

# Second-Party Opinion Japan Airlines Co., Ltd. Transition Bond Framework



## Evaluation Summary

<b>Evaluation Date</b>	January 27, 2022
<b>Issuer Location</b>	Tokyo, Japan

## Green Bond Principles 2021

Sustainalytics is of the opinion that the Japan Airlines Co., Ltd. Transition Bond Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2021 administered by ICMA. The eligible category for the use of proceeds – Clean Transportation (Upgrading to Fuel-efficient aircraft) – is aligned with those recognized by the Green Bond Principles 2021. Sustainalytics considers the investment in fuel-efficient aircraft by Japan Airlines Co., Ltd., coupled with future shift to sustainable aviation fuel (SAF), will contribute to the transition and eventual decarbonization of the aviation sector.

## Climate Transition Finance Handbook 2020

Sustainalytics has evaluated Japan Airlines Co., Ltd.'s transition governance, strategy, decarbonization targets, and intentions to report on transition progress and finds the Company to be aligned with three of the recommendations of the Climate Transition Finance Handbook 2020 and partially aligned with the fourth. While noting Japan Airlines Co., Ltd.'s short- and medium-term CO<sub>2</sub> reduction targets do not align with a 2°C scenario under the Paris Agreement, according to the Transition Pathway Initiative (TPI) benchmarks (High Efficiency scenario), which rely on the International Energy Agency (IEA)'s modelling, Sustainalytics considers that the latest materials by the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA) as well as the latest scenarios presented in the "Waypoint 2050" by the Air Transport Action Group (ATAG), which are referenced by Japan Airlines Co., Ltd., are acceptable scenarios for setting long-term targets, and views positively that Japan Airlines Co., Ltd. is aiming to achieve net-zero emission by Fiscal Year (FY) 2050 as its long-term target. Sustainalytics also evaluates positively Japan Airlines Co., Ltd.'s target to reach 10% of SAF use in the total fuels by FY2030, which is one of the main initiatives toward net-zero emissions. In addition, JAL has a strong governance structure in place and a clear intention for transparent reporting on the relevant investment plan and the climate-related impacts to implement its climate transition strategy.

The Use of Proceeds contribute to the following SDGs:



## Japan's Green Bond Guidelines 2020

Sustainalytics is of the opinion that the Japan Airlines Co., Ltd. Transition Bond Framework is in line with Japan's Green Bond Guidelines 2020 (elements described with the word "should") developed by the Ministry of the Environment of Japan.

## Japan's Basic Guidelines on Climate Transition Finance 2021

Sustainalytics is of the opinion that the Japan Airlines Co., Ltd.'s climate transition strategy is aligned overall with Japan's Basic Guidelines on Climate Transition Finance 2021 developed by the Financial Services Agency, the Ministry of Economy, Trade and Industry, and the Ministry of the Environment of Japan.

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## Scope of Work and Limitations

Sustainalytics' Second-Party Opinion reflects Sustainalytics' independent<sup>1</sup> opinion on the alignment of the Japan Airlines Co., Ltd. Transition Bond Framework with current market standards. As part of the Second-Party Opinion, Sustainalytics assessed the following:

- The Framework's alignment with the Green Bond Principles 2021<sup>2</sup>, and Japan's Green Bond Guidelines 2020<sup>3</sup>;
- The credibility and anticipated positive impacts of the use of proceeds;
- The issuer's sustainability strategy, performance and sustainability risk management; and
- The issuer's alignment with the recommendations of the Climate Transition Finance Handbook 2020<sup>4</sup>, and Japan's Basic Guidelines on Climate Transition Finance 2021<sup>5</sup>;

As part of this engagement, Sustainalytics held conversations with various members of Japan Airlines Co., Ltd. (hereinafter, "JAL" or the "Company") to understand the sustainability impact of their business processes and planned use of proceeds, as well as management of proceeds and reporting aspects of the Framework. JAL representatives have confirmed that:

- (1) They understand it is the sole responsibility of JAL to ensure that the information provided is complete, accurate or up to date;
- (2) They have provided Sustainalytics with all relevant information; and
- (3) Any provided material information has been duly disclosed in a timely manner.

Sustainalytics also reviewed relevant public documents and non-public information. This document contains Sustainalytics' opinion of the Framework and should be read in conjunction with that Framework. Any update of the present Second-Party Opinion will be conducted according to the agreed engagement conditions between Sustainalytics and JAL.

Sustainalytics' Second-Party Opinion, while reflecting on the alignment of the Framework with market standards, is no guarantee of alignment nor warrants any alignment with future versions of relevant market standards. Upon twenty-four (24) months following the evaluation date set stated herein, JAL is encouraged to update the Framework, if necessary, and seek an update to the Second-Party Opinion to ensure ongoing alignment of the Framework with market standards and expectations.

For use of proceeds instruments, Sustainalytics relied on its internal taxonomy, version 1.11.2, which is informed by market practice and Sustainalytics' expertise as an ESG research provider. The Second-Party Opinion:

- addresses the anticipated impacts of eligible projects expected to be financed with bond proceeds but does not measure the actual impact. The measurement and reporting of the impact achieved through projects financed under the Framework is the responsibility of the Framework owner.
- opines on the potential allocation of proceeds but does not guarantee the realised allocation of the bond proceeds towards eligible activities

No information provided by Sustainalytics under the present Second-Party Opinion shall be considered as being a statement, representation, warrant or argument, either in favour or against, the truthfulness, reliability or completeness of any facts or statements and related surrounding circumstances that JAL has made available to Sustainalytics for the purpose of this Second-Party Opinion.

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<sup>1</sup> When operating multiple lines of business that serve a variety of client types, objective research is a cornerstone of Sustainalytics and ensuring analyst independence is paramount to producing objective, actionable research. Sustainalytics has therefore put in place a robust conflict management framework that specifically addresses the need for analyst independence, consistency of process, structural separation of commercial and research (and engagement) teams, data protection and systems separation. Last but not the least, analyst compensation is not directly tied to specific commercial outcomes. One of Sustainalytics' hallmarks is integrity, another is transparency.

<sup>2</sup> The Green Bond Principles 2021 is administered by the International Capital Market Association and is available at: <https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp>

<sup>3</sup> Ministry of the Environment, Japan, "Green Bond Guidelines, 2020", at: [http://www.env.go.jp/policy/guidelines\\_set\\_version\\_with%20cover.pdf](http://www.env.go.jp/policy/guidelines_set_version_with%20cover.pdf)

<sup>4</sup> The Climate Transition Finance Handbook is administered by the International Capital Market Association and is available at: <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Climate-Transition-Finance-Handbook-December-2020-091220.pdf>

<sup>5</sup> Financial Services Agency, Ministry of Economy, Trade and Industry, Ministry of the Environment, Japan, "Basic Guidelines on Climate Transition Finance", at: <https://www.meti.go.jp/press/2021/05/20210507001/20210507001-3.pdf>



For inquiries, contact the Sustainable Finance Solutions project team:

**Kosuke Kanematsu (Tokyo)**

Project Manager

[kosuke.kanematsu@sustainalytics.com](mailto:kosuke.kanematsu@sustainalytics.com)

(+81) 3 4571 2343

**Marie Toyama (Tokyo)**

Project Support

[marie.toyama@sustainalytics.com](mailto:marie.toyama@sustainalytics.com)

(+81) 3 4571 2343

**Shintaro Yanagi (Brussels)**

Client Relations

[susfinance.japan@sustainalytics.com](mailto:susfinance.japan@sustainalytics.com)

(+31) 20 399 4482

## Introduction

Japan Airlines Co., Ltd. (hereinafter, “JAL” or the “Company”) is a Japanese airline company founded in 1951. JAL Group is composed of 80 subsidiaries and 51 affiliated companies, and conducts international and domestic passenger operations, cargo and mail handling, and other businesses. JAL Group operates 132 domestic routes and 58 international routes, entering 63 countries/regions and 368 airports, with code-share flights included (as of September 30, 2021).

JAL has developed the Japan Airlines Co., Ltd. Transition Bond Framework (the “Framework”) under which it intends to issue transition bonds and use the proceeds to finance and/or refinance, in whole or in part, existing and/or future projects that facilitate the transition of the Company’s operations to a low-carbon economy. The Framework defines eligibility criteria in the following area:

1. Clean Transportation - Upgrading to Fuel-efficient aircraft

JAL engaged Sustainalytics to review the Framework, dated November 2021, and provide a Second-Party Opinion on the Framework’s alignment with the Green Bond Principles 2021 and the recommendations of the Climate Transition Finance Handbook 2020 (CTFH), Japan’s Green Bond Guidelines 2020 (developed by the Ministry of the Environment of Japan), and Japan’s Basic Guidelines on Climate Transition Finance 2021 (developed by the Financial Services Agency, the Ministry of Economy, Trade and Industry, and the Ministry of the Environment of Japan). This Framework has been published in a separate document.<sup>6</sup>

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<sup>6</sup> The Japan Airlines Co., Ltd. Transition Bond Framework is available on JAL’s website at: <https://www.jal.com/en/sustainability/>

## Sustainalytics' Opinion

### Section 1: Sustainalytics' Opinion on the Alignment of the Japan Airlines Co., Ltd. Transition Bond Framework with Relevant Market Standards

#### Alignment with Green Bond Principles 2021

Sustainalytics is of the opinion that the Japan Airlines Co., Ltd. Transition Bond Framework is credible, impactful and aligns with the four core components of the Green Bond Principles 2021 (GBP). For detailed information please refer to Appendix 1: Green Bond Programme External Review Form. Sustainalytics highlights the following elements of JAL's Framework:



#### Use of Proceeds

##### Overall Assessment of Use of Proceeds

JAL intends to use the proceeds of the Transition Bonds for new investments and refinancing of existing investments related to upgrading to fuel-efficient aircraft. Refinancing of existing investments will be limited to expenditures made within three years before the issuance of the Transition Bonds.

Use of Proceeds	Activity	Classification	Description and Sustainalytics' Assessment
Clean Transportation – Upgrading to Fuel-efficient aircraft	Upgrading to fuel-efficient aircraft such as Airbus A350 and Boeing 787	Transition	<ul style="list-style-type: none"> <li>- The proceeds of the Transition Bonds may be used to finance the purchase of Airbus A350 and Boeing 787 aircraft, which are expected to reduce fuel consumption by approximately 15-25% compared to previous aircraft models.<sup>7</sup></li> <li>- Investment in improved aircraft fuel efficiency is viewed by Sustainalytics as a transition use of proceeds as, in the short term, the improved technology will be used by aircraft powered by jet fuels derived from fossil fuels (primarily kerosene).</li> <li>- Sustainalytics considers the eligibility of such expenditures to be contingent upon other commitments and action to reduce carbon intensity over time in line with a credible decarbonization trajectory for the aviation industry. Such action includes, in the case of JAL, the purchase of SAF and measures to increase operational efficiency.<sup>8</sup></li> <li>- Although the Company's transition strategy is not expected to align with 2°C scenario under the Paris Agreement, according to the Transition Pathway Initiative (TPI) benchmarks (High Efficiency scenario), which rely on the IEA's modeling, especially in short- and medium-term (which represents a deviation from market expectation – refer to "Emission-Reduction Targets" in Section 2), Sustainalytics nevertheless considers the use of proceeds and JAL's accompanying commitments to be important contributions to the achievement of its transition goals.</li> <li>- Sustainalytics encourages JAL to maximize its efforts to further reduce its carbon intensity, especially searching for a possibility of accelerated introduction of SAF, next-generation aircraft, and other measures.</li> </ul>

<sup>7</sup> JAL, "Upgrading to Fuel-efficient Aircraft", at: <https://www.jal.com/en/sustainability/environment/climate-action/fuel-efficient-aircraft/>

<sup>8</sup> As describe in greater detail below, JAL has committed to switching 10% of total fuels to SAF by FY2030 and to increasing this percentage as part of its longer-term strategy to achieve net-zero emission by FY2050. In addition, JAL promotes various operation methods to improve fuel efficiency and reduce CO<sub>2</sub> emissions from its aircraft. Refer to "Decarbonization Pathway and Implementation Plan" in Section 2.

### Additional Considerations on Transition Use of Proceeds

- Sustainalytics recognizes that the aviation sector as well-suited for transition financing, as it is carbon-intensive, important for the economy and human needs, and is a hard-to-abate sector that faces technological barriers to rapid decarbonization.
- Sustainalytics acknowledges that the introduction of fuel-efficient aircraft, such as those to be financed by JAL with the proceeds, is a first step toward the decarbonization of the sector. In addition to the reduction of CO<sub>2</sub> emissions through improved fuel efficiency, increased use of SAF is critical to the decarbonization of aviation. In fact, JAL has committed to reaching 10% in the ratio of SAF to total fuels by FY2030 and continuing to increase this ratio toward net-zero emission in FY2050. The latest model aircraft such as Airbus A350 and Boeing 787 can use SAF without any additional changes to their physical design and structure, and are therefore not considered to be assets which result in fossil fuel lock-in.
- In addition, as recognized by JAL in its “JAL Group Medium-Term Management Plan 2021-2025”, the development and introduction of zero-emission hydrogen- and electric-powered aircraft will be particularly important for deep decarbonization of the sector in the long-term.



### Project Evaluation and Selection

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- Eligible Projects are selected by the Finance Department, subject to negotiation with related business departments, and comprehensive analysis and assessment based on the Eligibility Criteria. General Manager of Finance & Accounting Division will be responsible to select the Eligible Projects on behalf of the Board of Directors.
- Under the Framework, JAL has set exclusionary criteria and committed that it will not allocate the proceeds of the Transition Bonds to projects related to unfair transactions that do not comply with the laws and regulations of the country, such as bribery, corruption, blackmail, embezzlement, etc. and transactions that can cause social problems relevant to human rights and the environment.
- JAL has a process in place to manage environmental and social risks related to the operation of aircraft, and the process is applied to all allocation decisions made under the Framework. Sustainalytics is of the opinion that JAL’s environmental and social risk management systems are adequate. Refer to “JAL’s Environmental and Social Risk Management” in Section 2 for details.
- Sustainalytics considers JAL’s process for project evaluation and selection to be in line with market practice.



### Management of Proceeds

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- The Finance Department will manage the allocation of the proceeds annually using the internal management system.
- JAL intends to fully allocate an amount equal to the net proceeds to the Eligible Projects within 36 months of transition bond issuance. Unallocated proceeds will be managed in cash or cash equivalents until the proceeds are fully allocated.
- Sustainalytics considers this process for management of proceeds to be in line with market practice.



## Reporting

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- JAL intends to annually report on the allocation of proceeds and the environmental impacts until full allocation of proceeds from the Transition Bonds. In addition, the Company intends to disclose the information in a timely manner in the event of significant changes.
- Allocation reporting will include the total amount of proceeds allocated to the Eligible Projects at category level, the amount of unallocated proceeds, and the amount of proceeds used for refinancing.
- Where practically feasible, JAL will report on annual CO<sub>2</sub> emissions avoided by upgrading to fuel-efficient aircraft in the Eligible Project Category.
- JAL is committed to obtaining a review from an independent external reviewer to evaluate whether its reporting is aligned with the Framework, within one year from the date of issuance of the Transition Bonds, and annually until the proceeds are fully allocated.
- Sustainalytics considers JAL's reporting is aligned with market practice considering the availability, frequency, and the contents of its disclosure.

### **Alignment with Japan's Green Bond Guidelines 2020**

Sustainalytics is of the opinion that the Japan Airlines Co., Ltd. Transition Bond Framework is in line with Japan's Green Bond Guidelines 2020 (elements described with the word "should"). For detailed information please refer to Appendix 2: Alignment with Japan's Green Bond Guidelines 2020.



### Assessment against the Climate Transition Finance Handbook 2020

Sustainalytics has assessed JAL’s alignment with the recommendations of the Climate Transition Finance Handbook 2020 (CTFH) and considers the Company to be aligned overall, with three of the Handbook’s recommendations being aligned and the fourth partially aligned. Sustainalytics highlights the following key elements of the assessment:

Key Elements	ICMA Recommendation	Sustainalytics' Assessment	
<p><b>Issuer’s climate transition strategy and governance</b></p>	<ul style="list-style-type: none"> <li>- Transition strategy to address climate-related risks and contribute to alignment with the goals of the Paris Agreement</li> <li>- Relevant interim targets on the trajectory towards long-term goal</li> <li>- Governance of transition strategy</li> </ul>	<ul style="list-style-type: none"> <li>- JAL has set a climate transition strategy aiming to achieve net zero emission by FY2050 (for scope 1, which accounts for approximately 85% of total scope 1, 2, and 3 emissions). The Company has also set its CO<sub>2</sub> emissions targets of less than 9.09 million tons by FY2025 (below the level of FY2019), and less than 8.18 million tons by FY2030 (10% less than FY2019).</li> <li>- JAL has laid out the technologies and measures it anticipates using to achieve these goals, namely: upgrading to fuel-efficient aircraft, adopting SAFs, and improving operations.                             <ul style="list-style-type: none"> <li>o Upgrading to fuel-efficient aircraft include replacements with the latest aircraft models including Airbus A350 and Boeing 787, as well as introduction of aircraft using new technologies such as hydrogen and electric powered aircraft in the future.</li> <li>o In terms of SAF, JAL is aiming to use SAF for 10% of total fuel load by FY2030, and gradually increase this ratio to achieve zero emissions by FY2050.</li> </ul> </li> <li>- JAL has a strong governance structure for its transition strategy under the leadership of the President. The Sustainability Promotion Council, which oversees the Company’s transition strategy, is chaired by the President. The Council comprises of all the members of the Executive Management Council (the President, Vice President, Senior Managing Executive Officers, and Managing Executive Officers), all other executive officers and Audit and Supervisory Board Members to discuss and review the company-wide climate transition strategy. Of the Council members, five of the internal directors including the President are concurrently serving on the Board of Directors.</li> <li>- In addition, JAL sets the Sustainability Promotion Committee (the chair is a Managing Executive Officer, who concurrently serves as a member of the Executive Management Council as well as the Sustainability Promotion Council), which is a subordinate committee of the Sustainability Promotion Council, to coordinate across stakeholders and check progress monthly for steady implementation of the Company’s transition strategy.</li> <li>- Ultimately, the Company’s Board of Directors provide supervision and instruction on the direction of the Company’s transition strategy and its implementation, including relevant resource allocation.</li> <li>- Refer to the “Assessment of JAL’s Sustainability Strategy” section below for further details.</li> </ul>	<p>Aligned</p>
<p><b>Business model environmental materiality</b></p>	<ul style="list-style-type: none"> <li>- Transition trajectory should be relevant to the environmentally-material parts of the issuer’s business model</li> </ul>	<ul style="list-style-type: none"> <li>- Aircraft CO<sub>2</sub> emissions represent the primary source of greenhouse gases (GHG) for JAL (85% as of FY2019). Further, the operation of aircraft is core to JAL’s business model as an aviation company. The Company’s transition strategy and goals are therefore clearly relevant to an environmentally-material part of the issuer’s business model.</li> </ul>	<p>Aligned</p>
<p><b>Climate transition strategy to be ‘science-based’ including targets and pathways</b></p>	<ul style="list-style-type: none"> <li>- Transition strategy should reference science-based targets and transition pathways</li> </ul>	<ul style="list-style-type: none"> <li>- The Company’s short- and medium-term targets for CO<sub>2</sub> emissions reduction toward its climate transition are not fully aligned with a science-based trajectory of the 1.5°C or 2°C scenarios under the Paris Agreement. Specifically, according to the TPI benchmarks (High Efficiency scenario), which rely on the IEA’s modelling, JAL needs to improve its CO<sub>2</sub> intensity by approximately 30% by FY2025, and 45% by FY2030 (compared to the FY2019 level) to be in line with the 2°C scenario under the Paris Agreement. The improvement of CO<sub>2</sub> intensity targeted by JAL against its “Business-As-Usual” (BAU) scenario was around 6% by FY2025 and 20% by FY2030, falling short of the TPI benchmark trajectory.</li> <li>- Nevertheless, Sustainalytics considers that the ATAG’s “Waypoint 2050” and other reports, which are referenced by JAL, are acceptable scenarios for setting long-term targets, and views positively that JAL is aiming to achieve net zero emission by FY2050 as its long-term target.</li> </ul>	<p>Partially Aligned</p>

		<ul style="list-style-type: none"> <li>- Refer to the “Assessment of JAL’s Sustainability Strategy” section for details.</li> </ul>	
<p><b>Implementation transparency</b></p>	<ul style="list-style-type: none"> <li>- Disclosure of capex and opex plans</li> <li>- Climate-related outcomes and impacts that expenditures are intended to result in</li> </ul>	<ul style="list-style-type: none"> <li>- JAL has disclosed its investment plan for FY2021-2025 in “JAL Group Medium-Term Management Plan 2021-2025.”<sup>9</sup> It plans 850 billion JPY of investment in total for the five years, with approximately 150 billion JPY per year until FY2023 and 200 billion JPY per year from FY2024 onward, to aggressively promote investment for sustainable growth. In addition, JAL has stated to Sustainalytics that it intends to provide ongoing annual reporting on the amount or share of its CAPEX dedicated to its transition strategy in its website and other disclosure materials.</li> <li>- JAL also intends to keep annual reporting on the progress of its climate transition strategy with disclosure of climate-related impact including scope 1, 2, and 3 CO<sub>2</sub> emissions in its integrated report and website.</li> </ul>	<p>Aligned</p>

### Alignment with Japan’s Basic Guidelines on Climate Transition Finance 2021

Sustainalytics is of the opinion that the Japan Airlines Co., Ltd.’s climate transition strategy is aligned overall with Japan’s Basic Guidelines on Climate Transition Finance 2021. For detailed information please refer to Appendix 3: Alignment with Japan’s Basic Guidelines on Climate Transition Finance 2021.

## Section 2: Assessment of JAL’s Sustainability Strategy

### Credibility of JAL’s Climate Transition Strategy

#### Emission-Reduction Targets

JAL set the target to achieve net-zero emission by FY2050 (for scope 1, which accounts for approximately 85% of the total of scope 1, 2, and 3 emissions), referencing the latest materials reviewed by ICAO and IATA, and the latest scenarios presented in the “Waypoint 2050”<sup>10</sup> by ATAG.

In terms of short- and medium-term emission-reduction targets, according to the TPI benchmarks (High Efficiency scenario), which rely on the International Energy Agency (IEA)’s modelling, JAL needs to improve its CO<sub>2</sub> intensity by approximately 30% by FY2025, and 45% by FY2030 (compared to the FY2019 level) to be in line with the 2°C scenario under the Paris Agreement<sup>11</sup>. However, the CO<sub>2</sub> intensity reduction targeted by JAL against its “Business-As-Usual” (BAU) scenario is around 6% by FY2025 and 20% by FY2030, falling short of the TPI benchmark trajectory.<sup>12</sup>

Nevertheless, while JAL’s short and medium targets do not align with 2°C scenarios under the Paris Agreement, Sustainalytics considers that the ATAG’s “Waypoint 2050” as well as the materials from ICAO and IATA, which are referenced to by JAL, are acceptable scenarios for setting long-term targets. Sustainalytics also considers that JAL’s decarbonization targets and pathway as a whole are expected to bring positive impacts, leading to low-carbon and decarbonization of its business operation.

#### Decarbonization Pathway and Implementation Plan

In “JAL Group Medium-Term Management Plan 2021-2025”,<sup>13</sup> JAL lists (1) Upgrades to Fuel-efficient Aircraft, (2) Reduction of CO<sub>2</sub> Emissions in Daily Operations, and (3) Use of SAF as the three key pillars of its decarbonization pathway.

<sup>9</sup> JAL, “JAL Group Medium-Term Management Plan 2021-2025”, at: [https://press.jal.co.jp/en/items/uploads/20210507\\_1200\\_JAL\\_MTP2021\\_E.pdf](https://press.jal.co.jp/en/items/uploads/20210507_1200_JAL_MTP2021_E.pdf)

<sup>10</sup> Air Transport Action Group (ATAG), “Waypoint 2050”, at: <https://aviationbenefits.org/environmental-efficiency/climate-action/waypoint-2050/>

<sup>11</sup> Transition Pathway Initiative, “TPI tool”, at: <https://www.transitionpathwayinitiative.org/companies/japan-airlines>

<sup>12</sup> JAL, “JAL Group Medium-Term Management Plan 2021-2025”, at: [https://press.jal.co.jp/en/items/uploads/20210507\\_1200\\_JAL\\_MTP2021\\_E.pdf](https://press.jal.co.jp/en/items/uploads/20210507_1200_JAL_MTP2021_E.pdf)

<sup>13</sup> JAL, “JAL Group Medium-Term Management Plan 2021-2025”, at: [https://press.jal.co.jp/en/items/uploads/20210507\\_1200\\_JAL\\_MTP2021\\_E.pdf](https://press.jal.co.jp/en/items/uploads/20210507_1200_JAL_MTP2021_E.pdf)

(1) In terms of “Upgrades to Fuel-efficient Aircraft”, JAL intends to introduce new model aircraft such as Airbus A350 and Boeing 787,<sup>14</sup> which are expected to reduce CO<sub>2</sub> emissions by approximately 15-25% compared to the previous model aircraft. In the large-size fleet category, JAL plans to increase the number of A350 to 18 aircraft (five aircraft in FY2019) by FY2023, while reducing the number of Boeing 777 to 13 aircraft (39 aircraft in FY2019) in the same period.<sup>15</sup> On top of that, in the medium-size fleet category, JAL plans to replace ageing fleets with new fuel-efficient aircraft. In addition, JAL is collaborating with aircraft manufacturers (Boeing, Airbus) and the Ministry of Economy, Trade, and Industry (METI) to develop zero-emission aircraft such as hydrogen-fueled or electrified ones in the future, on the premise of related technological developments.<sup>16</sup>

(2) Regarding “Reduction of CO<sub>2</sub> Emissions in Daily Operations”, the Company promotes JAL Green Operations, including activities to reduce fuel consumption and CO<sub>2</sub> emissions in daily operations. For instance, JAL adopts operation methods that reduce CO<sub>2</sub> emissions such as ascent with early acceleration, continuous descent operations, reduced flap, idle reverse and periodic engine cleaning.<sup>17</sup> Furthermore, JAL aims to further enhance operational efficiency by promoting collaboration across the entire industry, including air traffic agencies, airline companies, and airport operators. JAL also intends to proactively participate in public-private partnerships for the development of next-generation air traffic systems.<sup>18</sup>

(3) In terms of “Use of SAF”, JAL aims to switch 1% of total fuels to SAF by FY2025 and 10% by FY2030.<sup>19</sup> In October 2021, JAL joined the World Economic Forum’s “Clean Skies for Tomorrow Coalition” and signed the “2030 Ambition Statement,” aiming to increase the ratio of SAF against the total fuels used in the global airlines industry to 10% by 2030.<sup>20</sup> In Japan, JAL is promoting initiatives to build a supply chain for domestically produced SAF. For example, the Company successfully operated the first flight (Boeing 787) using SAF produced domestically from cotton clothing in February 2021 and a flight (Airbus A350) using two different types of SAF produced at domestic demonstration plants in June 2021.<sup>21</sup> In overseas, JAL invested in Fulcrum BioEnergy Inc. (Fulcrum) located in the U.S. to increase the ratio of SAF to total fuels by using SAF produced from the municipal solid waste by Fulcrum.<sup>22</sup>

Considering the abovementioned initiatives and measures, Sustainalytics considers that JAL has a clear and concrete decarbonization pathway and relevant implementation plans.

## JAL’s Environmental and Social Risk Management

While Sustainalytics recognizes that the projects financed by the Transition Bonds contribute to long-term decarbonization of the aviation industry, Sustainalytics is aware that companies engaged in airline business must manage environmental and social risks related to the operation of aircraft. Major risks that may arise in projects financed under the Framework include air pollution, noise, risks related to the safety of passengers and employees, and risks related to stricter environmental regulations.

The following section explains Sustainalytics’ assessment of JAL’s risk management processes for aforementioned risks.

- JAL has established the JAL Group Environmental Policy<sup>23</sup> and commits to complying with laws, regulations, ordinances, international conventions, and industrial and company standards concerning the environment. In addition, it commits to the establishment and operation of the Environmental Management System (EMS) based on the Policy to mitigate environmental impacts in the areas of (i) addressing climate change; (ii) effective use of resources; (iii) preventing environmental pollution; (iv) reducing noise; and (v) conserving biodiversity. Furthermore, EMS is continually improved by conducting internal environmental audits annually for each division of JAL, and once every three years at Group

<sup>14</sup> JAL, “Upgrading to Fuel-efficient Aircraft”, at: <https://www.jal.com/en/sustainability/environment/climate-action/fuel-efficient-aircraft/>

<sup>15</sup> JAL, “JAL Group Medium-Term Management Plan 2021-2025”, at: [https://press.jal.co.jp/en/items/uploads/20210507\\_1200\\_JAL\\_MTP2021\\_E.pdf](https://press.jal.co.jp/en/items/uploads/20210507_1200_JAL_MTP2021_E.pdf)

<sup>16</sup> JAL, “JAL Group Medium-Term Management Plan 2021-2025”, at: [https://press.jal.co.jp/en/items/uploads/20210507\\_1200\\_JAL\\_MTP2021\\_E.pdf](https://press.jal.co.jp/en/items/uploads/20210507_1200_JAL_MTP2021_E.pdf)

<sup>17</sup> JAL, “Reducing CO<sub>2</sub> Emissions in Daily Operations”, at: <https://www.jal.com/en/sustainability/environment/climate-action/co2-emissions/>

<sup>18</sup> JAL, “JAL Group Medium-Term Management Plan 2021-2025”, at: [https://press.jal.co.jp/en/items/uploads/20210507\\_1200\\_JAL\\_MTP2021\\_E.pdf](https://press.jal.co.jp/en/items/uploads/20210507_1200_JAL_MTP2021_E.pdf)

<sup>19</sup> JAL, “JAL Group Medium-Term Management Plan 2021-2025”, at: [https://press.jal.co.jp/en/items/uploads/20210507\\_1200\\_JAL\\_MTP2021\\_E.pdf](https://press.jal.co.jp/en/items/uploads/20210507_1200_JAL_MTP2021_E.pdf)

<sup>20</sup> JAL, All Nippon Airways Co., Ltd., “Joint Report - Achieving a Carbon Neutral Future in Aviation by 2050”, at: <https://www.anahd.co.jp/group/en/pr/pdf/20211008-1-1.pdf>

<sup>21</sup> JAL, “Project of SAF produced domestically in Japan has succeeded”, at: <https://press.jal.co.jp/en/items/uploads/2212ff34d3ae704b92a46f12c42693e01fe98f77.pdf>

<sup>22</sup> JAL, “Japan Airlines Invests in Development of Sustainable Aviation Fuel Technology”, at: <https://press.jal.co.jp/en/release/201809/004885.html>

<sup>23</sup> JAL, “JAL Group Environmental Policy”, at: <https://www.jal.com/en/sustainability/environment-management/policy/>



companies.<sup>24</sup> JAL has identified climate change risk as one of its priority risks, and conducts risk management based on international laws and regulations and policy trends concerning climate change.<sup>25</sup>

- For the prevention of air pollution caused by gas emissions from aircraft such as carbon dioxide (CO<sub>2</sub>), nitrous oxide (NO<sub>x</sub>), carbon monoxide (CO), and hydrocarbon (HC), JAL Group adopts engines that meet the emissions criteria set under ANNEX 16 to the Convention on International Civil Aviation<sup>26</sup> by ICAO. In addition, JAL is committed to reducing the amount of handling and emission of hazardous chemicals by managing such substances per Japan's Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (the "PRTR Act").<sup>27</sup>
- For the reduction of noise, JAL is committed to reducing aircraft noise by introducing new aircraft and adopting noise-reducing flight methods in accordance with the "Balanced Approach to Aircraft Noise Management"<sup>28</sup> established by the ICAO. All JAL Group aircraft meet ICAO's Chapter 4 standard for aircraft noise, and 43% meet the new Chapter 14 standard in FY2020.<sup>29</sup>
- Under its Safety Charter<sup>30</sup> JAL has built a Safety Management System (SMS) advocated by ICAO, and the management, Corporate Safety and Security Division, and each department engages in ongoing improvement of SMS by implementing the PDCA cycle. JAL Group also conducts regular internal audits based on the requirements of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) to build its safety management system and confirm improvement initiatives. JAL and its group companies, Japan Transocean Airline Co., Ltd. and J-AIR Corporation have acquired IOSA (IATA Operational Safety Audit) certification, which is an international safety standard set by IATA. These companies conduct regular internal audits to confirm compliance with the criteria established by the IATA (IOSA standards).<sup>31 32 33</sup>

Based on these policies, procedures, and initiatives, Sustainalytics is of the opinion that JAL has implemented adequate system and is well positioned to manage and mitigate environmental and social risks commonly associated with the eligible category.

### Section 3: Impact of Use of Proceeds

The use of proceeds category defined by JAL in the Framework is aligned with those recognized by GBP. Sustainalytics explains below how the project category contribute to the transition of the aviation sector in the local and global context.

#### Importance of decarbonizing the aviation industry

In 2019, CO<sub>2</sub> emissions by the airline industry reached about 1Gt, accounting for about 2.8% of total global CO<sub>2</sub> emissions. The energy intensity of commercial passenger aviation has decreased at an average annual rate of 2.8% between 2000 and 2019. However, the revenue passenger kilometers (RPK: number of revenue passengers x total distance traveled) increased at an annual average of 5% during the same period,<sup>34</sup> exceeding the improvement in the energy efficiency. RPK is expected to continue increasing by an annual average of 4.1% until 2045.<sup>35</sup> Considering the expected increase in air transport demand, the airline industry needs to decarbonize.

<sup>24</sup> JAL, "Environmental Management", at: <https://www.jal.com/en/sustainability/environment/environment-management/>

<sup>25</sup> JAL, "Risk Management", at: <https://www.jal.com/en/sustainability/environment/climate-action/#risk>

<sup>26</sup> International Civil Aviation Organization (ICAO), ANNEX 16 to the Convention on International Civil Aviation, Environmental Protection, Volume II Aircraft Engine Emissions: [https://law.resource.org/pub/us/cfr/ibr/004/icao\\_annex.16.v2.2008.pdf](https://law.resource.org/pub/us/cfr/ibr/004/icao_annex.16.v2.2008.pdf)

<sup>27</sup> JAL, "Prevention of Environmental Pollution", at: <https://www.jal.com/en/sustainability/environment/pollution-prevention/>

<sup>28</sup> International Civil Aviation Organization (ICAO), "Aircraft Noise", at: <https://www.icao.int/environmental-protection/pages/noise.aspx>

<sup>29</sup> JAL, "Noise Reduction", at: <https://www.jal.com/en/sustainability/environment/noise-reduction/>

<sup>30</sup> JAL, "Safety Charter", at: <https://www.jal.com/en/flight/charter.html>

<sup>31</sup> JAL, "JAL Group Safety Report", at: [https://www.jal.com/en/flight/report/pdf/index\\_015.pdf](https://www.jal.com/en/flight/report/pdf/index_015.pdf)

<sup>32</sup> International Air Transport Association (IATA), "IOSA Registry", at:

<https://www.iata.org/en/programs/safety/audit/iosa/registry?search=&region=Asia+Pacific&country=Japan&ordering=Alphabetical>

<sup>33</sup> International Air Transport Association (IATA), "IATA Operational Safety Audit (IOSA)", at:

<https://www.iata.org/en/programs/safety/audit/iosa/>

<sup>34</sup> International Energy Agency (IEA), "Aviation", at: <https://www.iea.org/fuels-and-technologies/aviation>

<sup>35</sup> International Civil Aviation Organization (ICAO), "ICAO Long-Term Traffic Forecasts", at:

[https://www.icao.int/sustainability/documents/ltf\\_charts-results\\_2018edition.pdf](https://www.icao.int/sustainability/documents/ltf_charts-results_2018edition.pdf)

ICAO established the “Global Aspirational Goal”<sup>36</sup> for CO<sub>2</sub> emissions reduction to reduce the impact of the airline industry on climate change and set a global reduction target of (1) improving fuel efficiency by an average of 2% annually until 2050, and (2) not increasing total GHG emissions from 2020 in the area of international aviation. ICAO states that achieving the goal requires introducing aircraft technology improvements, operational improvements, sustainable aviation fuels, and market-based measures. As a whole, ongoing improvement of aircraft fuel efficiency is critical to reducing GHG emissions by the airline industry.

Japan Airlines Co., Ltd. Transition Bond Framework states that the use of proceeds will be for upgrading to the latest fuel-efficient aircraft. Sustainalytics is of the opinion that the use of proceeds will reduce the CO<sub>2</sub> emissions from JAL’s business operation and supports the decarbonization transition of the aviation industry.

### Alignment with/contribution to SDGs

The Sustainable Development Goals (SDGs) were set in September 2015 and form an agenda for achieving sustainable development by the year 2030. The Japan Airlines Co., Ltd. Transition Bond Framework advances the following SDG goals and targets:

Use of Proceeds Category	SDG	SDG Target
Clean Transportation – Upgrading to Fuel-efficient aircraft	7. Affordable and clean energy	7.3 By 2030, double the global rate of improvement in energy efficiency
	9. Industry, innovation and infrastructure	9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

## Conclusion

JAL has developed the Japan Airlines Co., Ltd. Transition Bond Framework under which it intends to issue transition bonds and use the proceeds to finance and/or refinance fuel-efficient aircraft. Sustainalytics believes that the projects that the proceeds will be allocated to can be expected to contribute to the Company’s transition toward low-carbon and decarbonized business operation.

The Framework outlines a process by which proceeds will be tracked, allocated, and managed, and commitments have been made for reporting on the allocation and the impact of the use of proceeds. Furthermore, Sustainalytics believes that the Framework is aligned with the overall transition strategy of the company and that the use of proceeds categories will contribute to the advancement of the UN Sustainable Development Goal 7 and 9. Additionally, Sustainalytics is of the opinion that JAL has adequate systems to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects funded by the use of proceeds.

Sustainalytics is of the opinion that the Framework is robust and transparent and aligns with the four core requirements of the Green Bond Principles 2021 and Japan’s Green Bond Guidelines 2020. Sustainalytics has also assessed JAL’s alignment with the recommendations of the Climate Transition Finance Handbook 2020 as well as Japan’s Basic Guidelines on Climate Transition Finance 2021 and considers the Company’s transition strategy to be aligned overall, while noting that the Company need to raise its short and medium targets for CO<sub>2</sub> emissions reduction to the level that meets 2°C or 1.5°C scenarios aligned with the Paris Agreement. JAL has a strong governance structure in place and has clearly set a CO<sub>2</sub> emissions reduction trajectory toward long-term net-zero emission, together with interim targets as well as specific initiatives for achieving the goals. In addition, JAL intends to report on the investment plan dedicated to its transition strategy and the climate-related impacts on an ongoing basis. Based on the above, Sustainalytics is confident that JAL is well-positioned to issue transition bonds.

<sup>36</sup> International Civil Aviation Organization (ICAO), “Climate Change”, at: <https://www.icao.int/environmental-protection/pages/climate-change.aspx>

## Appendix 1 Green Bond / Green Bond Programme - External Review Form

### Section 1. Basic Information

<b>Issuer name:</b>	Japan Airlines Co., Ltd.
<b>Green Bond ISIN or Issuer Green Bond Framework Name, if applicable:</b>	Japan Airlines Co., Ltd. Transition Bond Framework
<b>Review provider's name:</b>	Sustainalytics
<b>Completion date of this form:</b>	January 27, 2022
<b>Publication date of review publication:</b>	

### Section 2. Review overview

#### SCOPE OF REVIEW

The following may be used or adapted, where appropriate, to summarise the scope of the review.

The review assessed the following elements and confirmed their alignment with the GBP:

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Use of Proceeds        | <input checked="" type="checkbox"/> Process for Project Evaluation and Selection |
| <input checked="" type="checkbox"/> Management of Proceeds | <input checked="" type="checkbox"/> Reporting                                    |

#### ROLE(S) OF REVIEW PROVIDER

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Consultancy (incl. 2 <sup>nd</sup> opinion) | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification   | <input type="checkbox"/> Rating        |
| <input type="checkbox"/> Other ( <i>please specify</i> ):                       |  |

Note: In case of multiple reviews / different providers, please provide separate forms for each review.

#### EXECUTIVE SUMMARY OF REVIEW and/or LINK TO FULL REVIEW (*if applicable*)

Please refer to Evaluation Summary above.

### Section 3. Detailed review

Reviewers are encouraged to provide the information below to the extent possible and use the comment section to explain the scope of their review.



## 1. USE OF PROCEEDS

Overall comment on section (if applicable):

The eligible category for the use of proceeds – Clean Transportation (Upgrading to Fuel-efficient aircraft) – is aligned with those recognized by the Green Bond Principles 2021.

Investment in improved aircraft fuel efficiency is viewed by Sustainalytics as a transition use of proceeds as, in the short term, the improved technology will be used by aircraft powered by jet fuels derived from fossil fuels (primarily kerosene). Sustainalytics considers the investment in fuel-efficient aircraft by JAL, coupled with future shift to sustainable aviation fuel (SAF), will contribute to the transition and eventual decarbonization of the aviation sector.

### Use of proceeds categories as per GBP:

- |   |  |
|---|--|
| <input type="checkbox"/> Renewable energy   | <input type="checkbox"/> Energy efficiency   |
| <input type="checkbox"/> Pollution prevention and control   | <input type="checkbox"/> Environmentally sustainable management of living natural resources and land use |
| <input type="checkbox"/> Terrestrial and aquatic biodiversity conservation  | <input checked="" type="checkbox"/> Clean transportation   |
| <input type="checkbox"/> Sustainable water and wastewater management  | <input type="checkbox"/> Climate change adaptation   |
| <input type="checkbox"/> Eco-efficient and/or circular economy adapted products, production technologies and processes                            | <input type="checkbox"/> Green buildings   |
| <input type="checkbox"/> Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBP | <input checked="" type="checkbox"/> Other (please specify): Upgrading to fuel-efficient aircraft         |

If applicable please specify the environmental taxonomy, if other than GBP:

## 2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section (if applicable):

- Eligible Projects are selected by the Finance Department subject to negotiation with related business departments, and comprehensive analysis and assessment based on the Eligibility Criteria. General Manager of Finance & Accounting Division will be responsible to select the Eligible Projects on behalf of the Board of Directors.
- JAL has in place a process to manage environmental and social risks related to the operation of aircraft, and the process is applied to all allocation decisions made under the Framework. Sustainalytics is of the opinion that JAL's environmental and social risk management systems are adequate. Refer to "JAL's Environmental and Social Risk Management" in Section 2 for details.
- Sustainalytics considers JAL's process for project evaluation and selection to be in line with market practice.

### Evaluation and selection

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Credentials on the issuer's environmental sustainability objectives | <input checked="" type="checkbox"/> Documented process to determine that projects fit within defined categories |
|---|---|

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Defined and transparent criteria for projects eligible for Green Bond proceeds | <input checked="" type="checkbox"/> Documented process to identify and manage potential ESG risks associated with the project |
| <input checked="" type="checkbox"/> Summary criteria for project evaluation and selection publicly available       | <input type="checkbox"/> Other ( <i>please specify</i> ):   |

#### Information on Responsibilities and Accountability

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Evaluation / Selection criteria subject to external advice or verification | <input type="checkbox"/> In-house assessment |
| <input type="checkbox"/> Other ( <i>please specify</i> ):  |  |

### 3. MANAGEMENT OF PROCEEDS

Overall comment on section (*if applicable*):

- The Finance Department will manage the allocation of the proceeds annually using the internal management system.
- JAL intends to fully allocate an amount equal to the net proceeds to the Eligible Projects within 36 months of transition bond issuance. Unallocated proceeds will be managed in cash or cash equivalents until the proceeds are fully allocated.
- Sustainalytics considers this process for management of proceeds to be in line with market practice.

#### Tracking of proceeds:

- |   |
|---|
| <input checked="" type="checkbox"/> Green Bond proceeds segregated or tracked by the issuer in an appropriate manner          |
| <input checked="" type="checkbox"/> Disclosure of intended types of temporary investment instruments for unallocated proceeds |
| <input type="checkbox"/> Other ( <i>please specify</i> ):   |

#### Additional disclosure:

- |   |   |
|---|---|
| <input type="checkbox"/> Allocations to future investments only                             | <input checked="" type="checkbox"/> Allocations to both existing and future investments |
| <input type="checkbox"/> Allocation to individual disbursements                             | <input type="checkbox"/> Allocation to a portfolio of disbursements                     |
| <input checked="" type="checkbox"/> Disclosure of portfolio balance of unallocated proceeds | <input type="checkbox"/> Other ( <i>please specify</i> ):                               |

### 4. REPORTING

Overall comment on section (*if applicable*):



- JAL intends to annually report on the allocation of proceeds and the environmental impacts until full allocation of proceeds from the Transition Bonds. In addition, the Company intends to disclose the information in a timely manner in the event of significant changes.
- Allocation reporting will include the total amount of proceeds allocated to the Eligible Projects at category level, the amount of unallocated proceeds, and the amount of proceeds used for refinancing.
- Where practically feasible, JAL will report on annual CO<sub>2</sub> emissions avoided by upgrading to fuel-efficient aircraft in the Eligible Project Category.
- JAL is committed to obtaining a review from an independent external reviewer to evaluate whether its reporting is aligned with the Framework, within one year from the date of issuance of the Transition Bonds, and annually until the proceeds are fully allocated.
- Sustainalytics considers JAL's reporting is aligned with market practice considering the availability, frequency, and the contents of its disclosure.

**Use of proceeds reporting:**

- |  |  |
|--|--|
| <input type="checkbox"/> Project-by-project            | <input checked="" type="checkbox"/> On a project portfolio basis |
| <input type="checkbox"/> Linkage to individual bond(s) | <input type="checkbox"/> Other (please specify):                 |

**Information reported:**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Allocated amounts   | <input type="checkbox"/> Green Bond financed share of total investment |
| <input checked="" type="checkbox"/> Other (please specify): Amount of unallocated proceeds, amount of proceeds used for refinancing |  |

**Frequency:**

- |  |                                      |
|--|--------------------------------------|
| <input checked="" type="checkbox"/> Annual       | <input type="checkbox"/> Semi-annual |
| <input type="checkbox"/> Other (please specify): |                                      |

**Impact reporting:**

- |  |  |
|--|--|
| <input type="checkbox"/> Project-by-project            | <input checked="" type="checkbox"/> On a project portfolio basis |
| <input type="checkbox"/> Linkage to individual bond(s) | <input type="checkbox"/> Other (please specify):                 |

**Information reported (expected or ex-post):**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> GHG Emissions / Savings | <input type="checkbox"/> Energy Savings                         |
| <input type="checkbox"/> Decrease in water use              | <input type="checkbox"/> Other ESG indicators (please specify): |

**Frequency**

- |  |                                      |
|--|--------------------------------------|
| <input checked="" type="checkbox"/> Annual       | <input type="checkbox"/> Semi-annual |
| <input type="checkbox"/> Other (please specify): |                                      |

**Means of Disclosure**

- Information published in financial report
- Information published in sustainability report
- Information published in ad hoc documents
- Other (please specify): Company’s website and other disclosure materials.
- Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review):

Where appropriate, please specify name and date of publication in the useful links section.

**USEFUL LINKS** (e.g. to review provider methodology or credentials, to issuer’s documentation, etc.)

**SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE**

**Type(s) of Review provided:**

- Consultancy (incl. 2<sup>nd</sup> opinion)
- Certification
- Verification / Audit
- Rating
- Other (please specify):

**Review provider(s):**

**Date of publication:**

**ABOUT ROLE(S) OF INDEPENDENT REVIEW PROVIDERS AS DEFINED BY THE GBP**

- i. Second-Party Opinion: An institution with environmental expertise, that is independent from the issuer may issue a Second-Party Opinion. The institution should be independent from the issuer’s adviser for its Green Bond framework, or appropriate procedures, such as information barriers, will have been implemented within the institution to ensure the independence of the Second-Party Opinion. It normally entails an assessment of the alignment with the Green Bond Principles. In particular, it can include an assessment of the issuer’s overarching objectives, strategy, policy and/or processes relating to environmental sustainability, and an evaluation of the environmental features of the type of projects intended for the Use of Proceeds.
- ii. Verification: An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or environmental criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria. Assurance or attestation regarding an issuer’s internal tracking method for use of proceeds, allocation of funds from Green Bond proceeds, statement of environmental impact or alignment of reporting with the GBP, may also be termed verification.
- iii. Certification: An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against a recognised external green standard or label. A standard or label defines specific criteria, and alignment with such criteria is normally tested by qualified, accredited third parties, which may verify consistency with the certification criteria.
- iv. Green Bond Scoring/Rating: An issuer can have its Green Bond, associated Green Bond framework or a key feature such as Use of Proceeds evaluated or assessed by qualified third parties, such as specialised research providers or rating agencies, according to an established scoring/rating methodology. The output may include a focus on environmental performance data, the process relative to the GBP, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material environmental risks.

## Appendix 2: Alignment with Japan's Green Bond Guidelines 2020

Four Elements	Alignment	Sustainalytics' Comments
1. Use of Proceeds	Aligned	The eligible project category, Clean Transportation, described in the Framework by JAL is recognized by Japan's Green Bond Guidelines 2020 as a project category with clear environmental benefits. In the Framework, JAL also provides details of the use of proceeds, along with its measures to manage and mitigate environmental risks associated with the eligible projects, allowing investors to access in advance. Furthermore, the Company has confirmed to Sustainalytics that in the event of refinancing assets that require long-term maintenance through multiple issuances of transition bonds, it will disclose the assets' age, remaining useful life, and the amount to be refinanced, and evaluate the long-term sustainability of environmental benefits.
2. Process for Project Evaluation and Selection	Aligned	In the Framework, JAL explains environmental goals that it aims to achieve through the issuance of transition bonds. It also describes, in the Framework, the eligibility and exclusionary criteria as well as the process for evaluating and selecting projects.
3. Management of Proceeds	Aligned	JAL has confirmed to Sustainalytics that, until the maturity of transition bonds, JAL's Finance Department will monitor and manage the allocated and unallocated amount of proceeds once a year using an internal management system. JAL intends to complete the allocation of proceeds within 36 months after the issuance of the transition bond. Pending allocation, unallocated proceeds will be invested in cash or cash equivalents.
4. Reporting	Aligned	In the Framework, JAL describes that it will report on the allocation of proceeds and positive environmental impacts annually, until the full allocation of proceeds. Additionally, the Company has confirmed to Sustainalytics that in case of material developments (including after full allocation), it will disclose the information in a timely manner. Allocation reporting will include the amount of proceeds allocated at category level, the amount of unallocated proceeds, expected timing of allocation, management method of unallocated proceeds and the amount of proceeds used for refinancing. Impact reporting will provide, to the extent practicable, the overview of the upgraded fuel-efficient aircraft (including progress) and CO <sub>2</sub> emissions avoided by the upgrade.

## Appendix 3: Alignment with Japan's Basic Guidelines on Climate Transition Finance 2021

### Element 1: Fundraiser's Climate Transition Strategy and Governance

#### Sustainalytics' Assessment: Aligned

- JAL has set a climate transition strategy aiming to achieve net zero emission by FY2050 (for scope 1, which accounts for approximately 85% of total scope 1, 2, and 3 emissions). The Company has also set its CO<sub>2</sub> emissions targets of less than 9.09 million tons by FY2025 (below the level of FY2019), and less than 8.18 million tons by FY2030 (10% less than FY2019).
- JAL has laid out the technologies and measures it anticipates using to achieve these goals, namely: upgrading to fuel-efficient aircraft, adopting SAFs, and improving operations.
  - Upgrading to fuel-efficient aircraft include replacements with the latest aircraft models including Airbus A350 and Boeing 787, as well as introduction of aircraft using new technologies such as hydrogen and electric powered aircraft in the future.
  - In terms of SAF, JAL is aiming to use SAF for 10% of total fuel load by FY2030, and gradually increase this ratio to achieve zero emissions by FY2050.
- JAL has a strong governance structure for its transition strategy under the leadership of the President. The Sustainability Promotion Council, which oversees the Company's transition strategy, is chaired by the President. The Council comprises of all the members of the Executive Management Council (the President, Vice President, Senior Managing Executive Officers, and Managing Executive Officers), all other executive officers and Audit and Supervisory Board Members to discuss and review the company-wide climate transition strategy. Of the Council members, five of the internal directors including the President are concurrently serving on the Board of Directors.
- In addition, JAL sets the Sustainability Promotion Committee (the chair is a Managing Executive Officer, who concurrently serves as a member of the Executive Management Council as well as the Sustainability Promotion Council), which is a subordinate committee of the Sustainability Promotion Council, to coordinate across stakeholders and check progress monthly for steady implementation of the Company's transition strategy.
- Ultimately, the Company's Board of Directors provide supervision and instruction on the direction of the Company's transition strategy and its implementation, including relevant resource allocation.

	Item in Japan's Basic Guidelines on Climate Transition	Alignment	Sustainalytics' Comments
a)	Financing through transition finance <b>should</b> aim to implement or incentivize the achievement of transition strategies. Such strategies <b>should</b> incorporate a long-term target to align with the goals of the Paris Agreement, relevant interim targets on the trajectory towards the long-term goal, disclosure on the levers towards decarbonization, and fundraiser's strategic planning.	Aligned	JAL intends to allocate the proceeds of the Transition Bonds to upgrade to fuel-efficient aircraft. Upgrading to fuel-efficient aircraft is one of the three key pillars under JAL's transition strategy and is considered to contribute to achievement of the CO <sub>2</sub> reduction targets under the strategy. In addition, the Company's transition strategy incorporates a long-term target to align with the goals of the Paris Agreement, relevant short- and medium-term targets, disclosures towards decarbonization, and implementation plan for the relevant initiatives.
b)	A transition strategy <b>should</b> serve to explicitly communicate the implementation of the fundraiser's strategy to transform the business model in a way which effectively addresses climate-related risks and contributes to achieving the goals of the Paris Agreement. Transformation of a business model is not limited to initiatives as an extension of existing businesses but can also be transformation based on various other perspectives. It includes fuel conversion that achieves significant carbon and GHG reduction benefits, introduction of innovative technologies, improvements of/changes in manufacturing processes and products, and development and provision of products and services in new fields.	Aligned	JAL has established its transition strategy based on the risks and opportunities identified through the Task Force on Climate-related Financial Disclosures (TCFD)'s categorization framework for the climate change related risks/opportunities. It sets forth (i) Upgrades to Fuel-efficient Aircraft, (ii) Reduction of CO <sub>2</sub> Emissions in Daily Operations, and (iii) Use of SAF as the key pillars for CO <sub>2</sub> emissions reduction, and explicitly communicates its intention to transform its business model toward net zero CO <sub>2</sub> emissions by 2050.
c)	The implementation of a transition strategy assumes cases where it affects society and environment other than climate change, such as employment or stable provision of products and services, through transformation of a business	Aligned	Currently, JAL does not anticipate any negative impact on employment or stable supply of its products and services due to the transformation of its business model associated with the implementation of its transition strategy. With respect to the risk management system for other environmental and social impacts

	model. In such cases, it is <b>recommended</b> that the fundraiser also takes into consideration the impact of business innovations to society and environment other than climate change.		related to the operation of aircraft, the Company has established various measures including the JAL Group Environmental Policy and the Environmental Management System (EMS) based on the Environmental Policy (Refer to Section 2 “JAL’s Environmental and Social Risk Management” in this SPO).
d)	Climate change-related scenarios <b>should</b> be referenced in developing transition strategies. The pathway to transition should be planned for respective sector and regions of individual fundraiser, who may generally be placed in a different starting point and pathway to transition.	Aligned	In developing its transition strategy, JAL referenced the short- and medium-term targets and the long-term targets under the scenarios presented in the latest materials by ICAO and IATA as well as the “Waypoint 2050” report by ATAG. The scenarios by ICAO, IATA, and ATAG are widely referenced globally in the airline industry and are acceptable for setting long-term targets aligned with the Paris Agreement. JAL sets the targets and pathways for its transition strategy based on its own starting point (actual CO <sub>2</sub> emissions and business environment surrounding the Company in FY2019, etc.).
e)	Transition strategies and plans must be highly credible in terms of their effectiveness. Therefore, it is <b>recommended</b> that a transition strategy and plan are linked to management strategy and business plan, including medium-term management plans.	Aligned	JAL’s transition strategy for net zero CO <sub>2</sub> emissions by 2050 is presented in “JAL Group Medium-Term Management Plan 2021-2025” as a pillar of ESG management to achieve SDGs. The transition strategy is linked with management strategy and business plan, as indicated by the CO <sub>2</sub> emissions reduction target, which is one of the management targets (FY2025) in the Medium-Term Management Plan, and by the fact that the introduction of fuel-efficient aircraft is highlighted in its investment strategy.
f)	However, because such strategies and plans run for a long period of time, it is <b>possible</b> that the content may be modified or adjusted in the event of a major change in the assumed external environment and so on.	Aligned	JAL intends to make appropriate modification/adjustment to its transition strategy in the event of any major change in the assumption of external environment, etc.
g)	In the initial phase of developing a transition strategy by the fundraiser, it is <b>considered</b> as an option for the fundraiser to indicate a plan for future implementation of items described with the words “recommended” and “be considered/possible” in these Guidelines.	Aligned	JAL is aligned with almost all of the items described with the words “recommended” and “be considered/possible” in the Basic Guidelines on Climate Transition Finance. In terms of Scope 3 target setting, which is mentioned in the item c) under Element 3, the Company intends to specifically consider.
h)	In order to secure the effectiveness of the transition strategy, the fundraiser <b>should</b> establish an organizational structure for the board of directors and/or other such committee to oversee the activities addressing climate change and for management to play a role in assessing and managing such climate-related activities.	Aligned	JAL has a strong governance structure to secure effectiveness of its transition strategy under the leadership of the President. Sustainability Promotion Council, chaired by the President, discusses and reviews the company-wide climate transition strategy. Of the Council members, five of the internal directors including the President are concurrently serving on the Board of Directors. Ultimately, the Company’s Board of Directors provide supervision and instruction on the direction of the Company’s transition strategy and its implementation, including relevant resource allocation.
i)	While a transition strategy shall be basically developed by a company in need of finance, it is <b>possible</b> for entities to utilize the strategy of companies that are wholly or partially responsible for the initiatives to establish or explain their own strategy, given that the finance supports GHG emissions reduction initiatives of not just a single company but its supply chain.	Not Applicable	JAL has built its transition strategy aiming at CO <sub>2</sub> emissions reduction for scope 1.
j)	Transition strategies <b>should</b> be disclosed in advance in a company’s integrated report, sustainability report, statutory documents and other materials for investors (including such disclosures on the website). This also applies to the other three elements.	Aligned	JAL’s s Road Map towards Net Zero CO <sub>2</sub> , which is regarded as its transition strategy, is disclosed in its integrated report and website.

k)	It is <b>possible</b> to disclose transition strategies and elements concerning the governance guaranteeing that the execution of transition strategies is in alignment with the reporting frameworks such as the Recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD; Final Report).	Aligned	JAL discloses information regarding its transition strategy and its governance that ensures implementation of the strategy in alignment with the TCFD recommendations. <sup>37</sup>
l)	If the implementation of a transition strategy assumes impacts on society and environment other than climate change, it is <b>recommended</b> that the fundraiser explain the view underlying its approach, etc. to address such impacts and disclose how the strategy on the whole contributes to achieving the Sustainable Development Goals (SDGs) so that the effects can be appropriately evaluated by the financier.	Aligned	JAL’s approach on measures against impact on the environment and society other than climate change from the implementation of its transition strategy is disclosed on its website, including the JAL Group Environmental Policy and the Environmental Management System (EMS) based on the Environmental Policy (Refer to Section 2 “JAL’s Environmental and Social Risk Management” in this SPO). In addition, JAL discloses that its ESG management including the transition strategy will contribute to achieving the Sustainable Development Goals (SDGs) in its integrated report and website. The SDGs corresponding to the use of proceeds of the Transition Bonds is presented in this SPO (Refer to Section 3 “Alignment with/contribution to SDGs”).
m)	Considering the length of application and other factors, there may be instances when a transition strategy and plan will need to be modified due to major changes in the external environment and relevant conditions that were assumed at a planning phase. In this case, the contents of the modification <b>should</b> be disclosed together with the underlying reason in a timely manner.	Aligned	JAL intends to appropriately modify its transition strategy in the event of any major change in the assumption of external environment, etc. and timely discloses the contents of such modification together with underlying reasons.
n)	In terms of governance, it is <b>recommended</b> that disclosures include an organizational structure for overseeing the implementation of a transition strategy and for assessing and managing related initiatives. It is also recommended that disclosures include the specific roles of the constituent organizations and the management and the process by which the content of deliberations is reflected in management.	Aligned	JAL has established the Sustainability Promotion Council as a meeting body that oversees the Company’s transition strategy. The President chairs the Council. In addition, one of the Council members serves as the chair of the Sustainability Promotion Committee, which is a subordinate committee of the Council, to coordinate across stakeholders and check progress for steady implementation of the Company’s transition strategy. Contents of the discussion at the Sustainability Promotion Council is reported to the Company’s Board of Directors by the President. The Board provides supervision and instruction on the direction of the Company’s transition strategy and its implementation, including relevant resource allocation. These processes are disclosed in JAL’s Integrated Report.
o)	In cases where the fundraiser determines the need for an objective assessment regarding the transition strategy, it is <b>recommended</b> that a review, assurance and verification by an external organization for its transition strategy.	Aligned	JAL utilizes the review by Sustainalytics for an objective assessment of its transition strategy.
p)	It is <b>recognized</b> useful to obtain a review particularly concerning the following in connection with the transition strategy: - Alignment of short-term, mid-term and long-term targets (for targets, refer to Element 3) with the overall scenario - Credibility of the fundraiser’s strategy to reach the targets - Appropriateness of the management process and governance for the transition strategy	Aligned	Sustainalytics reviewed the following matters related to JAL’s transition strategy: - Alignment of the Company’s short-term, mid-term and long-term targets with the overall scenarios that it used (Refer to Element 3) - Credibility of its transition strategy toward each of its targets - Appropriateness of the governance structure that supports implementation of the Company’s transition strategy

<sup>37</sup> JAL, “Address to Climate Change”, at: <https://www.jal.com/en/sustainability/environment/climate-action/>

## Element 2: Business Model Environmental Materiality

### Sustainalytics' Assessment: Aligned

- Aircraft CO<sub>2</sub> emissions represent the primary source of greenhouse gases (GHG) for JAL (85% as of FY2019). Further, the operation of aircraft is core to JAL's business model as an aviation company. The Company's transition strategy and goals are therefore clearly relevant to an environmentally-material part of the issuer's business model.

	Item in Japan's Basic Guidelines on Climate Transition	Alignment	Sustainalytics' Comments
a)	Initiatives for achieving the transition strategy <b>should</b> be such that contribute to transforming core business activities that are environmentally material parts today and in the future.	Aligned	JAL will promote initiatives to reduce CO <sub>2</sub> emissions from its aircraft to achieve the transition strategy including (i) Upgrades to Fuel-efficient Aircraft, (ii) Reduction of CO <sub>2</sub> Emissions in Daily Operations, and (iii) Use of SAF. CO <sub>2</sub> emissions from its aircraft accounts for majority of JAL's greenhouse gases (GHG) emission (85% as of FY2019). The promotion of these initiatives is considered to contribute to transforming its core business activities that are environmentally material parts of the Company today and in the future.
b)	When identifying business activities that are environmentally material parts, it is <b>recommended</b> that the fundraiser consider multiple climate change-related scenarios that may possibly impact its judgment on the identification.	Aligned	In 2018, JAL conducted a scenario analysis on climate risks and opportunities aligned with TCFD to review and determine that the operation of aircraft is a material part of its business activities in relation to climate change. The Company developed two scenarios, i.e., "below 4°C" and "below 2°C," referencing scenarios presented by IEA and IPCC (Intergovernmental Panel on Climate Change). JAL also took into consideration the latest materials by ICAO and IATA, as well as the scenarios presented in the "Waypoint 2050" report by ATAG.
c)	In terms of considering materiality, it is <b>possible</b> to apply existing guidance provided by an organization that creates standard criteria concerning sustainability reporting.	Aligned	JAL provides climate-change related disclosures aligned with the TCFD recommendations in terms of considering its materiality ("Address to Climate Change"). <sup>38</sup>
d)	The fundraiser <b>should</b> indicate that climate change is an environmentally material part of business activities.	Aligned	JAL Group has specified four Priority Areas and 22 Issues to promote ESG management for achieving SDGs, and "Address to Climate Change" is listed as one of the key issues related to environment.
e)	It is <b>recommended</b> that disclosures include the contents of climate change-related scenarios used in identifying business activities that are environmentally material parts along with the underlying reasons (e.g., regional and industrial characteristics) for selecting such scenarios.	Aligned	Underlying reason for selecting the scenarios by IEA and IPCC are that they are widely recognized globally as science-based ones for climate change scenario analyses. The scenarios by ICAO and IATA, and the scenarios in the "Waypoint 2050" report by ATAG were selected as they have scientifically been reviewed and verified by aviation sector experts and widely referenced globally in the sector.

<sup>38</sup> JAL, "Address to Climate Change", at: <https://www.jal.com/en/sustainability/environment/climate-action/>



### Element 3: Climate Transition Strategy to be Science-based Including Targets and Pathways

#### Sustainalytics' Assessment: Partially Aligned

- The Company's short- and medium-term targets for CO<sub>2</sub> emissions reduction toward its climate transition are not fully aligned with a science-based trajectory of the 1.5°C or 2°C scenarios under the Paris Agreement. Specifically, according to the TPI benchmarks (High Efficiency scenario), which rely on the IEA's modelling, JAL needs to improve its CO<sub>2</sub> intensity by approximately 30% by FY2025, and 45% by FY2030 (compared to the FY2019 level) to be in line with the 2°C scenario under the Paris Agreement. The improvement of CO<sub>2</sub> intensity targeted by JAL against its "Business-As-Usual" (BAU) scenario was around 6% by FY2025 and 20% by FY2030, falling short of the TPI benchmark trajectory.
- Nevertheless, Sustainalytics considers that the ATAG's "Waypoint 2050" and other reports, which are referenced by JAL, are acceptable scenarios for setting long-term targets, and views positively that JAL is aiming to achieve net zero emission by FY2050 as its long-term target.

	Item in Japan's Basic Guidelines on Climate Transition	Alignment	Sustainalytics' Comments
a)	The fundraiser <b>should</b> reference science-based targets in developing its transition strategies.	Aligned	In developing its transition strategy, JAL referenced the short- and medium-term targets and the long-term targets under the scenarios presented in the latest materials by ICAO and IATA as well as the "Waypoint 2050" report by ATAG. The scenarios presented by ICAO, IATA, and ATAG are acceptable for setting long-term targets aligned with the Paris Agreement.
b)	This <b>should</b> include mid-term targets (short- to mid-term targets) in addition to long-term targets for 2050 and be quantitatively measurable based on a measurement methodology which is consistent over a long period of time.	Aligned	JAL's transition strategy targets are defined as CO <sub>2</sub> emissions for the short- and medium-term as well as long-term. They are quantitatively measurable based on a measuring methodology that is consistent over a long period of time. Specifically, JAL has set its CO <sub>2</sub> emissions targets of less than 9.09 million tons by FY2025 (below the level of FY2019), less than 8.18 million tons by FY2030 (10% less than FY2019), and net zero by FY2050.
c)	In addition, it is recommended that GHG reduction targets, which could be formulated either in intensity or absolute terms, <b>should</b> consider environmental materiality and cover Scopes 1 through 3 of GHG Protocol, the international standard on supply-chain emissions. It is <b>recommended</b> that targets covering Scope 3 be set using a practical calculation method when it could be subject to significant reduction in the fundraiser's business model. It is also <b>possible</b> to disclose the avoided emissions as necessary.	Not aligned	JAL uses only absolute terms for its CO <sub>2</sub> emissions reduction targets. In its transition strategy, the Company has set the target only for Scope 1, which accounts for approximately 85% of its total CO <sub>2</sub> emissions. In terms of Scope 2, the Company has set the FY2030 CO <sub>2</sub> reduction target, which aims to keep the amount of the total emission to 50% of the FY2013 level (for ground facilities in Japan). Although no reduction target has been set for Scope 3 so far, the Company intends to specifically consider it in the future, as it is important to work on reducing CO <sub>2</sub> emissions reduction throughout its entire value chain.
d)	Science-based targets are GHG reduction targets required for achieving the goals of the Paris Agreement and <b>should</b> be set while taking into account differences in regional characteristics and industries. In so doing, it is possible to refer to the following trajectories: - Scenarios widely recognized in the international community (Examples include the Sustainable Development Scenario (SDS) outlined by the International Energy Agency (IEA)) - Objectives verified under the Science Based Targets Initiative (SBTi) and such like - Nationally Determined Contributions (NDC) of countries aligned with the goals of the Paris Agreement, roadmaps by industry sector, industries set out plans that are science-based achieving the Paris Agreement and so on.	Aligned	JAL has set its CO <sub>2</sub> emissions reduction target and its pathways based on the roadmap for global aviation industry, developed by ICAO, IATA, and ATAG. The scenarios presented by ICAO, IATA, and ATAG are acceptable for setting long-term targets aligned with the Paris Agreement.
e)	Short- to mid-term targets (with a term of three to fifteen years) <b>should</b> be set by referencing the aforesaid trajectories or on the pathway toward the long-term targets planned as benchmarks.	Not aligned	JAL has set its targets including the short- and medium-term targets based on the scenarios by ICAO, IATA, and ATAG. While the scenarios are acceptable for setting long-term target for JAL, the Company's short- and medium-term CO <sub>2</sub> reduction targets (for FY2025 and FY2030, respectively) do not align with a 2°C scenario under the Paris Agreement. Sustainalytics recommends that JAL





			should aim for the levels indicated by the TPI benchmark for its short- and medium-term targets to align with the pathway toward its long-term target in a manner consistent with the Paris Agreement.
f)	In doing so, since short- to mid-term targets will likely be set in consideration of various factors (including the starting point and track records of the financier, timing of capital investments, economic rationality, cost-benefit analysis, and availability of technology necessary to achieve the targets), it is <b>possible</b> that the pathway may not necessarily be linear with the same slope at all times but may be nonlinear.	Aligned	In JAL’s transition strategy, short- and medium-term targets (for FY2025 and FY2030, respectively) and the base year (FY2019) has not been set as a linear pathway with the same slope. In particular, JAL assumes acceleration of initiatives for CO <sub>2</sub> emissions reduction toward FY2030 including use of SAF for 10% of all fuel load by FY2030, resulting in a steeper slope for CO <sub>2</sub> emissions reduction between FY2025 and FY2030, compared to the one between FY2019 and FY2025.
g)	The fundraiser <b>should</b> disclose the short- to mid-term and long-term targets they have set, including the base years etc.	Aligned	JAL discloses the CO <sub>2</sub> emissions reduction targets for FY2025 and FY2030 in the “JAL Group Medium-Term Management Plan 2021-2025” using FY2019 as the base year. In addition, the Company has set its long-term target for achieving net zero CO <sub>2</sub> emissions by FY2050.
h)	In order to show that long-term targets are science-based, disclosures <b>should</b> explain the methodology or trajectory used to define target, including the underlying reasons (e.g., characteristics specific to a region or industry). In particular, when reference is made to plans and industry roadmaps established by an industry, etc., the explanation <b>should</b> include that they are grounded in scientific basis.	Aligned	JAL has set its long-term target based on the scenarios presented in the latest materials by ICAO and IATA as well as the “Waypoint 2050” report by ATAG, which are widely referenced globally in the airline industry. The scenarios presented by ICAO, IATA, and ATAG are acceptable for setting long-term targets aligned with the Paris Agreement.
i)	It is <b>possible</b> that disclosures explain the pathway toward a long-term target and the alignment between the short- to mid-term targets on the pathway and the transition strategy, based on the investment plan (refer to Element 4) and other plans.	Aligned	JAL intends to provide ongoing annual reporting on the amount or share of its CAPEX dedicated to its transition strategy in its website and other disclosure materials. JAL is committed that its investment plan related to its transition strategy contributes to the achievement of its short- and medium-term targets.
j)	Concerning targets and trajectories, obtaining expert reviews on the following is <b>considered</b> to be particularly useful: - Whether the long-term target is aligned with science-based targets ⇒ Whether the disclosed information explains the alignment with the Paris Agreement - Whether the short- to mid-term targets are determined using a GHG emissions forecast calculated based on a climate change scenario analysis ⇒ Whether scenarios, etc. widely recognized in the international community are used or referenced - Whether the actual values of the indicators used for the targets are quantitatively measured using consistent measurement methods ⇒ Whether a specific GHG emissions reduction measure has been developed to achieve short- to mid-term targets aligned with long-term goals	Aligned	Sustainalytics reviewed the following matters related to the targets and trajectories in JAL’s transition strategy:  - Whether the long-term target is aligned with science-based targets ⇒ Sustainalytics considers the scenarios referenced by JAL such as the ones from the latest materials by ICAO and IATA, as well as from the “Waypoint 2050” report by ATAG to be acceptable for setting a long-term target aligned with the Paris Agreement.  - Whether the short- to medium-term targets are determined using a GHG emissions forecast calculated based on a climate change scenario analysis ⇒ JAL has set short- and medium-term targets in the same manner as for the long-term target, based on the scenarios by ICAO, IATA, and ATAG. Sustainalytics recommends that JAL should aim for the levels indicated by the TPI benchmark for its short- and medium-term targets to align with the Paris Agreement.  - Whether the actual values of the indicators used for the targets are quantitatively measured using consistent measurement methods ⇒ JAL measures actual and target CO <sub>2</sub> emissions in absolute terms. In addition, the Company presents upgrades to fuel-efficient aircraft and introduction and expansion of use of SAF to achieve its short- and medium-term targets toward its long-term target.

## Element 4: Implementation Transparency

### Sustainalytics' Assessment: Aligned

- JAL has disclosed its investment plan for FY2021-2025 in "JAL Group Medium-Term Management Plan 2021-2025." It plans 850 billion JPY of investment in total for the five years, with approximately 150 billion JPY per year until FY2023 and 200 billion JPY per year from FY2024 onward, to aggressively promote investment for sustainable growth. In addition, JAL has stated to Sustainalytics that it intends to provide ongoing annual reporting on the amount or share of its CAPEX dedicated to its transition strategy in its website and other disclosure materials.
- JAL also intends to keep annual reporting on the progress of its climate transition strategy with disclosure of climate-related impact including scope 1, 2, and 3 CO<sub>2</sub> emissions in its integrated report and website.

	Item in Japan's Basic Guidelines on Climate Transition	Alignment	Sustainalytics' Comments
a)	In implementing transition strategies, the fundraiser <b>should</b> provide transparency of the basic investment plan to the extent practicable.	Aligned	JAL has disclosed its investment plan (CAPEX) for FY2021-2025 in "JAL Group Medium-Term Management Plan 2021-2025." It plans 850 billion JPY of investment in total for the five years, with approximately 150 billion JPY per year until FY2023 and 200 billion JPY per year from FY2024 onward, to aggressively promote investment for sustainable growth. In addition, JAL has stated to Sustainalytics that it intends to provide ongoing reporting on the amount of its CAPEX dedicated to its transition strategy or its share of total investments in its website and other disclosure materials.
b)	The investment plan includes not only capital expenditure (Capex) but also capital and operational expenditure (Opex). Therefore, costs related to research and development, M&A, and dismantling and removal of facilities are also subject to the investment plan. In other words, it is <b>recommended</b> that the investment plan incorporate, to the extent possible, expenditure and investment necessary for implementing the transition strategy.	Aligned	JAL has stated to Sustainalytics that when the Company developed its transition strategy, it incorporated, to the extent possible, capital expenditure (CAPEX) and operational expenditure (OPEX), required to implement the strategy.
c)	It is <b>recommended</b> that the investment plan outlines the assumed climate-related outcomes and impacts in a quantitative fashion where possible, along with the calculation methods and prerequisites. If quantification is difficult, the use of external certification systems can <b>be considered</b> as a substitute for qualitative assessment.	Aligned	In terms of climate-related outcomes and impacts corresponding to the implementation of JAL's investment plan (CAPEX), CO <sub>2</sub> emissions from aircraft (scope 1) is disclosed in its integrated report and website. Regarding the upgrade to fuel-efficient aircraft defined as eligible project category under the Framework, annual CO <sub>2</sub> emissions reduction with the aircraft will be reported under the impact reporting.
d)	In particular, when outlining the assumed climate-related outcomes and impacts, it is <b>recommended</b> that the disclosure include not only GHG emission reduction and other initiatives to ease climate change but also report how consideration of a "just transition" is incorporated into the transition strategy.	Not Applicable	Implementation of key pillars of JAL's transition strategy, i.e., (i) Upgrades to Fuel-efficient Aircraft, (ii) Reduction of CO <sub>2</sub> emissions in Daily Operations, and (iii) Use of SAF is not assumed to have significant negative economic impact on a specific stakeholder that requires consideration of a "just transition."
e)	If implementing the transition strategy has the potential of having a negative impact on employment or the environment and communities other than climate change, it is <b>recommended</b> that any expenditures to mitigate such negative impacts be added to the plan.	Not Applicable	(Same as above)
f)	Moreover, the outcomes arising from investments included in the investment plan <b>should</b> align with the targets.	Aligned	JAL's investment plan (CAPEX) related to its transition strategy includes initiatives such as upgrading to fuel-efficient aircraft, and the outcomes arising from such investments are the reduction of CO <sub>2</sub> emissions from aircraft (scope 1). This aligns with its short- and medium-term targets and the long-term targets.

g)	Transition finance is a means to financially support the implementation of a transition strategy, and it is <b>recommended</b> that financing be provided for new initiatives. However, in the case of transition finance in the format of Use of Proceeds instruments, refinancing for a reasonably set lookback period (the period during which refinancing is to be applied for projects that have already started) <b>is considered</b> to be eligible.	Aligned	The proceeds of transition bonds issued under the Framework is to be used primarily for expenditures related to procurement of new fuel-efficient aircraft to come in operation. In the case of refinancing, it will be limited to expenditures made within three years before the issuance of the Transition Bonds (Refer to item j)).
h)	It is <b>recommended</b> that investment plans be disclosed by linking the outcomes and impacts with the expenditures to the extent practicable.	Aligned	In terms of its investment plan (CAPEX) related to its transition strategy, JAL will report on the overall linkage with the outcome and impacts such as CO <sub>2</sub> emission at corporate level rather than individual initiative level. Nevertheless, with respect to the upgrading to fuel-efficient aircraft, which is one of the key pillars of the Company's transition strategy, the investment amount and annual reduction of CO <sub>2</sub> emissions with the aircraft will be reported on, to the extent the proceeds of the Transition Bonds are allocated (to be disclosed in the allocation reporting and the impact reporting respectively).
i)	It is <b>recommended</b> that the fundraiser, after securing financing, reports any deviations between the initial plan and the actual expenditure, outcomes and impacts. For any deviations, it is <b>recommended</b> that the underlying reasons be explained.	Aligned	In the case that the actual expenditure, outcomes and impacts deviate significantly from the initial plan, JAL will provide explanation, including the underlying reasons, in the allocation reporting and the impact reporting.
j)	In cases where the Use of Proceeds bonds include refinancing, the fundraiser <b>should</b> provide an explanation on the lookback period set under the framework or other relevant methods along with the underlying reasons and factors.	Aligned	Under the Framework, JAL will limit the use of proceeds to expenditures incurred within three years before the issuance of the Transition Bonds in the case of refinancing. The Company has set the lookback period to ensure sustained environmental benefits of fuel-efficient aircraft (A350, etc.) in the future. Sustainalytics considers this to be aligned with market practice.
k)	While there are differences in business practices, such as the fact that loans are traditionally made based on the bilateral relationship between a borrower and a lender, it is <b>recommended</b> that disclosure on the above be made to the extent possible in order to ensure transparency and credibility of transition finance. However, if it is difficult to disclose such information to the public from the standpoint of confidentiality and competition, it is <b>possible</b> to report such information only to lenders or external evaluation organizations without disclosing it to the public.	Not Applicable	JAL will consider disclosure of relevant information for a case it uses a loan as transition finance in the future, referring to the case of the Transition Bonds.
l)	Similarly, in cases where the fundraiser is a small-to-medium-sized enterprise and it is difficult to disclose to the public the same content as that reported to the financier or an external evaluation institution, it is <b>possible</b> for the fundraiser to simplify the content of disclosure, for example, by limiting disclosure to a summary of h) to j) of this section.	Not Applicable	This item is not applicable as JAL is not a small-to-medium-sized enterprise.

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Or contact us [contact@sustainalytics.com](mailto:contact@sustainalytics.com)

