sustainable Development Goals ("SDGs"), namely:

ELIGIBLE CATEGORY	SDG	SDG TARGETS
Clean Transportation	11 Sustainable Cities and Communities	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.
	13 Climate Action	The Eligible Assets contribute to SDG 13, which is to take urgent action to combat climate change and its impacts.

Evaluation and Selection of Eligible Projects

Not Aligned	Partially Aligned	Aligned	Best Practices

- The Process for Project Evaluation and Selection has been clearly defined and detailed by the Issuer. The process is well-structured in all the evaluation and selection steps (including the proposal, selection, validation and monitoring of the Eligible Category). The roles and responsibilities are clear and include relevant internal expertise. The process is publicly disclosed in the Framework.
- Eligibility criteria for project selection have been clearly defined and detailed by the Issuer, including relevant exclusion criteria, for the Eligible Category.
- The process applied to identify and manage potentially material ESG risks associated with Eligible Projects is publicly disclosed in the Framework. The process is considered robust: it combines monitoring, identification and corrective measures, for all Eligible Projects (see detailed analysis on pages 16-18).

Process for Project Evaluation and Selection

- For the purpose of the Bonds, a Green Finance Committee ("the Committee") has been created. This Committee is composed of members from České dráhy Treasury, Corporate Responsibility, and other parties across different departments to be nominated as subject matter experts.
- The Committee will meet at least once a year, and is responsible for:
    - Evaluating and defining the Eligible Green Project Portfolio in line with the Eligibility Criteria as set out in the Framework, validating the purpose of the financing and the environmental objectives they contribute to.
    - Overseeing, approving and publishing the allocation and impact reporting, including external assurance statements.
    - Reviewing the content of the Company´s Green Finance Framework and updating it to reflect changes in corporate strategy, technology, market or regulatory developments on a best effort basis.
    - Seeking update of non-České dráhy documents such as Second Party Opinion (SPO) and related documents from external consultants and accountant.
- The traceability and verification of the selection and evaluation of the projects/assets is ensured throughout the process:
    - The Issuer will ensure that the Eligible Project portfolio complies with the eligibility criteria set in the Framework by monitoring the compliance annually and until full allocation of proceeds. In case projects no longer comply with the eligibility criteria or have been disposed, the Committee will exclude these projects and replace them on a best effort basis.
    - The Issuer will monitor an internal process dedicated to identify mitigants to known material risks of negative social and/or environmental impacts associated with the Eligible Green Project Portfolio. The Issuer reports that such mitigants may include clear and relevant trade-off analysis undertaken and monitoring required where the Company assesses the potential risks to be meaningful. In addition, the Issuer will mitigate environmental and social risks potentially associated with the Eligible Green Projects Portfolio through the Company's due diligence processes, and comply with official national and international environmental and social standards, and local laws and regulations, on a best effort basis. This monitoring will be conducted on a yearly basis and until full allocation of proceeds. Additionally, the Issuer commits to transparently report on project-related controversies, if any. In cases where controversies arise, the project will be substituted.
    - The Issuer reports that decisions taken concerning the evaluation, selection and monitoring of projects will be documented. Documents and related information material on potential projects will be shared with the Committee members via e-mail.

Eligibility Criteria

The process relies on explicit eligibility criteria (selection and exclusion), relevant to the environmental objectives defined for the Eligible Categories.

- The selection criteria is based on the definitions in the Eligible Categories defined Table 1 in the Use of Proceeds section.
- The Issuer is committed to exclude "Diesel fuelled rolling stock" and "Rolling stock that is dedicate to the transport of fossil fuels". The Issuer also reports that it will consider negative impacts of potential investments beforehand.

BEST PRACTICES
⇒ Eligibility and exclusion criteria for asset selection are clearly defined and detailed for the Eligible Category.

Management of Proceeds

Not Aligned	Partially Aligned	Aligned	**Best Practices**

- The Process for the Management and Allocation of Proceeds is clearly defined and is publicly available in the Framework.
- The allocation period will be 24 months or less.
- The net proceeds of the Green Financing Instruments will be placed in the General Treasury and tracked by the Issuer in an appropriate manner and attested to in a formal internal process.
- Information on the intended types of temporary placement for the balance of the unallocated net proceeds is publicly disclosed.
- For as long as the Green Instruments are outstanding, the Issuer has committed to periodically adjust the balance of tracked net proceeds to match allocations to Eligible Projects.
- The Issuer has provided information on the procedure that will be applied in case of project divestment or postponement and has committed to reallocate divested proceeds to projects that comply with the Green Finance Framework.

Management Process

- The net proceeds of the Green Financing Instruments will be credited to the Issuer's general treasury.
- The Green Finance Committee will be responsible for overseeing the allocation of the proceeds from Green Finance Instruments to the Eligible Green Project Portfolio and ensure that the value of the Eligible Green Project Portfolio (at least) equals or exceeds the value of issued Green Finance Instruments. The Issuer will aim to maintain a constant buffer of Eligible Green Projects in the portfolio compared to the total amount of Green Finance Instruments issued. Additional projects will be added to the Eligible Green Project Portfolio to the extent required.
- The Issuer aims to allocate the Green Finance Instrument proceeds within a timeframe of 24 months after issuance.
- The unallocated proceeds will be held in a separate depository account at the Czech National Bank until final allocation. The Issuer reports that placing the proceeds from the Green Financing Instruments into this segregated account will prevent investing into instruments that might rise controversies. The Issuer has communicated that the unallocated proceeds from that account will only be used for the allocation to the Eligible Green Assets.
- In case of projects postponement, cancelation, divestment or ineligibility, the Issuer has committed to replace the no longer Eligible Project by a new Eligible Project, on a best effort basis. Although no commitment has been made on a specific timeframe to reallocate the proceeds, the Issuer reports that the reallocation process will start immediately after funds become available.

BEST PRACTICES

⇒ The allocation period is 24 months or less.

⇒ The Issuer has committed not to invest temporarily unallocated net proceeds in GHG intensive activities or controversial activities.

⇒ The Issuer has provided information on the procedure that will be applied in case of project/asset divestment or postponement and it has committed to reallocate divested proceeds to projects that are compliant with the Green Finance Framework.

Reporting

Not Aligned	Partially Aligned	**Aligned**	Best Practices

- The Issuer has committed to report on the Use of Proceeds on an annual basis, until full allocation and on a timely basis in case of material developments. The report will be publicly available on the Issuer's website.
- The Issuer has committed to include in the reports relevant information related to the allocation of Bond proceeds and the expected sustainable benefits of the Eligible Category. The Issuer has also committed to report on material developments and controversies related to the Eligible Projects.
- The reporting methodology and assumptions used to report on environmental benefits of the Eligible Category will be publicly disclosed.
- An external auditor will verify the tracking and allocation of funds to the Eligible Category until bond maturity. The Issuer reports the intention to hire an external consultant for the first reporting periods on the environmental benefits of the Eligible Category.

Indicators

The Issuer has committed to transparently communicate at Eligible Category level, on:

- Allocation of proceeds: The indicators selected by the Issuer to report on the allocation of proceeds are relevant and exhaustive.

REPORTING INDICATORS
⇒ The list of Eligible Projects (re)financed, including a brief description ⇒ The total amount of Green Finance Instruments outstanding ⇒ The amount of proceeds allocated to Eligible Green Categories (if feasible, on a project basis); ⇒ The balance of unallocated proceeds ⇒ The amount or the percentage of new financing and refinancing ⇒ The balance of the unallocated proceeds and the projects they will be allocated to ⇒ % of co-financing (if any)

- Environmental benefits: The indicators selected by the Issuer to report on the environmental benefits are clear, relevant and exhaustive.

ELIGIBLE CATEGORIES	ENVIRONMENTAL BENEFITS INDICATORS	
	OUTPUTS AND OUTCOMES	IMPACT INDICATORS
Clean Transportation		Annual GHG emissions avoided ($tCO_2eq.$) Reduction in emissions intensity (gCO_2 eq. per ton-km for freight activity or gCO_2 eq. per passenger-km for passenger activity)

Of note, the Issuer reports that indicators may include others not specified in the framework but which follow the ICMA guidelines on impact indicators.

BEST PRACTICES

⇒ The Issuer report will be publicly available.

⇒ The reporting will cover relevant information related to the allocation of Bond proceeds and to the expected sustainable benefits of the Category. The Issuer has also committed to report on material development related to the projects, including ESG controversies.

⇒ The indicators selected by the Issuer are exhaustive with regards to allocation reporting.

⇒ The indicators selected by the Issuer are clear and relevant and cover all expected benefits associated with the Eligible Category.

⇒ The reporting methodology and assumptions used to report on environmental benefits of the Eligible Category will be disclosed publicly.

CONTRIBUTION TO SUSTAINABILITY

Expected Impacts

The potential positive Impact of the eligible projects on environmental and social objectives is considered to be advanced.

ELIGIBLE CATEGORY	EXPECTED IMPACT	ANALYSIS
Clean Transportation	ADVANCED	Companies that provide rail transport services have a crucial role in supporting national climate plans and initiatives that promote cleaner modes of transportation, particularly by replacing their railway fleets with zero direct CO_2 emissions locomotives and associated railway vehicles. In 2018, the GHG emissions from the Czech transport sector coming from diesel oil amounted to 274kt and from coal 2.6kt[14], indicating the strong dependency of railways on fossil fuel consumption. As of 2018, electricity supplied 86% of the total railway traffic volumes, with 54% of locomotives being powered by electricity.[15] The category will contribute to the Czech Republic national goal to use electricity as the main energy source for rail transport. The Transport Policy of the Czech Republic for 2021-2027 envisages the actions to update railway vehicles because of obsolescence, increase on transport demand and required infrastructure investments.[16] Thus considering the use of rail transport of paramount importance in order to decrease pollutant emissions. However, it is important to note that coal is the country's only domestic fossil fuel, and is the key energy source in the Czech Republic[17]. In 2020, the share of coal in electricity generation accounted for 41%[18]. Therefore, some negative short to medium term impacts exist linked to the energy sources used to power the electric railways, and the long-term positive impact of the assets will depend on the future decarbonisation of the country's energy mix. Nonetheless, the increased electrification of railways would still lead to higher overall energy efficiency and lower emissions. Investing in electric locomotives and related railway vehicles has a global benefit through avoided GHG emissions, as well as a local positive impact through improved air quality. Furthermore, the eligible category follows the best technology available in the sector, which will contribute to the claimed objective in the location and context of the category.

OVERALL ASSESSMENT	ADVANCED

[14] Ibid
[15] https://unfccc.int/sites/default/files/resource/cze-2020-nir-7may20.pdf
[16] https://www.mdcr.cz/getattachment/Dokumenty/Strategie/Dopravni-politika-Ceske-republiky-pro-obdobi-2021/Dopravni_Politika_CR_ENG.pdf.aspx
[17] https://www.iea.org/reports/czech-republic-2021
[18] Ibid

ESG Risks Identification and Management Systems in Place at Project Level

The identification and management of the environmental, social, and governance risks associated with the Eligible Category are considered robust.

ENVIRONMENTAL RISKS

Environmental Management System (EMS)

České dráhy reports that certain companies within its group (CD Cargo, DPOV, CD IS, CD Telematika) have an EMS certified against the ISO 14001 certification, and that by 2025 it commits to implement the same for all its other companies. However, Moody's ESG solutions does not have visibility on whether these environmental management systems cover the operation, maintenance, and repair activity of all Eligible Green Assets in accordance with ISO 14001.

Energy consumption and efficiency

České dráhy reports that all its subsidiaries, except for CD Telematika, DVI, and CD travel, have ISO 50001 certification on energy management. In addition, all the new electric traction vehicles or units that will be acquired by the Issuer have the option of using energy recovery systems, which will reduce energy consumption. Newly purchased electric vehicles with this recuperation technology will reportedly allow energy savings of at least 8%. Moreover, the subsidiaries CD, a.s. and ČD Cargo invest in installation of electricity meters in older vehicles which allows them to monitor energy consumption.

Environmental pollution

The Issuer has reported on some measures to prevent environmental pollution. For instance, in the event of leakage of hazardous substances into the environment, the organisational unit of Česke Drahy, in cooperation with the crash officer of the DG of the Rolling Stock Department, takes care of elimination of initial consequences and possible subsequent measures with the participation of state administration bodies[19]. The Issuer also reports that all handling of chemical substances and chemical mixtures, including storage, is always carried out in accordance with the conditions of the relevant safety data sheets and fire protection[20]. As per soil and groundwater remediation, the Issuer reports that the state administration body decides on corrective measures if consequences of an accidental leak cannot be eliminated within the initial intervention[21]. In case of a decision on a corrective measure, risk analysis is first prepared, based on which a remediation project is planned, and which is approved by the state administration body in order to ensure compliance with the imposed corrective conditions. The remediation actions are reportedly checked internally on quarterly inspection days and by the state administration every six months[22]. Furthermore, as per noise pollution, the Issuer reports that ČD Cargo retrofit its wagons with acoustically efficient composite brake blocks to fulfil the requirements of the Noise Technical Specification for Interoperability. However, Moody's ESG solutions does not have visibility as to whether these measures to prevent environmental pollution are implemented throughout the company and specifically to the Eligible Green Assets.

Eco-design, End-of-life, and Decommissioning

In regards to the eco-design of the Eligible Green Assets, the Issuer reports to conduct a life-cycle assessment in the planning stage, and to include recycling as part of the disassembly stage of the assets. Rolling stocks owned by the Company are reportedly disassembled in a specialised facility - including large iron parts, glass, wood, copper, bronze, aluminium, installation material – and subsequently processed by third parties. The interior components of rolling stocks are reportedly disassembled and liquidated by third parties.

Concerning the end-of life- of the assets, the Issuer reports to apply principles of circular economy. The subsidiaries ČD, a.s. and ČD Cargo retire every year rolling stock from their fleet, and worn-out freight wagons are selected for disposal (sale) or scrapping. Additionally, suitable spare parts from disposed vehicles are reportedly recovered for their use during the repair of other vehicles. Maintenance and repair of railway vehicles is carried out mainly by the Issuer's own repair centres (ČD, a.s. / DPOV Přerov) as well as externally.

[19] http://www.ceskedrahy.cz/assets/pro-investory/financni-zpravy/vyrocni-zpravy/annual_report_2021.pdf
[20] Ibid
[21] Ibid
[22] Ibid

Waste management

The Issuer reports to comply with the legal and regulatory obligations of the general legislative framework in the Czech Republic which regulates waste, packaging and end-of life products. In particular, the Issuer complies with the Act No 541/2020 Coll on waste, which emphasises waste prevention, defines the hierarchy of waste handling, and promotes the fundamental principles of environmental and health protection in waste handling. The Issuer focuses on waste prevention, recycling and cooperates with used product collection systems (electrical and electronic appliances, batteries and accumulators, etc.). All produced waste by the Issuer is reportedly handed over exclusively to entities authorised for waste handling. České dráhy reports to not treat its own waste or waste from other producers.

SOCIAL RISKS

Human rights and labour rights

The Issuer has stated that its subsidiaries are subject to standard labour legislation of the Czech Republic. Additionally, the Issuer's business partners must abide by the group's Code of Conduct[23], which covers issues of human rights, such as forced labour, discrimination, etc., as well as labour issues which make reference to the respect of employees rights. In case of a breach of compliance to the Code of Conduct, corrective actions and means will be defined, and if not met the Issuer may terminate the business contract. While the Issuer has communicated that "compliance with all laws and regulation is subject to regular and random checks", it is not clear what steps the company takes to ensure that human and labour rights are respected throughout the company's operations.

Health and safety

České dráhy reports to comply with health and safety regulation. The Issuer's subsidiaries including ČD a.s., ČD Cargo, ČD IS and ČD Telematika are ISO 45001 certified[24]. Additionally, the Issuer reports to have preventative measures against occupational injuries and diseases. For instance, the Issuer's occupational preventive care facilities cooperate with the relevant sanitation service and participate in training and education in protecting and supporting health[25]. It also monitors its employees' medical condition and the impact of performing their jobs on their health. Medical examinations are carried out for its employees as part of preventive healthcare in the workplace[26]. There is limited visibility on processes or policies in place to remediate any work-related accidents.

As per the operational safety linked to the Green Eligible Assets, the Issuer reports that improvements on the quality and safety of its services will be achieved primarily through the modernisation of rolling stocks, regular training of staff, especially drivers, and the implementation of the mobile part of the European Train Control System (ETCS), which ensures the safety systems of European railways. Assurance of a sufficient number of the ETCS On Board Unit (OBU)-equipped vehicles is reportedly carried out at two levels. The first level is acquisition of new vehicles where the ETCS OBU is already implemented from the factory. The second level is the equipment of existing vehicles with onboard units, including modernised vehicles, often referred to as 'retrofitting'.

Social and environmental factors in the supply chain

The Issuer observes the principles of socially and environmentally responsible procurement procedure as defined under Act. No. 134/2016 Coll of Czech legislation on the award of public contracts, namely regarding the creation of tender conditions, the evaluation of tenders and the selection of suppliers. This allows contracting authorities to lay down the conditions for participation in the procurement procedure, including conditions regarding the environmental impact of the subject matter of the public contract. It refers to quality assurance systems based on the relevant European standards series certified by accredited bodies and to the Eco-Management and Audit Scheme (EMAS) of the EU where compliance with environmental management systems is required. In addition, a general legal obligation which came into force in 2021 makes it mandatory for every public contracting authority to consider possible environmental, social and innovative potential of every one of their tenders. While we acknowledge that relevant considerations are taken into account during the tender process, we have no visibility on how these are ensured and the consequences of non-compliance.

[23] http://www.ceskedrahy.cz/assets/skupina-cd/Code-of-Conduct/code-of-conduct-for-business-partners-en.pdf
[24] http://www.ceskedrahy.cz/skupina-cd/personalistika/zdravotnicke-sluzby/-13001/
[25] Ibid
[26] Ibid

GOVERNANCE RISKS

Business ethics

České dráhy's Code of Conduct for business partners[27] covers issues of corruption and bribery, and anti-competitive practices. The Issuer requires that its contracts with business partners comply and respect the undertakings. In case of a breach of compliance to the Code of Conduct, corrective actions and means will be defined, and in case of non-existence of such an undertaking or if the corrective action is not met, the Issuer may terminate the business contract. The Issuer has established an anonymous e-mail address for business partners to report any behaviour that goes against the Code of Conduct. Within the Group, all subsidiaries are bound by the Issuer's Compliance Policy[28] which also covers business ethics issues such as zero tolerance of discrimination, conflict of interest, and insider trading. The Issuer reports that all its employees are trained on business ethics issues at the beginning of their employment and regularly every two years, while more frequent trainings are provided to employees exposed to higher risks. A whistleblowing system is available for employees to report any suspicion of violation by contacting the Compliance officer or direct manager, or also through an anonymous form[29]. There is no visibility as to how the Issuer implements measures to monitor compliance of business ethics issues.

[27] http://www.ceskedrahy.cz/assets/skupina-cd/Code-of-Conduct/code-of-conduct-for-business-partners-en.pdf
[28] http://www.ceskedrahy.cz/assets/skupina-cd/Politika-compliance-Skupiny-cd/politika-compliance-skupiny-cd--.pdf
[29] http://www.ceskedrahy.cz/assets/pro-investory/financni-zpravy/vyrocni-zpravy/annual_report_2021.pdf

ISSUER

Management of ESG Controversies

As of today, the review conducted by Moody's ESG Solutions did not reveal any ESG controversy against České dráhy over the last four years.

Involvement in Controversial Activities

The Issuer appears to be involved in 4 of the 17 controversial activities screened under our methodology, namely:

Minor involvement in Alcohol: České dráhy has an estimated turnover from alcoholic beverages which is less than 5% of total turnover. This turnover is derived from the sale of alcoholic beverages on trains in the Czech Republic. Company associate JLV a.s. (38.79% owned) provides restaurant services on Company trains, including a selection of alcoholic beverages such as beers, wines and spirits.

Minor involvement in the Fossil Fuels Industry: České dráhy has an estimated turnover from fossil fuels which is less than 5% of total turnover. This turnover is derived from wholly-owned subsidiary, CD Cargo, which transports brown coal (lignite), black coal, and coke for both large industrial and power groups, and for other customers.

Minor involvement in Genetic Engineering: České dráhy supplies own-branded food products potentially containing GMOs. Company associate, JLV a.s. (38.79% owned), provides restaurant services on dining and bistro railway cars under the CD Restaurant brands. The Company communicated to use that "The catering is prepared internally with specific EU procedures and certificates in place." As the Company operates within the European Union, it is assumed that the Company has adopted an avoidance/labelling policy in line with current EU rules.

Minor involvement in Military: České dráhy has an estimated turnover from military sales, which is less than 5% of total turnover. This turnover is derived from the transport of military equipment via train to and from the Czech Republic.

The Issuer does not appear to be involved in any of the other 13 controversial activities examined in our methodology, namely:

Animal welfare, Cannabis, Chemicals of Concern, Civilian firearms, Coal, Unconventional oil and gas, Gambling, Human embryonic stem cells, High-interest rate lending, Nuclear Power, Pornography, Reproductive Medicine and Tobacco.

The controversial activities research provides screening of companies to identify involvement in business activities that are subject to philosophical or moral beliefs. The information does not suggest any approval or disapproval on their content from Moody's ESG Solutions.

METHODOLOGY

In our view, Environmental, Social and Governance (ESG) factors are intertwined and complementary. As such they cannot be separated in the assessment of ESG management in any organisation, activity or transaction. In this sense, we provide an opinion on the Issuer's ESG performance as an organisation, and on the processes and commitments applicable to the intended issuance.

Our Second Party Opinions (SPOs) are subject to internal quality control at three levels (Analyst, Project Manager and Quality Reviewer). If necessary, this process is complemented by a final review and validation by the Expertise Committee and Supervisor. A right of complaint and recourse is guaranteed to all companies under our review.

COHERENCE

Scale of assessment: not coherent, partially coherent, coherent

This section analyses whether the activity to be financed through the selected instrument is coherent with the Issuer's sustainability priorities and strategy, and whether it responds to the main sustainability issues of the sector where the Issuer operates.

ISSUANCE

Alignment with the Green and/or Social Bond Principles

Scale of assessment: Not aligned, Partially aligned, Aligned, Best Practices

The Framework has been evaluated by Moody's ESG Solutions according to the ICMA's Green Bond Principles - June 2021("GBP") and the LMA/APLMA/LSTA's Green Loan Principles – February 2021 ("GLP"), and on our methodology based on international standards and sector guidelines applicable in terms of ESG management and assessment.

Use of proceeds

The definition of the Eligible Projects and their sustainable objectives and benefits are a core element of Green Bonds and Loans standards. Moody's ESG Solutions evaluates the clarity of the definition of the Eligible Categories, as well as the definition and the relevance of the primary sustainability objectives. We evaluate the descriptions of the expected benefits in terms of relevance, measurability and quantification. In addition, we map the potential contribution of Eligible Projects to the United Nations Sustainable Development Goals' targets.

Process for evaluation and selection

The evaluation and selection process is assessed by Moody's ESG Solutions on its transparency, governance and relevance. The eligibility criteria are assessed on their clarity, relevance and coverage vs. the intended objectives of the Eligible Projects.

Management of proceeds

The process and rules for the management and the allocation of proceeds are assessed by Moody's ESG Solutions on their transparency, traceability and verification.

Reporting

The monitoring and reporting process and commitments defined by the Issuer are assessed by Moody's ESG Solutions on their transparency, exhaustiveness and relevance, covering the reporting of both proceeds' allocation and sustainable benefits (output, impact indicators).

Contribution to sustainability

Scale of assessment: Weak, Limited, Robust, Advanced

Our assessment of activities' contribution to sustainability encompasses both the evaluation of their expected positive impacts on environmental objectives, as well the management of the associated potential negative impacts and externalities.

Expected positive impact of the activities on environmental objectives

The expected positive impact of activities on environmental objectives to be financed by the Issuer is assessed on the basis of:

i) the relevance of the activity to respond to an important environmental objective for the sector of the activity;

ii) the scope of the impact: the extent to which the expected impacts are reaching relevant stakeholders (i.e. the Issuer, its value chain, local and global stakeholders);

iii) the magnitude and durability of the potential impact of the proposed activity on the environmental capacity to not just reduce, but to prevent/avoid negative impact; or to provide a structural/long-term improvement);

iv) for environmental objectives only: the extent to which the activity is adopting the best available option.

ESG risk management for eligible activities

The identification and management of the potential ESG risks associated with the eligible projects/activities are analysed on the basis of Moody's ESG Solutions' ESG assessment methodology, international standards and sector guidelines applicable in terms of ESG management and assessment.

ISSUER

Management of Stakeholder Related ESG Controversies

Moody's ESG Solutions defines a controversy as public information or contradictory opinions from reliable sources that incriminate or make allegations against an Issuer regarding how it handles ESG issues as defined in Moody's ESG Solutions' ESG framework. Each controversy may relate to several facts or events, to their conflicting interpretations, legal procedures or non-proven claims.

We reviewed information provided by the Issuer, press content providers and stakeholders (partnership with Factiva Dow Jones: access to the content of 28,500 publications worldwide from reference financial newspapers to sector-focused magazines, local publications or Non Government Organizations). Information gathered from these sources is considered as long as it is public, documented and traceable.

We provide an opinion on companies' controversies risks mitigation based on the analysis of 3 factors:

- Frequency: reflects for each ESG challenge the number of controversies that the Issuer has faced. At corporate level, this factor reflects on the overall number of controversies that the Issuer has faced and the scope of ESG issues impacted (scale: Isolated, Occasional, Frequent, Persistent).
- Severity: the more a controversy is related to stakeholders' fundamental interests, proves actual corporate responsibility in its occurrence, and have caused adverse impacts for stakeholders and the company, the higher its severity is. Severity assigned at the corporate level will reflect the highest severity of all cases faced by the company (scale: Minor, Significant, High, Critical).
- Responsiveness: ability demonstrated by an Issuer to dialogue with its stakeholders in a risk management perspective and based on explanatory, preventative, remediating or corrective measures. At corporate level, this factor will reflect the overall responsiveness of the company for all cases faced (scale: Proactive, Remediate, Reactive, Non- Communicative).

The impact of a controversy on a company's reputation reduces with time, depending on the severity of the event and the company's responsiveness to this event. Conventionally, our controversy database covers any controversy with Minor or Significant severity during 24 months after the last event registered and during 48 months for High and Critical controversies.

Involvement in Controversial Activities

17 controversial activities have been analysed following 30 parameters to screen the company's involvement in any of them. The company's level of involvement (Major, Minor, No) in a controversial activity is based on:

- An estimation of the revenues derived from controversial products or services.
- The specific nature of the controversial products or services provided by the company.

OUR ASSESSMENT SCALES

Scale of assessment of Issuer's ESG performance or strategy and financial instrument's Contribution to sustainability	
Advanced	Advanced commitment; strong evidence of command over the issues dedicated to achieving the sustainability objective. An advanced expected impact combined with an advanced to robust level of ESG risk management & using innovative methods to anticipate new risks.
Robust	Convincing commitment; significant and consistent evidence of command over the issues. A robust expected impact combined with an advance to robust level of assurance of ESG risk management or an advanced expected impact combined with a limited level of assurance of ESG risk management.
Limited	Commitment to the objective of sustainability has been initiated or partially achieved; fragmentary evidence of command over the issues. A limited expected impact combined with an advanced to limited level of assurance of ESG risk management; or a robust expected impact combined with a limited to weak level of assurance of ESG risk management; or an advance expected impact combined with a weak level of assurance of ESG risk management.
Weak	Commitment to social/environmental responsibility is non-tangible; no evidence of command over the issues. A weak expected impact combined with an advanced to weak level of assurance of ESG risk management or a limited expected impact with a weak level of assurance of ESG risk management.

Scale of assessment of financial instrument's alignment with Green and/or Social Bond and Loan Principles	
Best Practices	The Instrument's practices go beyond the core practices of the ICMA's Green and/or Social Bond Principles and/or of the LMA/APLMA/LSTA's Green and/or Social Loan Principles by adopting recommended and best practices.
Aligned	The Instrument has adopted all the core practices of the ICMA's Green and/or Social Bond Principles and/or of the LMA/APLMA/LSTA's Green and/or Social Loan Principles.
Partially Aligned	The Instrument has adopted a majority of the core practices of the ICMA's Green and/or Social Bond Principles and/or of the LMA/APLMA/LSTA's Green and/or Social Loan Principles, but not all of them.
Not Aligned	The Instrument has adopted only a minority of the core practices of the ICMA's Green and/or Social Bond Principles and/or of the LMA/APLMA/LSTA's Green and/or Social Loan Principles.

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