

Green Bond Evaluation by Japan Credit Rating Agency, Ltd.

Japan Credit Rating Agency, Ltd. (JCR) announces the following Green Bond Evaluation Results.

## JCR assigned Green 1 to Central Nippon Expressway Company Limited 16th U.S. dollar-denominated corporate bonds (Climate Resilience Bonds)

Subject	:	Central Nippon Expressway Co., Ltd. 16th U.S. Dollar-Denominated Bonds (Green Bond, Climate Resilience)
Type	:	Bonds
Issue amount	:	USD 400 million
Interest rate	:	0.894%
Date of Issuance	:	December 10, 2020
Redemption Date	:	December 10, 2025
Method of repayment	:	Lump-sum redemption at maturity
Use of proceeds	:	Projects that contribute to adaptation to climate change

### <Green Bond Evaluation Results>

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

## Chapter 1: Evaluation Overview

Central Nippon Expressway Co., Ltd. (NEXCO Central) is a special company wholly owned by the government. Its business base covers relatively heavy traffic routes from the Tokyo metropolitan area to Chubu and Kinki areas including the Tomei Expressway, Chuo Expressway and Shin-Tomei Expressway among the national expressway network, etc. formerly held by Japan Highway Public Corporation. NEXCO Central is primarily engaged in construction, operation and maintenance, etc. of expressways, as well as management and operations of rest areas providing services and parking lots. In line with the basic policy of group management, NEXCO Central has been grouping associated companies. They are 27 subsidiaries and 9 related companies as of March 2020.

NEXCO Central Group identifies "control of global warming and consideration for the local environment" as one of the material theme in its CSR activity. Reflecting this CSR materiality in its management plan, NEXCO Central stipulates environmental policy. Measures in accordance with this policy include "control of global warming," "enhancing 3R (Reduce Reuse and Recycling) of resources," and "consideration for the local environment." Management Plan Challenge V (Five) 2016-2020, the current management plan, reflects the materiality of the above CSR activities in business activities and has the following four management policies.

Management Policy 1: Continuous Efforts to Improve the Safety of Expressways and Strengthen Their Functions

Management Policy 2: Enhancement of Technology Development to Improve Safety and Comfort

Management Policy 3: Contributing to regional revitalization in view of social and economic changes

Management Policy 4: Strengthening the Management Foundation to Continue Responding to Social Needs

NEXCO Central established the Green Bond Framework (the Framework) to issue the Green Bond as a funding source to address climate change adaptation projects. This report aims to evaluate the 16th U.S. dollar-denominated bond (the bond) scheduled to be issued by NEXCO Central in line with this framework. NEXCO Central plans to this bonds' use of proceeds as new investment to the following projects:

- (1) Expressway Renewal Project (28 bridges)
- (2) Expressway Renewal Project (Five Sections of earth work structures (slope reinforcement) )
- (3) Porous Asphalt Pavement on New Expressways (Five Sections)

JCR confirmed that the eligibility criteria established by NEXCO Central adequately examined the risks assumed by the long-term forecasts of global warming by the end of the 21st century based on the assumption of RCP8.5, and that eligible projects has appropriate effects for the assumed risks. In addition, the projects selected according to the applicable eligibility criteria are expected to contribute to the "development of a safe and reliable road network," which is a climate change adaptation measure for transportation infrastructures specified by the Ministry of Land, Infrastructure and Transport for roads. NEXCO Central prepares the project selection process, system of the management of proceeds, and the post-issuance reporting appropriately. JCR evaluates those systems are well designed and keep high transparency.

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 results to the bonds. Detailed evaluation results are discussed in detail in the next chapter.

The bonds are considered to meet the requirements stipulated in ICMA's Green Bond Principles and the Green Bond Guidelines of the Ministry of Environment of Japan.<sup>12</sup>

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<sup>1</sup> ICMA(International Capital Market Association) Green Bond Principles 2018  
<https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>

<sup>2</sup> Green Bond Guidelines 2020 <https://www.env.go.jp/press/files/jp/113511.pdf>

## Chapter 2: Current Status of the project on each evaluation factor and JCR's evaluations

### Evaluation Phase 1: Greenness Evaluation

JCR assigns "g1", the highest grade, to "Evaluation Phase 1: Greenness Evaluation".

Rationale: 100% use of proceeds of the bond will be allocated to a green project, considering the factors described below.

#### (1) JCR's key consideration in this factor

In this section, JCR first determines whether the funds are allocated for green projects that have clear environmental improvement effects (climate change mitigation or adaptation effects). Next, JCR assesses whether an internal department/division which is exclusively in charge of environment issues or a third party agency prove it sufficiently and have taken necessarily workaround or mitigation measures, in case of possibility on use of proceeds have negative impact on the environment. Finally, JCR confirms the contribution to the Sustainable Development Goals (SDGs).

#### (2) Current status of evaluation targets and JCR evaluation

##### a. On the environmental improvement effects of the project

###### Overview of the Use of Proceeds

Eligible Green Project Classification
Eligible Project 1 Expressway Renewal Project - 28 Bridges
Eligible Project 2 Expressway Renewal Project (earth work structure (slope reinforcement) - Five Sections
Eligible Project 3 Porous Asphalt Pavement on New Expressways – Five Sections

**i. The use of proceeds of this bond is a new investment in climate change adaptation projects decided by NEXCO Central as eligible in its Green Bond Framework, and it can be expected to have a high environmental improvement effect. The eligible projects are classified into "Climate Change Adaptation Projects" in the Green Project Classification defined in the ICMA's Green Bond Principles.**

##### [Aging and deterioration of Expressways and Infrastructure long life plan]

Since its opening on April 12, 1964, of the Meishin Expressway from the Sekigahara Interchange to the Yokaichi Interchange, NEXCO Central has been progressively developing its highway, and as of March 8, 2015, when it formulated an infrastructure long life plan, the total length of the highway became 2,007km. However, the total length of roads which has been 30 years or more after opening is about 1,203km (about 60% of the total). As environmental conditions become severer, such as an increase in the traffic volume of large-sized vehicles, an increase in the spraying of antifreeze agents in snowy and cold regions (average spraying quantity of 33 t/km in 1989-1993 ⇒ average spraying quantity of 53t/km in 1994-2012), and an increase in the number of short-term extraordinary rainfall (50mm or more per hour) (average of 168 times in 1976-1986 ⇒ average of 226 times in 1999-2010), the percentage of years after opening to be more than 30 years is also about 60% for bridges and about 30% for tunnels, and deterioration with the progress of aging is becoming evident.

From such background, as present state of the structure, deformation of RC (reinforced concrete) steel material of the bridge, deformation of ground anchor in the slope, deformation of the tunnel have occurred. NEXCO Central's Infrastructure Long life plan states that it is necessary to establish a maintenance cycle and to carry out planned large-scale repairs in order to permanently secure the functions of a huge number of aging expressway assets while ensuring safety and security as well as reducing costs after the disaster.

Among the planned use of proceeds, NEXCO Central selected only renewal work of bridges and slope as eligible for climate change adaptation projects.

And, as a countermeasure for short time abnormal rainfall, Porous Asphalt Pavement surface work with improved drainage function in newly constructed road is also selected as one of the eligible projects for climate change adaptation.

JCR evaluates that the eligibility criteria for the projects decided by NEXCO Central, which considers the current conditions of expressways and examination of relevant climate risks. Consequently, these projects are expected to reduce the disaster risks caused by extraordinary natural disasters occurred recently and in the future due to the climate change.

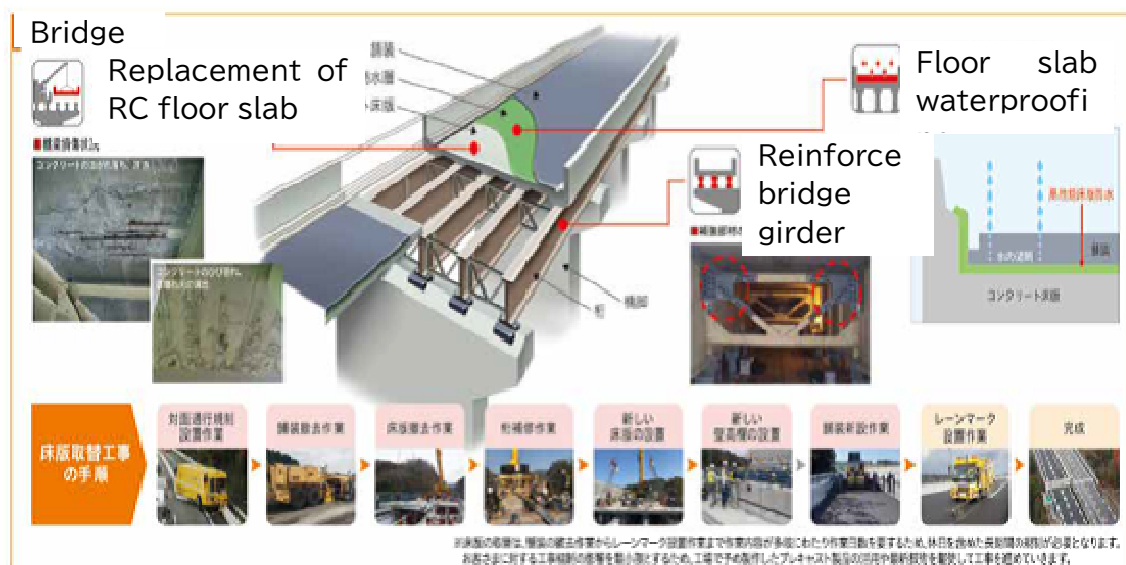
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### Use of Proceeds 1: Expressway Renewal Project - 28 Bridges

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The first use of proceeds are renewal of existing old bridges. Among the 28 bridges of the Chuo Expressway, the Meishin Expressway, and the Hokuriku Expressway, the proceeds will be allocated to the projects in descending order of the progress of construction. The work includes high-performance floor slab waterproofing to suppress the progress of deterioration due to penetration of water and chlorides, replacement with PC (pre-stressed concrete) floor slab with higher durability, girder reinforcement.

PC floor slabs can prevent the progress of floor slab degradation due to the penetration of water and chloride from the road surface. Previous studies have shown that the fatigue life of the RC slab in the dry state and the wet state due to the ring load differs by about 100 times. Therefore, in the RC floor slab, the floor slab waterproofing is constructed in order to prolong the life, but in the RC floor slab which has already been deteriorated, the durability cannot be expected to be improved even if the waterproofing construction is newly constructed, so that the durability improvement is coped with by replacing the RC floor slab with the PC floor slab.



(Source: NEXCO-Central Annual Report 2020 (Japanese Version))

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## Use of Proceeds 2: Expressway Renewal Project (earth work structure (slope reinforcement))

### - Five Sections

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The second use of proceeds is a particular renewal project related to earthworks. Based on past disaster cases, the proceeds are to reinforce embankments and cut-outs that have collapsing risks, and to renew ancillary facilities. The use of proceeds of this bonds covers a total of five sections on the Chuo Expressway, Tomei Expressway, and Hokuriku Expressway. Specific details of the construction are as follows.

- For cut earth, the type of ground anchor with low anticorrosive property is renewed to one with high anticorrosive property.
- As for the small section drainage ditch, the drainage of the small section (inner width 180mm or 240mm) which was installed based on the design procedure before 1983 is replaced with the one of the inner width 300mm which aligns with the current standard, and the drainage cross section is enlarged, and the drainage treatment capacity is improved. According to NEXCO Central, the drainage capacity is expected to improve by about two to four times.



(Source: NEXCO-Central Annual Report 2020 (Japanese Version))

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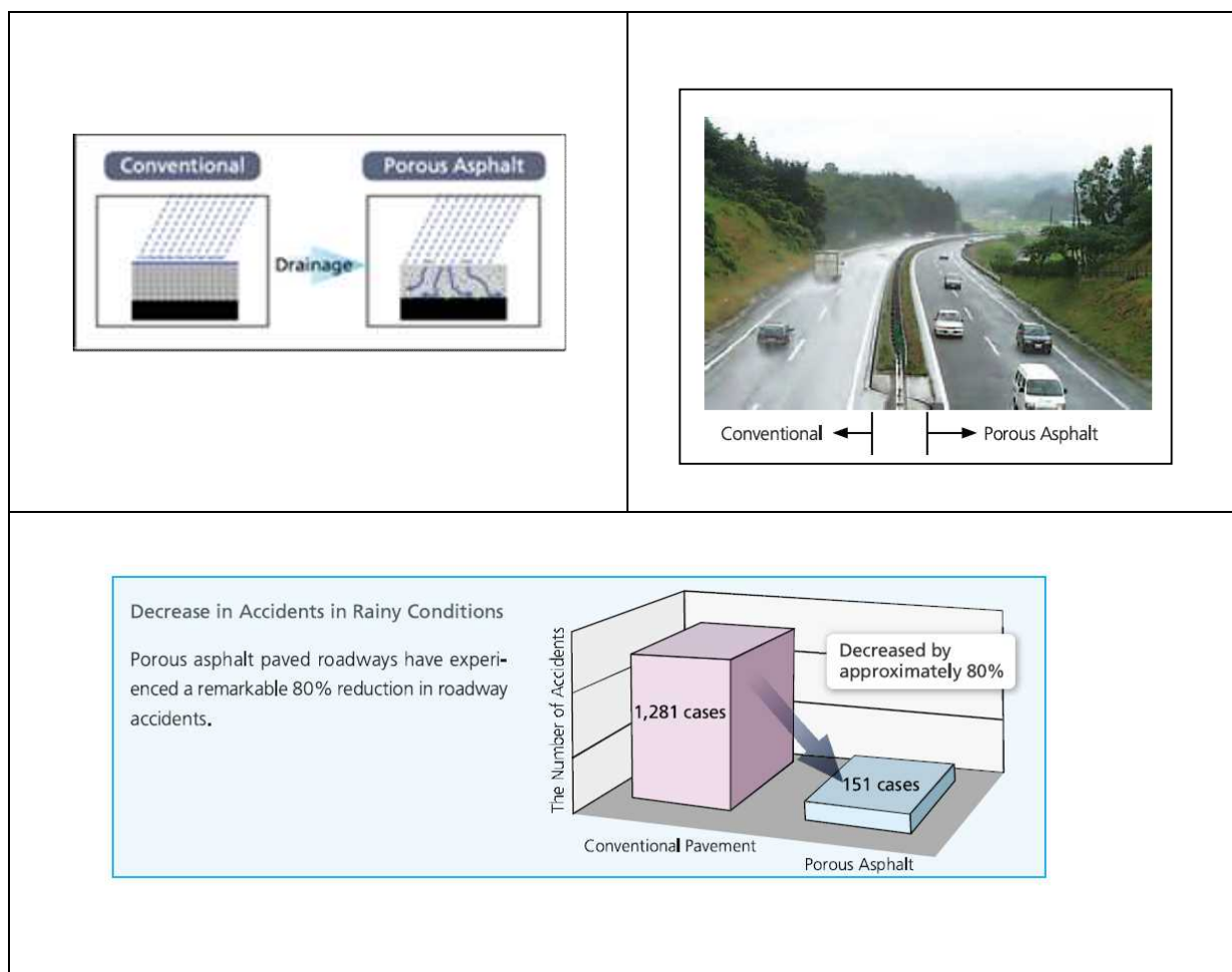
## Use of Proceeds 3: Porous Asphalt Pavement on New Expressways - Five Sections

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From 1989, the trial of drainage pavement (Porous Asphalt Pavement) as a traffic accident countermeasure in rainy weather began. In response to the confirmation of its excellent effects, it has been expanded nationwide to the present. These projects will be implemented in five sections of the Shin-Tomei Expressway, etc.

The Porous Asphalt Pavement surface ensures about 20% porosity, and if it is simply calculated in the surface layer part of 4cm thickness, it becomes  $40\text{mm} \times 20\% = 8\text{mm}$ . This means that rainwater can be stored and passed through to a rainfall intensity of 8mm/h.

Considering the past performance, porosity was determined at 20% in the consideration of functionality and durability.



(Source: NEXCO-Central Annual Report 2019)

**b. Negative impact on the environment**

NEXCO Central found that there is little possibility that each use of proceeds under this framework will have a material negative impacts on the environment, since it is only for the repair work of existing expressways or the work of the pavement surface of the road. Not limited to the above use of proceeds, however, it identifies the following assumed risks and mitigation measures for its business as a whole. JCR confirmed that the appropriate countermeasures are taken by hearing and confirmation of the related materials submitted from NEXCO Central.

Risks and countermeasures assumed by NEXCO Central	
(1) Impact of land development on ecosystems	
<ul style="list-style-type: none"> <li>• Conduct environmental impact assessments in all expressway construction projects (carried out by the national government or target prefectures)</li> <li>• In the construction, environmental surveys such as soil surveys and hydrological surveys were carried out, and after grasping the topography, geology, groundwater conditions, etc., road structures were decided so as not to affect the life of local communities.</li> <li>• In areas rich in natural environments, the government will collect and cultivate trees that grow in local areas, and utilize them as "local saplings" for greening of highway surfaces and other areas.</li> <li>• Use soil from construction, asphalt, concrete lumps, and other construction by-products that cannot be recycled and reused as much as possible are reused as recycled resources.</li> </ul>	

<ul style="list-style-type: none"> <li>• Implemented measures against noise and air pollution in accordance with the objectives of the Basic Environmental Law and the Noise Regulation Law.</li> <li>* Noise countermeasures: Establishment of sound insulation walls and environmental facilities based on noise forecasts before construction and measurement results after construction, requests from roadside local governments, and location conditions of the facilities.</li> <li>Air Pollution Countermeasures: Creation of wooden surfaces as forests, Measures against traffic congestion, etc.</li> </ul>
<p>(2) Traffic congestion caused by traffic regulations and lane regulations</p>
<ul style="list-style-type: none"> <li>• In the case of large-scale lane regulations, we will disseminate information to users through our website and public relations in advance to alleviate traffic congestion.</li> <li>• Transportation impact due to construction work is reduced by implementing one-sided construction according to the restriction of traffic flow on the other side.</li> </ul>
<p>(3) Safety risk of workers</p>
<ul style="list-style-type: none"> <li>• The Company's management philosophy is to give top priority to safety, and it has decided on the Five Initiative Policies for Improving Safety as a concrete initiative policy for "Continuous Efforts to Improve Safety," one of its management policies.</li> </ul> <ol style="list-style-type: none"> <li>1. Fostering a corporate culture that places top priority on safety</li> <li>2. Continuous improvement of business processes in response to aging of road structures and potential risks</li> <li>3. Promotion of safety activities</li> <li>4. Developing Human Resources to Support Safety</li> <li>5. Promotion of steady and efficient business to improve safety</li> </ol> <ul style="list-style-type: none"> <li>• Based on the above, it implements initiatives for safe and efficient construction and work together with the contractors and Group companies.</li> <li>• Report the status of implementation of initiatives based on the "Five Initiative Policies" at the Safety Improvement Expert Meeting composed of external experts once a year.</li> </ul>

**c. Consistency with SDGs goals and Targets**

JCR assessed that projects implemented through this framework will contribute to the following SDGs goals and targets with reference to ICMA's SDGs mappings.



**Goal 13: Take urgent action to combat climate change and its impacts**

**Target 13.1. Strengthen resilience and adaptive capability to climate-related hazards and natural disasters in all countries.**

## Evaluation Phase 2: Management, Operations and Transparency Evaluation

JCR assigns "m1", the highest rating on JCR evaluation Phase 2: Evaluation on Management and Operation and Transparency.

Rationale: The project has allocated the funding and implemented the businesses as planned through a firmly equipped management and operation system and high transparency as described below.

### 1. Appropriateness and Transparency concerning selection standard and processes of the use of proceeds.

#### (1) JCR's key consideration in this factor

In this section, JCR confirms that the objectives to be achieved through the green bond, the criteria for selecting green projects, the appropriateness of the process, and the series of processes are appropriately disclosed to investors.

#### (2) Current status of evaluation targets and JCR evaluation

##### a. Goal

NEXCO Central has set the following goals in the green bond framework.

NEXCO Central manages about 2,100km of highways such as Tomei Expressway, Meishin Expressway, and Chuo Expressway. The Tomei Expressway and the Meishin Expressway are aging, with more than 50 years from the opening of all routes, and about 60% of all routes have been in service for more than 30 years. In order to continue to play a role as an aorta supporting livelihoods and the economy, it is necessary to engage in large-scale renewal and repair projects at an early stage.

In recent years, the social environment has changed dramatically, such as frequent and severe natural disasters, a falling birthrate and an increase in aging population, a rapid decline in the labor population, and rapid technological innovation in the ICT field. As a company, how to contribute to the sustainable development of society has been questioned. Our group is continuing to take on the challenge of further heightening by working on the development of highway networks, measures against aging through renewal projects, countermeasures against toughening by earthquake-resistant reinforcement of bridges, technological development utilizing ICT, and resolves to social issues such as regional revitalization.

The Japanese government approved the Climate Change Adaptation Bill in February 2018 and promulgated it in June. The Law stipulates that the State shall formulate a climate change adaptation plan to promote adaptation to climate change in various fields such as disaster risk reduction.

The MLIT, which has jurisdiction over road administration, formulated the MLIT Climate Change Adaptation Plan in November 2018 based on the above-mentioned law, and in this plan, "Development of Higher Road Networks" was specified as an adaptation measure in roads.

In this framework, it is considered that the government's climate change adaptation plan policy of "development of safe and reliable road networks" is being followed to take drastic measures against aging of bridges, tunnels, soil structures, etc., which are structures of highways, through large-scale model update and repair businesses of highways for which funds are to be used.



JCR confirmed that NEXCO Central is steadily implementing various measures in accordance with the MLIT's climate change adaptation plan, the Recommendation of the Technical Review Board on Long-Term Conservation and Upgrading of Expressway Assets (November 2014), the Large-Scale Update and Large-Scale Repair on Expressways managed by East, Central and West Nippon Expressway Co., Ltd. (January 22, 2014), the Infrastructure Long life plan (Action Plan), the NEXCO Central Infrastructure Long life plan (Action Plan) (March 31, 2015), and the Agreement on the National Expressway Central Automobile Route Fujiyoshida Line, etc. JCR also confirmed that Project 3 was implemented based on "Technical Standards for Pavement Structure (No.48, No.55, June 2001)". From the above, JCR evaluates that the plans covered by this framework are consistent with the MLIT's Climate Adaptation Plan for Transport Infrastructure and the NEXCO Central's Environmental Strategy.

## b. Selection Criteria

Eligibility Criteria for NEXCO Central
<p>The eligible projects shall be those for which sound business operations are expected to be conducted with risk verification in light of our review standards, and shall satisfy the following eligibility criteria. (Guidelines, Plans, Agreements with the Organization, etc.)</p> <p>[Expressway Renewal Project]</p> <ul style="list-style-type: none"> <li>• Recommendation by the Technical Review Committee on Long-Term Conservation and Renewal of Expressway Assets (January 22, 2014)</li> <li>• Large-Scale Renewal and Major Repair on Expressways Managed by East, Central and West Nippon Expressway Company Limited (January 22, 2014)</li> <li>• Infrastructure Long life plan (Action Plan) FY2014-FY2020 (MLIT, May 21, 2014)</li> <li>• NEXCO Central Infrastructure Long life plan (Action Plan) (March 31, 2015)</li> <li>• Agreements on the National Expressway Chuo Expressway Fuji-Yoshida Line, etc.</li> </ul> <p>[Porous Asphalt Pavement]</p> <ul style="list-style-type: none"> <li>• "Technical Standards for Pavement Structure" ( No. 48, No. 55, June 29, 2001)</li> <li>• Design Procedures for NEXCO Central</li> </ul> <p>Eligibility Criteria</p> <ul style="list-style-type: none"> <li>• The project is expected to strengthen its disaster prevention functions by upgrading and adding strength to aging facilities in response to the expected degree of damage caused by natural disasters (typhoons, floods, storm surges, etc.) due to the effects of climate change.</li> <li>• The project is expected to be resilient to extreme weather and weather disasters due to the effects of climate change.</li> <li>• The environmental impact assessment and other technical surveys necessary for the implementation of the relevant construction work shall be conducted.</li> <li>• Preliminary explanations to neighboring residents shall be provided, and there shall be no particular dispute.</li> <li>• The lookback period for the project to be refined shall be one year.</li> </ul>

JCR evaluates the eligibility criteria set in the framework by NEXCO Central is appropriate for identifying climate change adaptation projects. In addition, it was confirmed that all of the projects covered by this bond met the eligibility criteria.

### c. Processes

NEXCO Central has defined the following personnel for project selection in the Green Bond framework.

#### 1. Project Selection Participants

Finance Division prepares green project selection criteria in the consultation with Environment and technical planning Department and other relevant department. In addition, Expressway projects have to get an approval from MLIT and to be implemented in accordance with the agreement with the Japan Expressway Holding and Debt Repayment Agency.

#### 2. Project Selection Process

[Expressway Renewal Project]

- 1) Based on the recommendations of the Technical Review Committee on Long-Term Conservation and Renewal of Expressway Assets, which was established including outside experts, a large-scale renewal plan and a large-scale repair plan were formulated (January 2014).
- 2) Reflect the addition of Expressway Renewal Project in agreements concluded with the Expressway Organization in accordance with the enforcement of the Act for Partial Revision of the Road Act, etc. (March 2015)
- 3) Based on the plan described in 1) above, the site to be constructed is selected on a yearly basis based on past disaster/repair history, inspection results, etc.
- 4) From project selected in Step 3), the Finance Section selects construction projects with large demand for funds as the target projects.

[Porous Asphalt Pavement]

- 1) The Minister of Land, Infrastructure, Transportation and Tourism formulated a basic plan as a "route to start construction" from "motorways to be constructed in the country" stipulated in the National Land Development Trunk Motor Road Construction Act.
- 2) Based on the basic plan, a development plan was formulated in accordance with the provisions of the National Expressway Law, and we commenced operations with a business license from the MLIT.
- 3) From project selected in Step 2), the Finance Section selects construction projects for which there is a large demand for funds as the target project.

As stipulated by law, the selection process of the project on the NEXCO Central is highly transparent with the involvement of the third parties.

From the above, JCR evaluates that the goals, selection criteria, and processes of NEXCO Central set forth in this framework have been appropriately established. NEXCO Central will disclose these selection standards and process to investors through documents mainly based on Final Terms or Offering Circular at the time of green bond issuance, thereby ensuring transparency.

## 2. Appropriateness and Transparency of management of the proceeds

### (1) JCR's key consideration in this factor

It is generally assumed that the management method of the proceeds varies by the issuer. JCR assesses whether proceeds procured through the issuance of green bonds are appropriated to the green projects and whether a mechanism and internal system are in place to enable easy tracking and management of the appropriation of proceeds.

JCR also attaches importance to evaluating the management and operation of the unallocated proceeds as well as to confirming that the proceeds procured from the bond will be allocated to the green projects at early stage.

### (2) Current status of evaluation targets and JCR evaluation

#### (NEXCO Central Green Bond Framework)

##### **(How to Link Proceeds to Assets)**

The funds are managed in an account exclusively for the green bonds. After the amount spent in the project (once paid out from our general account) is reviewed and totaled, the total amount spent in the projects is transferred from the special account to the general account.

##### **(Method of Tracking and Management of the proceeds)**

- The use of proceeds are credited to the bank account exclusively for Green Bond. After depositing money, the in-house system manages the total amount of proceeds and the accumulated amount of the costs, etc. spent in the subject projects (once from the general account). The accumulated expenditures are reviewed and funds are transferred from the exclusive account to the general account semiannually.
- Among the above, the Finance Division conducts fund management such as depositing money into a special account and transferring funds from a special account to a general account, and implements procedures such as keeping deposit/withdrawal statements, slips, etc. as evidence and registering them in our accounting system. On the other hand, the Accounting Section manages and scrutinizes the cumulative amount of construction costs, etc. spent on the target project, and at the same time extracts the semiannual construction completed amount of the target project from the asset system to grasp the progress status.

##### **(Internal and External Audits for Tracking Management)**

- Deposit control to and from the account shall be done by the manager of the Finance Section, who is responsible for the accounts.
- The balance of the account as of the end of the term is the document related to its balance sheet, so it is confirmed by an audit firm when closing the account semiannually.

##### **(Method of Management of Unallocated proceeds)**

Until the funding is determined, the funding will be managed in cash or cash equivalent.

The use of proceeds set forth in this Framework is a new investment in green eligible projects as set forth in this Framework and will not be allocated for any other purpose.

NEXCO Central clearly distinguishes green bond usage from other uses by managing the funded resources with dedicated accounts. After depositing funds in the exclusive account, funds are transferred to the general account

after examining the expenditure type amount for each subject project, and the semiannual construction volume of the subject project is extracted from the asset system and efforts are made to grasp the progress status, and a strict tracking management system is established. In addition, the internal control system has been appropriately established because the chief of the Finance Division, who is the chief accountant, is to manage the entry and exit of procured funds, and the audit corporation is scheduled to obtain confirmation at the time of the semiannual settlement of accounts.

Based on the above, JCR evaluates that the NEXCO Central has established a strict funding control system and internal control system.

### 3. Reporting

#### (1) JCR's key consideration in this factor

In this section, JCR evaluates whether the disclosure system for investors, etc. before and after the issuance of green bonds is planned in a detailed and effective manner at the time of the issuance of green bonds

#### (2) Current status of evaluation targets and JCR evaluation

(From NEXCO Central Green Bond Framework)

##### 1. Reporting on the Status of Capital Allocation

- The proceeds are expected to be used in accordance with the large-scale renewal and new construction business plan described on the website after the proceeds have been received.
- If it is necessary to reapply for the redemption of Green Bonds due to the suspension of a large-scale renewal or new construction project, we plan to disclose the full amount of Green Bond procurement funds on our website on an annual basis until it is appropriated for other large-scale renewal or new construction projects.
- It plans to disclose the amount of funds on our website annually.
- NEXCO Central will receive a review of the evaluation of green bonds by JCR until the bonds are redeemed, focusing on the status of the appropriation of funds and the status of reporting on the disclosure of environmental improvement effects.

##### 2. Reporting on environmental improvement effects

- NEXCO Central plans to disclose the reporting on its website annually.

[Output Indicators]

- Overview of the large-scale renewal and repair projects to be covered
- Extended kilometers for large-scale renewal and repair projects
- Extended kilometers in the Porous Asphalt Pavement business

Outcome Indicators

Project 1: Bridge

The soundness of the bridge is recovered by the floor slab replacement, and the resilience of the bridge will be recovered to the conditions which was effected in the beginning of the construction.

Project 2: Earth work Structures

Improvement of drainage capacity by about two to four times through construction such as replacement of drainage ditches.

Re-installation of ground anchors on cut slopes restores soundness and prolongs product life.

Project 3: Porous Asphalt Pavement

Water penetration amount per hour (8mm/h after construction)

[Impact]

In response to natural disasters (storm and flood disasters) resulting from climate change that adversely affect the transportation infrastructure as envisioned in the MLIT's Climate Change Adaptation Plan, efforts should be made to strengthen the transportation infrastructure and maintain a safe and reliable transportation network.

**a. Reporting on the proceeds allocation**

The use of proceeds of the Green Bond will be disclosed to investors on the website of NEXCO Central, JCR evaluation report in the framework. Methods of disclosing the allocation status and management of unallocated funds are also appropriately planned.

**b. Impact Reporting**

NEXCO Central plans the impact reporting appropriately through three steps of impacts, which is recommended in GBP: Output, Outcome and Impact. The total extension distance of roads where the adaptive project was conducted is shown as an output indicator, and the content of functional recovery and improvement by the project is set as an outcome index.

JCR evaluates that the above reporting is planned to be disclosed appropriately to investors, in terms of both the allocation of proceeds and the impacts on environment.












## 4. Organization's environmental efforts

### (1) JCR's key consideration in this factor

In this section, JCR evaluates whether the issuer's management positions environmental issues as a high priority management issue, and whether the green bond policy, process and the criteria for selecting green projects are clearly defined through the establishment of a department specializing in the environmental field or through the assistance of external organizations.

### (2) Current status of evaluation targets and JCR evaluation

NEXCO Central listed "Prevention of Global Warming and Considerations for Regional Environments" as one of the materiality of its CSR activities. The CSR-related priority themes are reflected in management plans, environmental policies are established, and measures in line with these policies include "control of global warming," "Enhancing 3R of resources," and "consideration for the local environment." NEXCO Central tries to consider the environment of the earth through business activities, such as reducing CO2 emission, promoting recycling of waste materials, and creating eco-roads that are environmentally friendly.

NEXCO-Central's CSR Materiality	SDGs Target
<p><b>Developing safe, reliable and sustainable social infrastructure</b></p> <ol style="list-style-type: none"> <li>1) To realize high quality reliable and resilient road infrastructure</li> <li>2) To strengthen resilience and adaptation ability against natural disasters</li> <li>3) To enhance technical development and innovation</li> <li>4) To consider the needs of elderly, disabled, women and children</li> <li>5) To respond to aging infrastructure, improve the safety</li> <li>6) To efficient use of road infrastructure</li> <li>7) To reduce death and injured people from the traffic accidents</li> <li>8) To utilize the knowledge and experiences of maintenance for other infrastructure</li> </ol>	 
<p><b>Support for development of sustainable city and regional communities</b></p> <ol style="list-style-type: none"> <li>1) To support good connection between city and region</li> <li>2) To support revitalization of industries and tourism</li> </ol>	 
<p><b>Control of global warming and consideration of the local environment</b></p> <ol style="list-style-type: none"> <li>1) Control global warming</li> <li>2) Enhancing resource 3R</li> <li>3) Consideration of the local environment</li> </ol>	    
<p><b>Strengthen the governance and internal control reliable from the society</b></p> <ol style="list-style-type: none"> <li>1) To foster corporate culture with high moral</li> <li>2) Appropriate response to social needs</li> <li>3) Transparency and improvement of productivity</li> </ol>	 

(Source: NEXCO-Central Annual Report 2020 (Japanese version))

Regarding the CSR enhancement system, Executive Committee, which is composed of top management members, discusses CSR issues together with management plan to progress its CSR strategy in an integrated manner. "Management Plan Challenge V (Five) 2016-2020" reflects the priority themes of the above CSR activities in business activities and has the following four management policies.

Management Policy 1: Continuous Efforts to Improve the Safety of Expressways and Strengthen Their Functions

Management Policy 2: Promotion of Technology Development to Enhance Safety and Comfort

Management Policy 3: Contribute to regional revitalization with a view to social and economic changes

Management Policy 4: Strengthening the Management Foundation to Continue to Respond to Social Needs

NEXCO Central discloses the progress of its management plan in its annual report. In addition to receiving advice from external experts on the content and disclosure methods of the plan, when formulating the next management plan starting from the next fiscal year, the company plans to hear opinions from external experts on the social role it expects of NEXCO Central Group, and confirmed that it is formulating policies in cooperation with external experts on its own initiatives.

NEXCO Central has actively made commitments to external initiatives. In July 2008, NEXCO Central participated in the Global Compact Network Japan (GCNJ) in support of the 10 principles proposed by the United Nations Global Compact, which consist of the four areas of human rights, labor, environmental protection, and anti-corruption.

NEXCO Central operates an environmental management system and got a certification of ISO14001. In addition, the CEO gives instructions on the plans for environmental management for the new fiscal year in the management review, and the top management promotes environmental management. Plans for the new fiscal year are reported to the Management Committee and disseminated as the Company's plans.

Regarding environmental issues, there is an Environment and Technology Planning Department as a department that decides policies for implementation of environmental impact assessments and environmental measures. In addition, as a department that manages occupational safety and other relevant matters related to the safety comprehensively, it has a special department called the Comprehensive Safety Promotion Department. NEXCO Central has human resources with expert knowledge on the environment and occupational safety, and when selecting these eligible projects, the selection criteria were made reflecting these experts' opinions.

Based on the above, JCR confirmed that NEXCO Central is implementing various initiatives together with various stakeholders under the strong initiative of management. JCR also confirmed that it had specialized departments and personnel on the environmental and safety aspects of highways, and was confirmed to be involved in the implementation of eligible projects from expert knowledge.



■ Evaluation result

Based on JCR Green Finance Evaluation Methodology, JCR assigned "g1" for "Greenness Evaluation (Use of Proceeds)" and the "m1" for "Management, Operation and Transparency Evaluation". Consequently, JCR assigned "Green1" as an overall evaluation result to the bonds. The bonds meet the standards for the items required by the Green Bond Principles and the Green Bond Guidelines issued by the Ministry of the Environment of Japan.

[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

■ Subject

Issuer: Central Nippon Expressway Company Limited

[Assignment]

Subject	Issue amount	Date of Issuance	Redemption Date	Interest rate	Evaluation
Central Nippon Expressway Co., Ltd. 16th U.S. Dollar-Denominated Bonds (Green Bond, Climate Resilience)	USD 400 million	Dec. 10, 2020	Dec. 10, 2025	0.894%	JCR Green Bond Evaluation :Green1 Greenness Evaluation :g1 Management, Operation and Transparency Evaluation :m1

Analysts in charge of 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 loans 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 (Sustainable Finance & ESG in <https://www.jcr.co.jp/en>) as JCR Green Finance Evaluation Methodology.

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

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

### 4. Relationship with Credit Ratings

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

### 5. Third-Party Evaluation of JCR Green Bonds

There is no capital or personnel relationship between the subject of this evaluation and JCR that may give rise to conflicts of interest.

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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 assessor of green finance

- Ministry of the Environment's external green bond reviewer registration
- ICMA (registered as an observer with the International Capital Markets Association)
- Members of the Working Group on UNEP FI Positive Impact Finance Principles
- Climate Bonds Initiative Approved Verifier (Climate Change Initiative Accreditation Verification Organization)

#### ■Other Status of registration as a credit rating agency

- 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 17 g-7(a) of the Securities and Exchange Commission Rule, such disclosure is attached to the news releases posted on JCR website (<https://www.jcr.co.jp/en>).

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