

Seiko Epson Corporation

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Introduction

In July 2020, Seiko Epson Corporation (Seiko Epson) issued three green bonds (JPY 10 billion 3-Year Green Bond, JPY 40 billion 5-Year Green Bond, and JPY 20 billion 10-Year Green Bond) aimed at financing and refinancing expenditures related to (i) eco-efficient and/or circular economy adapted products, production technologies and processes; and (ii) renewable energy (the “Green Bonds”). In June 2021, Seiko Epson engaged Sustainalytics to review the projects funded through the issued Green Bonds and provide an assessment as to whether the projects met the Use of Proceeds criteria and the Reporting commitments outlined in the Seiko Epson Corporation Green Bond Framework (the “Framework”).¹

Evaluation Criteria

Sustainalytics evaluated the projects funded as of March 31, 2021 based on whether the projects:

1. Met the Use of Proceeds and Eligibility Criteria outlined in the Framework; and
2. Reported on the Key Performance Indicators (KPIs) for each Use of Proceeds criteria outlined in the Framework.

Table 1 lists the Use of Proceeds, Eligibility Criteria, and associated KPIs.

Table 1: Use of Proceeds, Eligibility Criteria, and associated KPIs

Use of Proceeds	Eligibility Criteria	Key Performance Indicators (KPI)
(i) Eco-efficient and/or circular economy adapted products, production technologies and processes	<p>The following expenses for manufacturing and/or R&D activities for multifunction printers and printers that achieves significant improvement of energy efficiency. (The electricity consumption of high-speed linehead inkjet multifunction printers for offices are approximately 1/8 products of other companies, commercial and industrial printers achieved to shorten the production process. 3 days - 2 weeks which was 1.5 – 2 months for analog printers, and the electricity consumption for ink-tank printers with large capacity are approximately 1/10 compared with products of other companies)</p> <ul style="list-style-type: none"> • Cost of new building construction at the Hirooka Office (Building 9), which is used for manufacturing key components for inkjet printers and associated R&D activities (refinancing) • Cost of new building construction at the Hirooka Office (Innovation Center) 	<p>Seiko Epson will provide the following impact reporting regarding positive environmental impacts.</p> <ul style="list-style-type: none"> • Environmental performances of products manufactured at the company’s business sites and CO₂ emission reduction based on the number of products shipped (t-CO₂) (estimates) • Purchase volumes of solar and other renewable energy (kWh) and associated CO₂ emission reduction (t-CO₂) • Research papers and others

¹ The overview of Seiko Epson Corporation Green Bond Framework available at: <https://www.sustainalytics.com/corporate-solutions/sustainable-finance-and-lending/published-projects/project/seiko-epson-corporation/seiko-epson-corporation-green-bond-second-party-opinion/seiko-epson-corporation-green-bond-second-party-opinion-english-pdf>

	<p>Building B), which is used for manufacturing large commercial and industrial printing systems and digital textile printing systems and associated R&D activities (new expenditure/refinancing)</p> <ul style="list-style-type: none"> • Cost of expansion of factory of a subsidiary in the Philippines that manufactures inkjet printers (refinancing) • Cost of production equipment and R&D activities for high-speed linehead inkjet multifunction printers for offices (new expenditure/refinancing) • Cost of production equipment and R&D activities for commercial and industrial printers (new expenditure/refinancing) • Cost of production equipment and R&D activities for inkjet printers and inkjet printheads, a core component of these printers (new expenditure/refinancing) <p>Manufacturing and R&D activities for PaperLab and Dry Fiber Technology, a production technology for producing new paper from used ones without using water. (new expenditure/refinancing)</p>	
<p>(ii) Renewable energy</p>	<p>The following expenses for increasing the use of renewable energy at business sites in order to achieve the goal of a 19% reduction in greenhouse gas (GHG) emissions by 2025.</p> <ul style="list-style-type: none"> • Cost of purchasing electricity generated from renewable energy sources (new expenditure/refinancing) 	

Issuing Entity’s Responsibility

Seiko Epson is responsible for providing accurate information and documentation relating to the details of the projects that have been funded, including description of projects, amounts allocated, and project impact.

Independence and Quality Control

Sustainalytics, a leading provider of ESG and corporate governance research and ratings to investors, conducted the verification of Seiko Epson’s Green Bonds Use of Proceeds. The work undertaken as part of this engagement included collection of documentation from Seiko Epson employees and review of documentation to confirm the conformance with the Framework.

Sustainalytics has relied on the information and the facts presented by Seiko Epson with respect to the Nominated Projects. Sustainalytics is not responsible nor shall it be held liable if any of the opinions, findings, or conclusions it has set forth herein are not correct due to incorrect or incomplete data provided by Seiko Epson.

Sustainalytics made all efforts to ensure the highest quality and rigor during its assessment process and enlisted its Sustainability Bonds Review Committee to provide oversight over the assessment of the review.

Conclusion

Based on the limited assurance procedures conducted,² nothing has come to Sustainalytics' attention that causes us to believe that, in material respects, the reviewed bond projects, funded through proceeds of Seiko Epson's Green Bonds, are not in conformance with the Use of Proceeds and Reporting Criteria outlined in the Framework. However, Sustainalytics encourages Seiko Epson to provide and disclose information related to the use of proceeds and impact reporting as described in Table 2, "Detailed Findings." Seiko Epson has disclosed to Sustainalytics that the proceeds of the Green Bonds were fully allocated as of March 31, 2021.

² Sustainalytics limited assurance process includes reviewing the documentation relating to the details of the projects that have been funded, including description of projects, amounts allocated, and project impact, which were provided by the Issuer. The Issuer is responsible for providing accurate information. Sustainalytics has not conducted on-site visits to projects.

Detailed Findings

Table 2: Detailed Findings

Eligibility Criteria	Procedure Performed	Factual Findings	Error or Exceptions Identified
Use of Proceeds Criteria	Verification of the projects funded by the Green Bonds as of March 31, 2021 to determine if projects aligned with the Use of Proceeds Criteria outlined in the Framework and above in Table 1.	All projects reviewed complied with the Use of Proceeds criteria. However, the look-back period for "Refinancing of cost for the expansion of a factory of a subsidiary in the Philippines that manufactures inkjet printers" included in the use of proceeds is confirmed by the month in which the expenditure was executed. In addition, with respect to the environmental benefits of high-speed linehead inkjet multi-function printers, high-capacity ink pack models for office use, and high-capacity ink tank printers manufactured at business sites where the Green Bond proceeds were allocated, Seiko Epson provided the test results on energy efficiency limited to representative models of these products respectively based on the assumption that the energy efficiency performance of similar models that differ in specification details is the same. While Sustainalytics notes the company's explanation, it encourages Seiko Epson to provide quantitative data for each individual model for further transparency. Furthermore, while the eligibility criteria for high-speed linehead inkjet multi-function printers and high-capacity ink pack models for office use is to reduce power consumption to approximately 1/8th (approximately 88%) and 1/10th (approximately 90%), respectively, that of products of other companies, the test results confirmed in this review were lower than these values, at approximately 80% and 70% respectively. Seiko Epson has explained that this difference is due to the updated performance of both the Company's products and other companies' products after the Framework was developed in November 2019. Based on this explanation and given the fact that the percentage of reduction in power consumption acknowledged in this review confirms that significant improvement in energy efficiency was achieved as committed by the company in the Framework, Sustainalytics considers the differences to be acceptable.	None
Reporting Criteria	Verification of the projects funded by the Green Bonds as of March 31, 2021 to determine if impact of projects was reported in line with the KPIs outlined in the Framework and above in Table 1. For a list of KPIs reported please refer to Appendix 2.	While "research papers" included in the KPIs is not disclosed, all projects reviewed reported on one or more of the relevant KPIs.	None

Appendices

Appendix 1: List of Project Categories Reviewed

Use of Proceeds Category	Sub-category	Projects (Products)	Environmental performances of products	Look-back period for refinanced projects	Net Bond Proceeds Allocation (billion JPY)
(i) Eco-efficient and/or circular economy adapted products, production technologies and processes	Refinancing of cost for new building construction at the Hirooka Office (Building 9), which is used for manufacturing key components for inkjet printers and associated R&D activities	(a) High-speed linehead inkjet multi-function printers	Confirmed that annual electricity consumption was reduced by about 80% in a test comparing WF-C20600, a representative model, with the average of products of other companies. ³	Confirmed that expenditures were made within three years of issuance	250
		(b) High-capacity ink pack models for office use	Confirmed that annual electricity consumption was reduced by about 70% in a test comparing WF-C879R, a representative model, with the average of products of other companies. ⁴		
		(c) High-capacity ink tank printers	Confirmed that the maximum electricity consumption was reduced by about 94% in a test comparing representative models in the ET-5850/L6570 series and ET-5800/ L6550 series with the average of products of other companies. ⁵		
	New expenditure and refinancing for the new building construction at the Hirooka Office (Innovation Center Building B), which is used for manufacturing large commercial and industrial printing	(d) Digital textile printers	Confirmed less use of energy and water compared to conventional analog printing owing to a shorter printing process (shortened from 1.5 to 2 months down to 3 days to 2 weeks) and the elimination of printing plates ³	Confirmed that expenditures were made within three years of issuance	150

³ Seiko Epson Corporation, "Minimizing Customer Environmental Impacts", at: https://global.epson.com/SR/environment/products/customers.html#h2_03

⁴ Seiko Epson has shared the following assumptions with Sustainalytics; "Test data from Keypoint Intelligence, commissioned by Epson. The models selected for comparison are the top two models in the \$400+ colour 20-39 ppm MFP class within IDC's Worldwide Quarterly Hardcopy Peripherals Tracker 2020Q3 (2018Q3-2019Q2), Units Share by Company, as well as the inkjet printers in the same speed range as the WF-C879R. Tested using Keypoint Intelligence's standard energy consumption test method with default settings for each device, based on a weekday print workload of 2x4 hours plus 16 hours in sleep/standby mode and a weekend energy usage of 48 hours in sleep/standby mode. A total of 69 pages of the test pattern (DOC, XLS, PPT, HTML, PDF and Outlook emails) were printed six times during each 4-hour printing period."

⁵ Seiko Epson has shared the following assumptions with Sustainalytics; "Comparison models were selected from account the top-selling 50% of A4 color laser printers (21-30ppm class) listed in IDC Worldwide Quarterly Hardcopy Peripherals Tracker 2019Q3 data CY2018Q4-CY2019Q3 results. Each model's TEC value and maximum electricity consumption were tested by a third-party test laboratory (ENERGY STAR® lab) to compare the maximum electricity consumption."

	systems and digital textile printing systems and associated R&D activities				
Refinancing of cost for the expansion of a factory of a subsidiary in the Philippines that manufactures inkjet printers	(b) High-capacity ink pack models for office use	Confirmed that annual electricity consumption was reduced by about 70% in a test comparing WF-C879R, a representative model, with the average of products of other companies. ⁴	Confirmed that expenditures were made within three years of issuance ⁶	140	
	(c) High-capacity ink tank printers	Confirmed that the maximum electricity consumption was reduced by about 94% in a test comparing representative models in the ET-4750/L6190 series with the average of products of other companies. ⁵			
New expenditure and refinancing of cost for production equipment and R&D activities for high-speed linehead inkjet multifunction printers for offices	(a) High-speed linehead inkjet multifunction printers	Confirmed that annual electricity consumption was reduced by about 80% in a test comparing WF-C20600, a representative model, with the average of products of other companies. ³	Confirmed that all expenditures were made after the issuance of the green bonds or within three years of issuance.	30	
New expenditure and refinancing of cost for production equipment and R&D activities for commercial and industrial printers	(d) Digital textile printers	Confirmed less use of energy and water compared to conventional analog printing owing to a shorter printing process (shortened from 1.5 to 2 months down to 3 days to 2 weeks) and the elimination of printing plates ³	Confirmed that all expenditures were made after the issuance of the green bonds or within three years of issuance.	30	
New expenditure and refinancing of cost for production equipment and R&D activities for inkjet printers and inkjet printheads, a core	(b) High-capacity ink pack models for office use	Confirmed that annual electricity consumption was reduced by about 70% in a test comparing WF-C879R, a representative model, with the average of products of other companies. ⁴	Confirmed that all expenditures were made after the issuance of the green bonds or within three	78	

⁶ For more information on the assessment by Sustainalytics, please refer to Table 2 on page 4.

	component of these printers	(c) High-capacity ink tank printers	Confirmed that the maximum electricity consumption was reduced by about 94% in a test comparing representative models in the ET-4750/L6190 series with the average of products of other companies. ⁵	years of issuance.	
	New expenditure and refinancing for the manufacturing and R&D activities for PaperLab and Dry Fiber Technology, a production technology for producing new paper from used paper without using water	(e) PaperLab	Confirmed that the water consumption is about 1/100th of the water it takes to make an equivalent mass of ordinary paper. ³	Confirmed that all expenditures were made after the issuance of the green bonds or within three years of issuance.	10
(ii) Renewable energy	Cost of purchasing electricity generated from renewable energy sources (Incremental costs of switching from existing electricity and switching costs)	—	—	Confirmed that all expenditures were made after the issuance of the green bonds or within three years of issuance.	12
Total:					700

Appendix 2: Impact Reporting by Eligibility Criteria

Use of Proceeds Category	Sub-category	KPIs		
		Environmental performance of products manufactured at the company's business sites ⁷	CO ₂ emission reduction based on the number of products shipped (t-CO ₂) (estimates) ⁸	Purchase volumes of solar and other renewable energy (kWh) and associated CO ₂ emission reduction (t-CO ₂) ⁹
(i) Eco-efficient and/or circular economy adapted products, production technologies and processes	Refinancing of cost for new building construction at the Hirooka Office (Building 9), which is used for manufacturing key components for inkjet printers and associated R&D activities	<p><u>(a) High-speed linehead inkjet multi-function printers (WF- C20600)</u></p> <p>WorkForce Enterprise printers use no heat in the printing process, which means they consume far less power than laser printers. According to the results of an independent study, the WF-C20600 may consume, on average, 80% less electricity per year than comparable competing color laser multifunction printers.</p> <p><u>(b) High-capacity ink pack models for offices (WF-C879R)</u></p> <p>High-capacity ink packs allow you to print up to 86,000 pages in mono and 50,000 pages in color without replacing ink and reduce CO₂ emissions by up to 92% compared to equivalent laser printers, which consume a large number of toner cartridges and photoconductor units. Inkjet printers requires no heat to print, and therefore consume less energy than laser printers.</p> <p><u>(c) High-capacity ink tank printers (ET-4750/L6190 series)</u></p> <p>Use of ink tanks contributes to the reduction of environmental impact by reducing resource consumption related to ink refills and packaging. Compared with conventional cartridge printers (in the WF-2630 series), CO₂ emissions from consumables are reduced by approximately 84% when printing 50,000 pages. As an inkjet printer, it achieves low</p>	129,814(t-CO ₂) ¹⁰	—

⁷ "Minimizing Customer Environmental Impacts", at: https://global.epson.com/SR/environment/products/customers.html#h2_03
"Environmentally Conscious Products", at: https://global.epson.com/SR/environment/products/products.html#h2_02

⁸ Estimates based on shipments in FY2020 (April 1, 2020 to March 31, 2021).

⁹ Actual figures for FY2020 (1 April 2020 - 31 March 2021)

¹⁰ This figure represents the CO₂ emissions reduction from all business inkjet printers manufactured at Seiko Epson sites, not just those financed by Green Bonds' proceeds.

		electricity consumption by not using heat during printing.		
	New expenditure and refinancing for the new building construction at the Hirooka Office (Innovation Center Building B), which is used for manufacturing large commercial and industrial printing systems and digital textile printing systems and associated R&D activities	<u>(d) Digital textile printers (Monna Lisa Evo Tre)</u> Since the digital textile printing process is shorter (3 days to 2 weeks, down from 1.5 to 2 months) and does not require printing plates, it uses less energy and water than a traditional analog process and wastes far less ink. Ideal for small-lot production. Minimizes inventory losses from manufacturing through to sales.	117,387(t-CO2) ¹¹	—
	Refinancing of cost for the expansion of a factory of a subsidiary in the Philippines that manufactures inkjet printers	See (b) and (c) above	129,814(t-CO2) ¹⁰	—
	New expenditure and refinancing of cost for production equipment and R&D activities for high-speed linehead inkjet multifunction printers for offices	See (a) above	129,814(t-CO2) ¹⁰	—
	New expenditure and refinancing of cost for production equipment and R&D activities for commercial and industrial printers	See (d) above	117,387(t-CO2) ¹¹	—
	New expenditure and refinancing of cost for production equipment and R&D activities for inkjet printers and inkjet printheads, a core component of these printers	See (b) and (c) above	129,814(t-CO2) ¹⁰	—
	New expenditure and refinancing for the manufacturing and R&D activities for PaperLab and Dry Fiber Technology, a production technology for producing new paper from	<u>(e)PaperLab (A-8000)</u> The PaperLab A-8000 uses only about 1/100th of the water it takes to make an equivalent mass of ordinary paper. Paper produced by the A-8000 is made from 100% recycled office paper and no new wood is used. Paper can be locally	—	—

¹¹ CO2 emission reduction by Digital Textile Printers 113,608 (t-CO2) and CO2 emission reduction by Digital Textile Printers (pigment) 3,779 (t-CO2) combined

	used ones without using water	recycled for local consumption, producing fewer CO ₂ emissions across the life cycle compared to a traditional paper recycling process, when producing an equivalent mass of paper.		
(ii) Renewable energy	Cost of purchasing electricity generated from renewable energy sources	—	—	Purchase volumes: 156,091,636 kWh CO ₂ emission reduction: 62,044 t-CO ₂

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