

Green Bond Evaluation by Japan Credit Rating Agency, Ltd.

Japan Credit Rating Agency, Ltd. (JCR) announces the Annual Review results of its Green Bond Evaluation.

## JCR Reviewed Green Bond Evaluation on Bonds of Odakyu Electric Railway Co., Ltd.

Subject	:	Odakyu Electric Railway Series 82 Unsecured Corporate Bonds (with limited inter-bond pari passu clause)
Type	:	Bonds
Issue Amount	:	JPY 10 Billion
Interest Rate	:	0.10%
Issue Date	:	January 31, 2019
Redemption Date	:	January 25, 2022
Method of Redemption	:	Bullet
Use of Proceeds	:	Refinancing and new investments to the green assets

### <Green Bond Review Results>

Overall Evaluation	Green 1
Greenness Evaluation (Use of Proceeds)	g1
Management, Operation and Transparency Evaluation	m1

## 1. Overview

On January 10, 2019, JCR announced its "Green 1" overall evaluation of Series 82 Unsecured Corporate Bonds which finances new construction and renovation of trains, equipping quadruple track and renovating railway stations and station facilities. The main summary is as follows.

### (Excerpted from the evaluation report on January 10, 2019)

Odakyu Electric Railway Co., Ltd. (Odakyu) is a major private railway company founded in May 1923 as Odawara Express Railway Co., Ltd. Odakyu operates a wide range of business activities, including transportation and merchandising mainly in the West-Tokyo and Kanagawa areas. Its core railway operations include Odakyu Odawara Line (Shinjuku to Odawara), Odakyu Enoshima Line (Sagami-Ono to Katase-Enoshima) and Odakyu Tama Line

(Shin-Yurigaoka to Karakida) with a total of 120.5 km. The number of passengers per day stands at about 2.07 million.

Odakyu Group, a corporate group with the centered in Odakyu Electric Railway Co., Ltd., defines three stages activities areas of activity and priority as the direction of its CSR activities. In terms of environmental issues, the Group has set "promotion of environmentally responsible initiatives" within the three prioritized areas. Odakyu implements to proactively promote an effort to reduce environmental footprint by several initiatives such as "Odakyu Group Environmental Strategy", "Reduce environmental footprint", "initiatives to live together with nature" and "Odakyu Environmental Room". Also, Odakyu Group is engaged in the activities to protect nature with the residents along the Odakyu lines in the area such as Hakone, Enoshima and Tanzawa-Oyama.

Bonds subject to evaluation are unsecured corporate bonds issued by Odakyu. The proceeds of this bond issue will be allocated to replace old trains to new or renewed train that achieves reduction effect on power consumption in comparison to the existing train, to the quadruple track project and to the renovation of the station.

As is described above, Odakyu Group designs "Odakyu Group Environmental Strategy", which sets out the direction of the Group from an environmental point of view, in order to implement "promotion of environmentally responsible initiatives", one of the three prioritized areas of CSR activities. Odakyu defines the actions that will contribute to "promotion of environmentally responsible initiatives" as eligible criteria for green bonds. JCR evaluates that the use of proceeds for green bonds meets the eligibility criteria.

JCR has confirmed that the management and operation system and transparency work, including the process of Odakyu's selection of the green bond project. JCR evaluates the management system and transparency of the bonds issued by Odakyu as robust and highly transparent.

**(Excerpt ended)**

JCR confirmed by Odakyu's reporting materials that all proceeds of the Bonds were allocated during the FY2019 to the three projects that were originally expected to be used for the funds.

In the three projects for which funding was carried, JCR reviewed data submitted by Odakyu on environmental improvement effects, and confirmed that, as originally planned, environmental improvement effects, including CO2 emission reductions, were being observed.

As a result, JCR assigns "g1" for "Greenness Evaluation (Use of Proceeds)" and "m1" for "Management, Operation and Transparency Evaluation". Consequently, JCR assigns "Green1" as an overall evaluation result of the Bonds. Detailed Evaluation is discussed in the next chapter.

The Bonds is considered to meet the criteria for items in Green Bond Principle and MOE's Green Bond Guidelines.<sup>12</sup>

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<sup>1</sup> ICMA(International Capital Market Association) Green Bond Principles 2018 years

<sup>2</sup> Ministry of the Environment Green Bond Guidelines 2017

## 2. Post-issuance review items

In this section, JCR describes the items to be confirmed in the post-issuance review. The review focuses on items whose content has changed compared with the previous evaluation periods.

### (1) Use of Proceeds (Status of Appropriation)

JCR evaluates if the management of funds procured by the Bonds and the appropriation of funds procured for green projects has been properly carried out in a manner specified by the issuer at the time of assigning the Green Bond Evaluation.

### (2) Appropriateness and Transparency Concerning Selection Standard and Processes of the Use of Proceeds

JCR evaluates if there are any changes to the objectives to be achieved through the Bonds, the criteria for selecting green projects, the adequacy of the process, and the series of processes to be implemented.

### (3) Appropriateness and Transparency of Management of the Proceeds

JCR evaluates whether the proceeds have been certainly allocated for green projects or not. JCR also evaluates if there is a system and internal system in which the allocation status can be easily tracked and managed.

### (4) Reporting

JCR evaluates if the environmental improvement effects resulting from the green project financed by the funds procured by the Bonds are appropriately calculated according to the method stipulated by the issuer at the time of assigning the Green Bond Evaluation.

### (5) Organization's Environmental Activities

JCR evaluates if the issuer's management is continuing to regard environmental issues as a high priority issue.

### 3. Contents of Review

#### (1) Use of Proceeds (Status of Appropriation)

Odakyu has established "Odakyu Group Environmental Strategy" as the environmental basic policy to promote the implementation of environmental preservation projects defined as one of the prioritized areas for social responsibility. According to the criteria for eligible projects, Odakyu Group defines eligible criteria of green bonds as actions that will contribute to achieve the implementation of the environmental preservation projects.

Use of proceeds of the bond is allocated to the following three projects, which Odakyu concludes them eligible under its criteria.

(List of Use of Proceeds)

	Use of Proceeds	Equipment
1	Switch to new or renewed train that achieves reduction effect on power consumption in comparison to conventional train	Commuter Trains: Series 1000 (Renewal) Limited Express Romancecar: EXEα (Series 30000) (Renewal), GSE (Series 70000) (Newly Construction) Introduction weight-saving train, Variable-Frequency drive, effective utilization of Regenerative brake, adoption of LED car light/side rollsign with light switch off control for energy saving and longer operational life, switching Heat-absorbing/UV cut glass
2	Quadruple track project	Remaining construction work (around Shimo-Kitazawa Station)
3	Renovation of the stations	Platform extension (Yoyogi-Hachiman, Kaisei), Installation of platform screen doors, Station greening activities

JCR confirmed through hearings and environmental reports that the implementation of the project has not caused any serious negative effects on the environment, such as complaints from local residents associated with construction work.

#### (2) Appropriateness and Transparency of Management of the Proceeds

Through hearings with Odakyu, JCR evaluated that the selection criteria and the process of the use of proceeds have not changed from the time of the previous evaluation. JCR also evaluated that the transparency also be secured because it is included in the evaluation report at the time of issuance.

#### (3) Appropriateness and Transparency of Management of the Proceeds

JCR evaluates management of proceeds as appropriate at the time of the previous evaluation. As shown in the table next page, the status of fund allocation in lieu of bond issuance is regularly reported by Odakyu, and JCR evaluated that transparency is secured.

#### (4) Reporting

a. Reporting of fund allocations

JCR confirmed that the status of acquisition assets is disclosed regularly in environmental reports and green bond reporting materials. Specific details are as follows.

Reporting of Fund Allocation (as of March 2020)

Project, Categories	Project Details	Allocation Amount (JPY Million)
Train Construction and Renewal	New Construction of Limited Express Romancecar GSE (Series 70000) Renewal of Limited Express Romancecar EXEα (Series 30000) Commuter Trains (Series 1000)	1,289
Quadruple track project	Quadruple track project	-
Renovation of the stations	Platform extension, Installation of platform screen doors, Station greening activities	940
Total Amount of Allocation in 2019		2,229
Total Amount of Allocation in 2018		7,711
Appropriated Amount		9,941

JCR has confirmed that all proceeds of the bonds have been allocated to three projects.

JCR also confirmed that the funds procured through the green bonds had been maintained in cash and cash equivalents until the full allocation. Based on the above, JCR has evaluated that the reporting items and content related to the funding allocation are appropriate.

b. Reporting on environmental improvement effects

Regarding the effects of environmental improvement, Odakyu regularly publishes green bond reporting materials, and Odakyu reports the following items.

Reductions in CO<sub>2</sub> emissions (gCO<sub>2</sub>/km)

- Noise and Vibration reduction  
(the implementation rate of soundproof wheels, fully enclosed motors, low noise type compressors and skid preventing devices)
- Improvement in average delay time and number of delay times
- Improvement of the average congestion rate
- Shortening of the time required
- Progress of platform extension
- Progress in Installation of platform screen doors
- Station greening activities

i. Reductions in CO<sub>2</sub> emissions when the trains operate in one year

Series	Rolling Stock	CO <sub>2</sub> Reduction (t-CO <sub>2</sub> /year)	Comparison
Limited Express Romancecar GSE (Series 70000)	7	2,073	Limited Express Romancecar LSE (Series 7000, 11 Rolling Stock)
Limited Express Romancecar EXEα (Series 30000)	10	71	Limited Express Romancecar EXE (Series 30000, 10 Rolling Stock)
Commuter Trains (Series 1000)	10	524	Conventional Series 1000 (10 Rolling Stock)

\* CO<sub>2</sub> emissions are calculated according to the following formula.

Unit consumption per rolling stock × number of rolling stock compounded × kilometers of annual driving × CO<sub>2</sub> emissions factor (FY2019: 0.000468t-CO<sub>2</sub>/kWh)

Unit consumption per rolling stock is the amount of electricity that is consumed in 1 km of rolling stock.

Kilometers of annual driving are results for FY2019.

ii. Indicators for Noise and Vibration reduction

Facilities	Implementation Rate
Soundproof Wheel	100.0%
Totally Enclosed Motor	41.8%
Low Noise Compressor	86.1%
Anti-skid Control Device	86.1%

iii. Major Effects of Completion of quadruple track

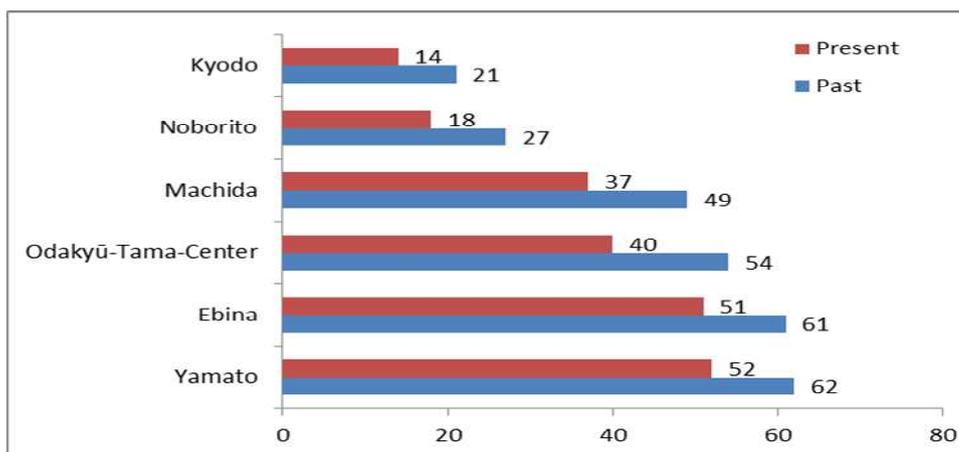
	Average Congestion Rate		Average Delay Time		Delay which exceed FY2017 Average Delay Time
Before Timetable Revision	192%	FY2017	2 m 4 s	FY2017	21 times
After Timetable Revision	157%	FY2018	48 s	FY2018	4 times

\*Comparison between April-June 2017 and April-June 2018

Average congestion rate compares FY2016 and FY2018.

iv. Shortening of the time required

[Comparison of time required from major stations to Shinjuku]



v. Progress of platform extension

Construction work for Platform extension for 10 car train has been completed in Yoyogi-Hachiman Station and Kaisei Station and in operation since March 2019.

vi. Progress in installation of platform screen doors

Period	Stations
Installed	Shinjuku (Platform 4 and 5), Yoyogi-Hachiman, Yoyogi-Uehara, Higashi-Kitazawa, Shimo-Kitazawa (Platform 3 and 4), Setagaya-Daita, Umeagaoka
To be Installed by FY2020	Shimo-Kitazawa (Platform 1 and 2) and Noborito (Platform 1 and 2)
To be Installed beyond FY2021	Shinjuku (Platform 8 and 9), Noborito (Platform 3 and 4), Machida, Sagami-Ono, Ebina, Hon-Atsugi and Yamato

\* Among the stations with 100 thousands or more users per day, the installation dates of Shin-Yurigaoka and Fujisawa have not been determined yet, because installation are planned in conjunction with the large-scale renovation of station buildings.

vii. Station greening activities

February 2019, Odakyu has been carrying out greening decorations on the premises of Kyodo Station.

JCR confirmed that the reporting items and content for environmental improvement effects are appropriate.

(5) Organization's Environmental Activities

Odakyu Group, led by Odakyu Electric Railway Co, Ltd., defines three areas of activity and priority as the direction of its CSR activities to achieve sustainable development together with society while faithfully carrying out all daily operations. In terms of the environment, the promotion of environmentally responsible initiatives is one of the three prioritized areas. Odakyu exemplifies "reduction of environmental footprint", "Initiatives to live

together with nature", and "Odakyu Environmental Room." In terms of "reduction of environmental footprint", Odakyu cited following activities, introduction of more energy-efficient trains aimed at reducing further environmental impact of railways, such as the renewal of Series 1000 commuter trains which are eligible criteria for the green bond, the renewal of air-conditioning equipment in commercial facilities, the use of LED lighting equipment and commencement of Solar Power business. Odakyu is actively promoting the reduction of environmental footprint associated with business activities.

Odakyu Group has been operating the Environmental Management System (EMS) since fiscal year 2000, defining the basic matters necessary for the promotion of environmental activities. In fiscal year 2008, Odakyu Group Environmental Strategy was established and has been implemented since fiscal year 2010 with the aim of understanding environmental activities more broadly and developing them together with business operations in order to adapt to changes in society, such as the strengthening of regulations regarding environmental loads and the increasing awareness of the environment. In addition, in order to promote business and environmental activities more comprehensively, the operation of the EMS has been drastically revised since fiscal year 2015 so that the environmental targets of each department can be linked to the medium-term management plan.

Each Department set annual environmental targets based on priority issues stated in the medium-term management plan and the medium-term environmental targets, and the PDCA cycle is operated on a yearly basis. The medium-term environmental targets are formulated after consultation the Environmental Committee chaired by the Director in charge of the environment. EMS Secretariat is responsible for ensuring that all departments are familiar with the Mid-Term Environmental Targets and for conducting internal environmental audits to confirm the status of the implementation of PDCA cycles. Odakyu is striving to promote environmental activities through the effective operation of EMS through these initiatives.

In addition, Ono Rolling Stock Depot near Sagami-Ono Station has a wide range of adverse environmental impacts, such as waste generation and the use of chemical substances. Therefore, in fiscal year 2000, Ono Rolling Stock Depot acquired ISO14001 certification, the international standard for environmental management systems, and is carrying out its business activities with consideration for the environment. JCR confirmed that the knowledge brought up in Ono Rolling Stock Depot has shared with Odakyu's other Inspection Depots located at Kitami and Ebina as the staffs who once worked at Ono Rolling Stock Depot transferred to above two Inspection Depot.

Odakyu has formulated medium-term targets for the environment from fiscal 2018 to fiscal 2020 (reduction of electricity consumption per unit of output by 11% or more from fiscal 2013 as a benchmark value by fiscal 2020) and long-term targets (reduction of electricity consumption per unit of output by 26% or more from fiscal 2013 as a benchmark value by fiscal 2030), and is working to achieve these targets. In fiscal 2019, electricity consumption per unit of production declined by 10.0% compared to fiscal 2013 due to the introduction of new commuter trains (Series 5000) and renewed the two Series 1000 commuter trains (14 Rolling Stocks), using light-duty vehicles with superior energy-saving performance, regenerative brakes, and latest VVVF inverters as control devices. JCR has confirmed that Odakyu will continue to work toward the achievement of the medium-term and long-term environmental targets by introducing the new Series 5000 commuter trains, which offer superior energy efficiency compared to conventional trains.

Odakyu has also made agreements with Kanagawa Prefecture and municipalities located alongside the Odakyu lines, and cooperates to build a resource recycling-oriented society and realize a sustainable society and engages in various activities. In June 2019, the city of Zama, where the Odakyu Odawara line passes through, made the agreement with Odakyu named "Agreement Concerning Cooperation and Cooperation in Circular Economy Promotion." Under this agreement, the city has been studying measures to make the city's resource and garbage collection businesses smarter, and began a demonstration experiment in July 2020.

I. In addition, Odakyu is making efforts to proactively reduce the environmental footprint of business activities and to conserve nature along the lines of Hakone, Enoshima, and Tanzawa-Oyama along with the residents of local communities. Specifically, events where parents and children can experience nature along the railway lines are held in cooperation with Satoyama landscape conservation groups along the Odakyu Line. In addition, the "Odakyu/Enoden Clean Campaign" is being held in cooperation with Kanagawa Prefecture in Higashihama the area of Katase Beach on Enoshima Island. Through these activities, efforts are being made to promote "initiatives to live together with nature."

The President & CEO stated part of these initiatives in Odakyu's 2020 Environmental Report and JCR appreciates them as indicative of management's high level of interest in environmental issues and view them as important priorities.

Odakyu also has an EMS Secretariat within the CSR/Corporate Communications Department to promote EMS. Personnel with environmental qualifications are assigned to the EMS Secretariat. JCR evaluates that Odakyu has a department which has expertise in environment.

JCR considers environmental issues as a high priority for the management of these organizations, and that departments with expert knowledge are clearly involved as organizations in the selection of green bond procurement policies and processes and green projects.

## 4. Conclusion

As a result of verifying the matters described in the previous section, JCR confirmed that 100% of the proceeds of the Bonds have been allocated for the green projects, which was originally assumed to be used for funding, and that the assets subject to funding have sufficiently performed the effects of environmental improvement that were originally assumed.

[JCR Green Bond Evaluation Matrix]

		Management, Operation and Transparency Evaluation				
		m1	m2	m3	m4	m5
Greenness Evaluation	g1	Green 1	Green 2	Green 3	Green 4	Green 5
	g2	Green 2	Green 2	Green 3	Green 4	Green 5
	g3	Green 3	Green 3	Green 4	Green 5	Not qualified
	g4	Green 4	Green 4	Green 5	Not qualified	Not qualified
	g5	Green 5	Green 5	Not qualified	Not qualified	Not qualified

### ■ Scope of Subject

Issuer: Odakyu Electric Railway Co., Ltd. (Security code: 9007)

[Review]

Subject	Issue Amount	Issue Date	Redemption Date	Interest Rate	Evaluation
Series 82 Unsecured Corporate Bonds (with limited inter- bond pari passu clause)	JPY 10 Billion	January 31, 2019	January 25, 2022	0.10%	JCR Green Bond Evaluation :Green1 Greenness Evaluation :g1 Management, Operation and Transparency Evaluation :m1

(Responsible analysts for this evaluation) Atsuko Kajiwara and Kosuke Kajiwara

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## Important explanation of the Green Bond Evaluation

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### 1. Assumptions, Significance, and Limitations of JCR Green Bond Evaluation

JCR Green Bond Evaluation, which is granted and provided by Japan Credit Rating Agency (JCR), is a comprehensive expression of JCR's current opinion on the extent to which the funds procured from the issuance of green bonds, which are subject to evaluation, are allocated to green projects defined by JCR and the extent to which the management, operation, and transparency of the use of green bonds are ensured. JCR Green Bond Evaluation does not fully indicate the extent to which the funds procured from such green bonds are allocated and the management, operation, and transparency of the use of the funds are ensured.

JCR Green Bond Evaluation assesses the plan or status of the appropriation of funds at the time of the green bond issuance plan or at the time of issuance, and does not guarantee the status of the appropriation of funds in the future. In addition, JCR Green Bond Evaluation does not prove the environmental effects of green bonds and is not responsible for their environmental effects. JCR confirms that the effects of the funds procured from the issuance of green bonds on the environment are measured quantitatively and qualitatively by the borrower or by a third party requested by the borrower, but in principle it does not directly measure the effects.

### 2. Methods used in the conduct of this evaluation

The methods used in this evaluation are listed on JCR website (Green Finance & ESG in <https://www.jcr.co.jp/en/>) as JCR Green Finance Evaluation Method.

### 3. Relationship with Acts Related to Credit Rating Business

JCR Green Bond Evaluation is determined and provided by JCR as a related business, which is different from the activities related to the credit rating business.

### 4. Relationship with Credit Rating

The Assessment differs from the Credit Rating and does not promise to provide or make available for inspection a predetermined Credit Rating.

### 5. Third-party character of JCR

There is no conflict of interest related to capital or human resources relationships between the subject of this evaluation and JCR.

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#### ■ Glossary

JCR Green Bond Evaluation: JCR Green Bond Evaluation evaluates the extent to which the funds procured from the Green bond are allocated to the Green Project as defined by JCR, and the extent to which the management, operation, and transparency of the Green Loan are ensured. Evaluations are graded on a scale of 5, beginning with the top, using the Green1, Green2, Green3, Green4, and Green5 symbols.

#### ■ Status of registration as an external reviewer of green finance

- Ministry of the Environment's external green bond reviewer registration
- ICMA (registered as an observer with the International Capital Markets Association)

#### ■ Status of registration as a credit rating agency, etc.

- Credit Rating Agency: the Commissioner of the Financial Services Agency (Rating) No.1
- EU Certified Credit Rating Agency
- NRSRO: JCR has registered with the following four of the five credit rating classes of the Securities and Exchange Commission's NRSRO(Nationally Recognized Statistical Rating Organization. (1)Financial institutions, broker dealers, (2) insurance companies, (3) general business corporations, and (4) government and local governments. If the disclosure is subject to Section 17g-7(a) of the Securities and Exchange Commission Rule, such disclosure is attached to the news releases posted on the JCR website (<https://www.jcr.co.jp/en/>).

#### ■ For further information, contact

Information Service Dept. TEL: :03-3544-7013 FAX: :03-3544-7026

#### Japan Credit Rating Agency, Ltd.

Jiji Press Building, 5-15-8 Ginza, Chuo-ku, Tokyo 104-0061, Japan  
Tel. +81 3 3544 7013, Fax. +81 3 3544 7026