



# NEA Green Bond Report

December 2022



# NEA Green Bond

The National Environment Agency (“NEA”) is the leading public organisation responsible for ensuring a clean and sustainable environment for Singapore. In our inaugural debt issuance on 15 September 2021, we raised S\$1.65 billion worth of green bonds in a dual-tranche issuance under our S\$3 billion Multicurrency Medium Term Note Programme.

We are pleased to report that all funds have been allocated to eligible projects in accordance with our green bond framework<sup>1</sup> (the “Framework”). V.E, now known as Moody’s ESG Solutions, provided a second party opinion regarding, amongst other, the alignment of the Framework with the four components of the Green Bond Principles 2018. The first report covers the data and information for the period between 15 September 2021 (“Date of Issuance”) and 31 March 2022.

**Proceeds from the issuance** have been allocated to finance the development of sustainable waste management infrastructure.

As the first Statutory Board issuer of green bonds in Singapore, we hope to promote the development of green solutions and create a market in this area, and help Singapore achieve its vision of leading a green economy.

As part of this, the NEA is undertaking efforts to move Singapore towards a circular economy as part of the Zero Waste Master Plan. Examples include:

- **Food Waste.** Starting from 2024 and 2025, operators and owners of industrial and commercial buildings where large amounts of food waste are generated will have to measure and report the amount of food waste they have segregated. The segregated food waste will be sent for treatment at facilities such as the Integrated Waste Management Facility’s Food Waste Treatment Facility. To encourage companies to go one step further and convert food waste into value-added products, NEA also launched the inaugural Food Resource Valorisation Awards (FVA) in September 2021 to recognise the efforts of companies in this area and raise awareness of the food resource valorisation concept.

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<sup>1</sup> <https://www.nea.gov.sg/docs/default-source/default-document-library/nea-green-bond-framework.pdf>

- **Packaging Waste.** Companies covered by the Mandatory Packaging Reporting scheme have started submitting packaging data and 3R (reduce, reuse, recycle) plans to NEA. This focuses the attention of the management of these companies on the packaging they introduce into Singapore. This will also lay the foundation for Extended Producer responsibility initiatives, where manufacturers and importers will bear responsibility for collecting and recycling used packaging from their products. One upcoming initiative is a beverage container return scheme, whereby a refundable deposit will be included in the price of pre-packaged beverages at the point of sale and refunded to consumers when they return the used beverage containers at designated return points. This will support the aggregation of a clean stream of high quality and high value recyclables that can be more easily processed and recycled. A second initiative is a disposable carrier bag charge at supermarkets that will be introduced in mid-2023, to nudge the public to bring their own bags and reduce the use of disposable carrier bags.

More information on NEA's sustainability efforts can be found in our annual Integrated Sustainability Report<sup>2</sup>.

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<sup>2</sup> <https://www.nea.gov.sg/integrated-sustainability-report-2021-2022>

# Allocation of Proceeds

Funding for the Tuas Nexus Integrated Waste Management Facility is estimated to be 60% by green bonds and 40% by other sources.

Details of 2 tranches making up the S\$1.65 billion fixed rate green bonds issued to date are as follows:

- S\$350 million due September 2031 bearing a coupon of 1.67% p.a.; and
- S\$1.3 billion due September 2051 bearing a coupon of 2.5% p.a..

From the Date of Issuance to the 31 March 2022, the proceeds have been fully allocated as follows:

S/N	Eligible project name	Allocated to date	Disbursed	Brief description
1	Tuas Nexus Integrated Waste Management Facility	100% (S\$1.65 billion)	1.15% (S\$0.02 billion)	Construction of an integrated facility to treat incinerable waste, source-segregated food waste and dewatered sludge, as well as to sort household recyclables collected under the National Recycling Programme.

Pending the disbursement of the remaining proceeds to the project, the proceeds are held in a portfolio of liquid instruments such as short-term Singapore Government debt securities and cash, in accordance with the Framework.

# Impact reporting/ Details of Expected Environmental Benefits

We plan, develop, and manage the solid waste management system in Singapore. We promote circular economy and the 3Rs (reduce, reuse, and recycle) to conserve resources.

The Tuas Nexus Integrated Waste Management Facility (“IWMF”), our flagship waste management facility, will meet Singapore’s long term waste management needs and replace older and less efficient Waste-To-Energy (“WTE”) facilities due for decommissioning.



IWMF is co-located with Singapore’s National Water Agency (“PUB”)’s Tuas Water Reclamation Plant (“TWRP”) to jointly form the Tuas Nexus and will be developed in phases:

- Phase 1 comprising a 2,900 tonnes per day (“tpd”) WTE Facility, a 250 tpd Materials Recovery Facility (“MRF”), a 800 tpd Sludge Incineration Facility (“SIF”) and a 400 tpd Food Waste Treatment Facility (“FWTF”) is expected to be completed from 2025 onwards.
- Phase 2 comprising a 2,900 tpd WTE Facility is expected to be completed at a later stage.

## **Key Focus of IWMF:**

- Improve resource and energy recovery from waste;
- Minimise environmental impact;
- Improve land use optimisation; and

- Reap benefits from co-location synergies with TWRP

Facility	Expected Benefits <sup>3</sup>
WTE Facility (Phase 1 - 2,900 tpd)	<p>Gross energy recovery efficiency of 26%<sup>4</sup> which is higher than the minimum efficiency of WTE facility (i.e., 25%) set by the Climate Bonds Initiative (CBI)'s Waste Management Criteria<sup>5</sup>.</p> <p>Flue gas from the waste incineration process will be treated to comply with Singapore's air emissions standards.</p> <p>Ferrous and non-ferrous metals will be recovered from incineration bottom ash (IBA) generated at the WTE facility.</p>
MRF (250 tpd)	Recyclables collected from the National Recycling Programme will be sorted at the MRF. Useful resources recovered, such as ferrous and non-ferrous metal, plastics, and paper will be sent to off-site facilities for further processing.
SIF (800 tpd)	<p>Maximise heat recovery from the flue gas for the Tuas Nexus processes to achieve a minimum thermal efficiency of 70%<sup>6</sup> for the sludge incineration process.</p> <p>Flue gas from the sludge incineration process will be treated to comply with Singapore's air emissions standards.</p>
FWTF (400 tpd)	The FWTF will treat source-segregated food waste to produce high quality bio-pulp for co-digestion with used water sludge generated by TWRP. The biogas generated by the co-digestion process will be combusted at the biogas superheaters of IWMF's WTE Facility to boost the steam temperature and increase electricity output of the WTE Facility.

<sup>3</sup> The figures provided in this table are subject to change based on final design and actual commissioning results.

<sup>4</sup> The gross energy recovery efficiency is subject to change based on the calorific value of waste, actual load during operations and power degradation curve.

<sup>5</sup> Details can be found at the following link

<https://www.climatebonds.net/files/standards/Waste%20Management/Crit%20Waste%20Management%20Criteria.pdf>.

<sup>6</sup> The minimum thermal efficiency is subject to change based on the calorific value of sludge and actual load during operations.

## Disclaimer

This report contains certain forward-looking statements that reflect NEA's current views with respect to future events and its financial and operational performance. These forward-looking statements are based on NEA's current expectations and projections about future events. Because these forward-looking statements are subject to risks and uncertainties, actual future results or performance may differ materially from those expressed in or implied by these statements due to any number of different factors, many of which are beyond the ability of NEA to control or estimate precisely, including changes in the regulatory environment, future market developments, fluctuations in price and other risks. You are cautioned not to place undue reliance on the forward-looking statements contained herein, which are made only as of the date of this document. This report does not constitute a recommendation regarding any securities of NEA. This report is not, does not contain and may not be intended as an offer to sell or a solicitation of any offer to buy any securities issued by NEA. In particular, neither this document nor any other related material may be distributed or published in any jurisdiction in which it is unlawful to do so, except under circumstances that will result in compliance with any applicable laws or regulations. Persons into whose possession such documents may come must inform themselves about, and observe, any applicable restrictions on distribution.



## INDEPENDENT LIMITED ASSURANCE REPORT IN CONNECTION WITH NATIONAL ENVIRONMENT AGENCY ("NEA") ANNUAL GREEN BOND REPORT FOR THE PERIOD FROM 15 SEPTEMBER 2021 TO 31 MARCH 2022

National Environment Agency ("NEA") established a Green Bond Framework (the "Framework") to fund projects that contribute to environmental sustainability. The Framework was developed in accordance with Green Bond Principles 2018 issued by International Capital Market Association ("ICMA").

We have undertaken a limited assurance engagement on the "Allocation of Proceeds" included in page 4 of NEA's Green Bond Report ("Report") for the period from 15 September 2021 to 31 March 2022. The Report has been prepared by the Company in accordance with the Framework. The Report is related to the S\$1.65 billion worth of green bonds (the "Bonds") issued on 15 September 2021.

### Limited Assurance Conclusion

Based on the procedures we have performed as described under the "Summary of the work we performed as the basis of our assurance conclusion" and the evidence we have obtained, nothing has come to our attention that causes us to believe that the "Allocation of Proceeds" included in page 4 of the Report for the period from 15 September 2021 to 31 March 2022, is not prepared, in all material respects, in accordance with the Framework.

Other than as described above which sets out the scope of our engagement, we do not express an assurance conclusion on the "Impact Reporting/Details of Expected Environmental Benefits" and any other information included in the Report.

### Management's Responsibility

Management is responsible for:

- Selecting or establishing suitable criteria for preparing the Report;
- Preparing the Report in accordance with the Framework;
- Designing, implementing, and maintaining appropriate internal controls over information relevant to the preparation of the Report that it is free from material misstatements, whether due to fraud or error;
- Designing, implementing, and maintaining internal controls to ensure compliance with the Framework, including the monitoring and reporting requirements, that arise from the issuance of the Bonds;
- Ensuring that the allocation of proceeds from the Bonds described in the Report are in accordance with the Framework; and
- Ensuring the completeness and integrity of the information provided to us during the limited assurance engagement.



## Practitioner's Responsibility

We are responsible for:

- Planning and performing the engagement to obtain limited assurance about whether the "Allocation of Proceeds" in the Report for the period from 15 September 2021 to 31 March 2022 is free from material misstatement, whether due to fraud or error;
- Forming an independent conclusion, based on the procedures we have performed and the evidence we have obtained; and
- Reporting our conclusion to management of NEA.

As we are engaged to form an independent conclusion on the "Allocation of Proceeds" in the Report as prepared by management, we are not permitted to be involved in the preparation of the Report as doing so may compromise our independence.

## Professional Standards Applied

We performed a limited assurance engagement in accordance with Singapore Standard on Assurance Engagements 3000 (Revised) – Assurance Engagements other than Audits or Reviews of Historical Financial Information ("Standard").

## Practitioner's Independence and Quality Control

We have complied with the independence and other ethical requirements of the Accounting and Corporate Regulatory Authority (ACRA) Code of Professional Conduct and Ethics for Public Accountants and Accounting Entities ("ACRA Code"), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our firm applies Singapore Standard on Quality Control 1 and, accordingly, maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

## Summary of the work we performed as the basis of our assurance conclusion

We are required to plan and perform our work to address the areas where we have identified that a material misstatement of the "Allocation of Proceeds" in the Report is likely to arise. The procedures we performed were based on our professional judgement. In carrying out our limited assurance engagement on the "Allocation of Proceeds" in the Report, we:

- Evaluated the suitability in the circumstances of NEA's use of the Framework, which addresses the applicability of the eligible green project, as the basis for preparing the "Allocation of Proceeds" in the Report;
- Through inquiries, obtained an understanding of NEA's policies, controls, processes and procedures relevant to the preparation of the "Allocation of Proceeds" in the Report, but did not evaluate the design of particular control activities, obtain evidence about their implementation or test their operating effectiveness;
- Recomputed the use of proceeds data included in the "Allocation of Proceeds" in the Report;
- Tested, on a sample basis, a number of proceeds and disbursements to supporting records, as appropriate;
- Considered the reporting and disclosure of the "Allocation of Proceeds" in the Report.



The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement.

#### Purpose and Restriction on Distribution and Use

This report is made solely to the management of NEA for the purpose of providing a limited assurance conclusion on the "Allocation of Proceeds" in the Report. As a result, this report may not be suitable for any other person or purpose and should not be referred to in any document or distributed to any other party without our prior written consent.

To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the management of NEA, as a body, for our assurance work, for this report, or for the opinions we have formed. If any third parties wish to rely upon any information contained in this report, they do so entirely at their own risk.

A handwritten signature in black ink that reads "Deloitte &amp; Touche LLP". The signature is written in a cursive, flowing style.

Public Accountants and  
Chartered Accountants  
Singapore

22 December 2022