

Pricing Supplement



PUBLIC UTILITIES BOARD

S\$10,000,000,000
Medium Term Note Programme

SERIES NO: 001
TRANCHE NO: 001
S\$800,000,000 3.433 per cent. Green Notes Due 2052
Issue Price: 100 per cent.

DBS Bank Ltd.
United Overseas Bank Limited

Issuing and Paying Agent

DBS BANK LTD.
10 Toh Guan Road
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DBS Asia Gateway
Singapore 608838

The date of this Pricing Supplement is 29 August 2022.

This Pricing Supplement relates to the Tranche of Notes referred to above.


This Pricing Supplement under which the Notes described herein (the “**Notes**”) are issued, is supplemental to, and should be read in conjunction with, the Information Memorandum dated 10 August 2022 (as revised, supplemented, amended, updated or replaced from time to time, the “**Information Memorandum**”) issued in relation to the S\$10,000,000,000 Medium Term Note Programme of Public Utilities Board (the “**Issuer**”). Terms defined in the Information Memorandum have the same meaning in this Pricing Supplement. The Notes will be issued on the terms of this Pricing Supplement read together with the Information Memorandum.

This Pricing Supplement does not constitute, and may not be used for the purposes of, an offer or solicitation by anyone in any jurisdiction in which such offer or solicitation is not authorised or to any person to whom it is unlawful to make such offer or solicitation, and no action is being taken to permit an offering of the Notes or the distribution of this Pricing Supplement in any jurisdiction where such action is required.

Where interest, discount income, prepayment fee, redemption premium or break cost is derived from any Notes by any person who (i) is not resident in Singapore and (ii) carries on any operations in Singapore through a permanent establishment in Singapore, the tax exemption available for qualifying debt securities (subject to certain conditions) under the Income Tax Act 1947 of Singapore (the “**Income Tax Act**”) shall not apply if such person acquires such Notes using the funds and profits of such person’s operations through a permanent establishment in Singapore. Any person whose interest, discount income, prepayment fee, redemption premium or break cost derived from the Notes is not exempt from tax (including for the reasons described above) shall include such income in a return of income made under the Income Tax Act.

Notification under Section 309B of the Securities and Futures Act 2001 of Singapore: The Notes are prescribed capital markets products (as defined in the Securities and Futures (Capital Markets Products) Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

Public Utilities Board

Signed: 

Authorised Signatory

The terms of the Notes and additional provisions relating to their issue are as follows:

| | | |
|-----|---|---|
| 1. | Series No.: | 001 |
| 2. | Tranche No.: | 001 |
| 3. | Currency: | Singapore Dollars |
| 4. | Principal Amount of Series: | S\$800,000,000 |
| 5. | Principal Amount of Tranche: | S\$800,000,000 |
| 6. | Denomination Amount: | S\$250,000 |
| 7. | Calculation Amount (if different from Denomination Amount): | Not applicable |
| 8. | Issue Date: | 31 August 2022 |
| 9. | Redemption Amount (including early redemption): | Denomination Amount |
| 10. | Interest Basis: | Fixed Rate |
| 11. | Interest Commencement Date: | 31 August 2022 |
| 12. | Maturity Date: | 30 August 2052 |
| 13. | Day Count Fraction: | Actual/365 (Fixed) |
| 14. | Interest Payment Date(s): | Interest on the Notes will be payable semi-annually in arrear on 28 February and 31 August in each year, commencing on 28 February 2023, provided that the final Interest Payment Date will be on the Maturity Date |
| 15. | Initial Broken Amount: | Not applicable |
| 16. | Final Broken Amount: | Short final coupon with respect to the Interest Period from (and including) 28 February 2052 to (but excluding) 30 August 2052 payable on the final Interest Payment Date |
| 17. | Interest Rate | 3.433 per cent. per annum |
| 18. | Issuer's Redemption Option Issuer's Redemption Option Period (Condition 4(d)): | No |
| 19. | Noteholders' Redemption Option | No |

| | | |
|-----|---|---|
| | Noteholders' Redemption Option Period (Condition 4(e)): | |
| 20. | Issuer's Purchase Option Issuer's Purchase Option Period (Condition 4(b)): | No |
| 21. | Noteholders' Purchase Option Noteholders' Purchase Option Period (Condition 4(c)(i)): | No |
| 22. | Form of Notes: | Bearer Permanent Global Note |
| 23. | Talons for future Coupons to be attached to Definitive Notes (and dates on which such Talons mature): | No |
| 24. | Applicable TEFRA exemption: | C Rules |
| 25. | Listing: | The Singapore Exchange Securities Trading Limited |
| 26. | ISIN Code: | SGXF59503676 |
| 27. | Delivery: | Delivery free of payment |
| 28. | Method of issue of Notes: | Syndicated Issue |
| 29. | Depository: | The Central Depository (Pte) Limited |
| 30. | The following Dealer(s) are subscribing the Notes: | DBS Bank Ltd. United Overseas Bank Limited |
| 31. | Use of proceeds: | The proceeds of the issue of the Notes will be used for the purpose of financing or refinancing new or existing eligible green projects under PUB's Green Financing Framework ("Eligible Green Projects") (attached as Appendix 2 to the Pricing Supplement and as may be updated or amended from time to time, the "Green Financing Framework"). |
| 32. | Prohibition of Sales to EEA Retail Investors: | Not Applicable |
| 33. | Prohibition of Sales to UK Retail Investors: | Not Applicable |

34. Other terms: Please see Appendix 1 to this Pricing Supplement

Provisions relating to Green Bonds

35. Green Bonds: Yes

36. Reviewer: Sustainalytics Pte. Ltd.
Sustainalytics Pte. Ltd. is of the opinion that the PUB Green Financing Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2021 and the ASEAN Green Bond Standards 2018.

37. Date of Opinion by the Reviewer: 25 March 2022

Details of any additions or variations to the terms and conditions of the Notes as set out in the Information Memorandum:

Any additions or variations to the selling restrictions:

Appendix 1

The following additional risk factors shall be inserted in the section “RISK FACTORS – RISKS RELATING TO THE NOTES” on page 31 of the Information Memorandum:

“The Notes may not be a suitable investment for all investors seeking exposure to green assets.

This risk factor and the risk factor "*There is no current market consensus on what constitutes a "green" or "sustainable" project*" set out below do not purport to be complete or comprehensive of all the risk factors that may be involved in the business, assets, financial condition or results of operations of the Issuer or any decision to purchase, own or dispose of the Notes. Additional risk factors which the Issuer is currently unaware of may also impair its business, assets, financial condition, results of operations, performance or prospects. If any of the following risk factors develops into actual events, the business, assets, financial condition or results of operations of the Issuer could be materially and adversely affected. In such cases, the ability of the Issuer to comply with its obligations under the Notes may be adversely affected and the investors may lose all or part of their investments in the Notes.

The Issuer has developed the Green Financing Framework, which sets out how the Issuer intends to enter into green finance transactions to fund projects related to natural resource conservation, pollution prevention and control, and climate change mitigation. No assurance is given by the Issuer that the use of such proceeds for any Eligible Green Projects (as defined above) set out in the Green Financing Framework will satisfy, whether in whole or in part, investor expectations or requirements as regards any investment criteria or guidelines with which such investor or its investments are required to comply with, whether by any present or future applicable law or regulations, by its own by-laws, other governing rules or investment portfolio mandates.

The Issuer has received from Sustainalytics a second party opinion dated 25 March 2022 (the “**Report**”) on the alignment of the Green Financing Framework to the International Capital Market Association Green Bond Principles 2021 and ASEAN Capital Market Forum ASEAN Green Bond Standards 2018.

The Report is not incorporated into and does not form part of this Information Memorandum or the Pricing Supplement. None of the Issuer, the Dealers, the Trustee or the Agents makes any representation as to the suitability or reliability of the Report or the Notes to fulfil such environmental and sustainability criteria. Prospective investors should have regard to the factors described in this Information Memorandum and in the “*Use of Proceeds*” section regarding the use of proceeds. Each potential purchaser of Notes should determine for itself the relevance of the information contained in the Pricing Supplement and this Information Memorandum regarding the use of proceeds, and its purchase of Notes should be based upon such investigation as it deems necessary.

The Report and any further assurance statement, validation, review or third party opinion that may be issued (collectively the “**Assurance Reports**”) may not reflect the potential impact of all risks related to the structure, market and other factors that may affect the value of the Notes. The Assurance Reports are not a recommendation by the Issuer, the Dealers, the Trustee, the Agents or any other person to buy, sell or hold securities and are only current as of the date that they were initially issued. The Assurance Reports are for information purposes only and neither the Issuer, the Dealers, the Trustee, the Agents nor the person issuing the Assurance Reports accepts any form of liability for the substance of such Assurance Reports and/or any liability for loss arising from the use of such Assurance Reports and/or the information provided therein.

Further, although the Issuer may agree at the Issue Date to allocate the net proceeds of the issue of the Notes towards the financing and/or refinancing of Eligible Green Projects in accordance with certain

prescribed eligibility criteria as described under the Green Financing Framework, it would not be an event of default under the Notes if (i) the Issuer were to fail to comply with such obligations or were to fail to use the proceeds in the manner specified in this Pricing Supplement and/or (ii) the Report issued in connection with the Green Financing Framework were to be withdrawn. A withdrawal of the Report or any failure by the Issuer to use the net proceeds from the Notes on Eligible Green Projects or to meet or continue to meet the investment requirements of certain environmentally focused investors with respect to such Notes may affect the value of the Notes and/or may have consequences for certain investors with portfolio mandates to invest in green assets (which consequences may include the need to sell the Notes as a result of the Notes not falling within the investor's investment criteria or mandate).

There is no current market consensus on what constitutes a “green” or “sustainable” project

There is no current market consensus on what precise attributes are required for a particular project to be defined as “green” or “sustainable” and therefore the “Eligible Green Projects” as set out in the “Use of Proceeds” section of the Green Financing Framework may not meet the criteria and expectations of all investors regarding environmental impact and sustainability performance. Although the underlying projects have been selected in accordance with the eligibility criteria outlined in the Green Financing Framework and will be developed in accordance with relevant legislation and standards, there can be no guarantee that adverse environmental and/or social impacts will not occur during the design, construction, commissioning and operation of the projects. In addition, where negative impacts are insufficiently mitigated, the projects may become controversial, and/or may be criticised by activist groups or other stakeholders. The Issuer may not meet or continue to meet the investment requirements of certain environmentally focused investors with respect to the Notes, which may also have consequences for certain investors with portfolio mandates to invest in green assets. Each potential purchaser of the Notes should determine for itself the relevance of the information contained in the Pricing Supplement in respect of the Notes and the Information Memorandum regarding the use of proceeds of the Notes.

While it is the intention that the proceeds of any Notes so specified for Eligible Green Projects be applied by the Issuer in the manner described under the section “Use of Proceeds” in the Pricing Supplement in respect of the Notes, there can be no assurance that the relevant project(s) or use(s) the subject of, or related to, any Eligible Green Projects will be capable of being implemented in, or substantially in, such manner and/or accordance with any timing schedule and that accordingly such proceeds will be totally or partially disbursed for such projects. Nor can there be any assurance that such Eligible Green Projects will be completed within any specified period or at all or with the results or outcome (whether or not related to the environment) as originally expected or anticipated by the Issuer.

Appendix 2
Green Financing Framework



GREEN FINANCING FRAMEWORK

[VERSION 18 MARCH 2022]

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1. Background

1.1 About PUB

PUB is a statutory board under the Ministry of Sustainability and the Environment (MSE). It is the national water agency, which manages Singapore’s water supply, water catchment and used water in an integrated way. From April 2020, PUB also took on the responsibility of protecting Singapore’s coastline from sea level rise as the national coastal protection agency.

PUB ensures a diversified and sustainable supply of water for Singapore with the Four National Taps (local catchment water, imported water, NEWater and desalinated water). PUB leads and coordinates Whole-of-Government efforts to protect Singapore from the threat of rising seas and the holistic management of inland and coastal flood risks.

1.2 Sustainability in PUB

Sustainability is not new to PUB. Since the formation of PUB in the 1960s, every one of our milestones serves to strengthen Singapore’s water security and sustainability.

| Period | Milestone |
|---------------|--|
| 1970s | <u>Building up Our Water Resources</u> Singapore’s first Water Master Plan was drawn up in 1972, outlining the strategies for water resources to ensure a diversified and adequate supply that could meet future requirements. At around the same time, the “Water is Precious” public education campaign was launched in 1971. |
| 1980s | <u>A Cleaner City and River</u> The Singapore River clean-up was launched in 1977 and spanned over a decade before it was finally completed in 1987. The last night soil bucket was phased out in 1987 and replaced by an alternative on-site sanitation system. |
| 1990s | <u>Modernising Water Management and Exploring Unconventional Sources</u> The Water Conservation Tax was introduced in 1991 as a pricing tool to encourage water conservation. In 1995, the electricity and gas entities were corporatised as Singapore Power, while PUB continued to manage water. By 1997, 100% of Singapore’s population were served by modern sanitation. While plans to reclaim used water began in the 1970s, it was not until the late 1990s that membrane technology matured enough to enable a reliable and cost-efficient water source. In 1998, a demonstration-scale NEWater plant was commissioned to confirm its feasibility, paving the way for its eventual large-scale roll-out. |
| 2000s | <u>Diversifying our Water Resources</u> PUB’s first NEWater Factories at Bedok and Kranji were launched in 2003. Singapore’s first desalination plant was opened in 2005. The Active, Beautiful, Clean Waters (ABC Waters) Programme was launched in 2006 to transform |

| | |
|-----------------------|--|
| | <p>Singapore's water bodies beyond their utilitarian purpose and bring people closer to water. The Deep Tunnel Sewerage System (DTSS) Phase 1 was completed in 2008.</p> |
| <p>2010s</p> | <p><u>Expanding and Innovating for Water Resilience</u></p> <p>Building on the success of our desalination and NEWater technologies, within a decade, PUB launched several water infrastructures such as the Changi NEWater Factory 1 and 2, Tuas Desalination Plant, Tuas South Desalination Plant, and the Punggol and Serangoon Reservoirs, greatly boosting our water resources. We continued to expand our research and development (R&D) efforts such as the launch of the Ceramic Membrane Demonstration Plant at Choa Chu Kang Waterworks and the Upflow Anaerobic Sludge Blanket-Membrane Bioreactor Demonstration Plant at Jurong Water Reclamation Plant.</p> |
| <p>Moving Forward</p> | <p><u>Towards a Smarter and More Sustainable PUB</u></p> <p>As we move into a new decade, PUB must transform and adapt to the ever-changing global landscape as we face new, emerging challenges such as climate change. Our priorities are as follows:</p> <ul style="list-style-type: none"> • <u>Resisting Rising Seas</u> As Singapore's coastal protection agency to protect Singapore from the threat of rising sea levels, PUB developed a national coastal protection master plan underpinned by Holistic Risk Assessment, Developing Adaptive and Flexible Pathways, and Integrated Planning. • <u>Increasing Energy Efficiency and Renewable Energy Generation</u> To reduce reliance on fossil fuels and mitigate the impacts of climate change, PUB is exploring technologies, such as biomimicry and pressure-retarded osmosis, to bring down the desalination energy requirement from the current 3.5 kWh/m³ to close to 1 kWh/m³ at the system level in the long term. We also launched one of the world's largest floating solar photovoltaic (PV) systems in Tengeh Reservoir and will be increasing our solar generation capabilities with new upcoming projects such as deployment at Pandan and Lower Seletar Reservoirs. • <u>Embracing Resource Circularity</u> The upcoming Tuas Nexus will harness potential synergies of the water-energy-waste nexus by integrating used water and solid waste treatment processes to maximise energy efficiency and generation, and resource recovery, while maintaining a small footprint. • <u>Transforming into a Smart Utility</u> The digital wave is affecting traditional business models globally, but it also presents immense opportunities. We are actively adopting suitable digital technologies to improve operational resilience and service delivery, such as the Smart Water Meter Programme. |

PUB has put in place a sustainability framework to guide our continuing efforts to ensure sustainable water supply for Singapore and to protect the country’s coastline from rising sea levels. At the heart of this framework are our mission and vision.

It sets out the focus areas premised on four main pillars to ensure that PUB continues to deliver our mission responsibly. They are: (1) Water and Sustainable Management; (2) Capable and Engaged Workforce; (3) Strong Partnerships; and (4) Business Excellence.



2 Green Financing Framework

The Green Financing Framework (“**the Framework**”) is part the overall PUB’s sustainability framework. The Framework supports the financing of projects related to natural resource conservation, pollution prevention and control, and climate change mitigation. We aim to provide transparency, disclosure, integrity and quality in our Green Finance reporting. We follow the International Capital Market Association (“ICMA”) Green Bond Principles 2021 and ASEAN Capital Market Forum (“ACMF”) ASEAN Green Bond Standards 2018 (collectively referred to as “**Green Bond Standards**”), which have four components:

1. Use of proceeds
2. Process for project evaluation and selection
3. Management of proceeds
4. Reporting

3 Use of Proceeds

PUB’s projects come under the following categories of the Green Bond Standards:

1. Sustainable water and wastewater management
2. Renewable energy

PUB will use the proceeds for each Green Bond issued to finance and refinance, in whole or part, projects that are in progress or future projects (“**Eligible Green Projects**”), with a two-year look-back period for refinancing projects.

The criteria of each project category for Eligible Green Projects are outlined in Table 1 below.

Table 1: Eligible Green Projects for green bond issuance

| Project Category | Project Sub-category | Criteria |
|---|--|--|
| Sustainable water and wastewater management | Water monitoring <i>(e.g. water quality monitoring systems, used water monitoring systems)</i> | <ul style="list-style-type: none"> • Net-zero or reduction in greenhouse gas (“GHG”) emissions relative to business as usual (“BAU”) baseline • Enables early detection and prompt intervention to prevent <ol style="list-style-type: none"> a) pollution of water sources b) water losses in system |
| Sustainable water and wastewater management | Water collection, storage and distribution <i>(e.g. stormwater management systems, water distribution systems)</i> | <ul style="list-style-type: none"> • Net-zero or reduction in GHG emissions relative to BAU baseline • Prevent water losses |
| Sustainable water and wastewater management | Water treatment <i>(e.g. water recycling systems, wastewater treatment systems)</i> | <ul style="list-style-type: none"> • Net-zero or reduction in GHG emissions relative to BAU baseline • Prevent pollution of water sources • Conservation of resources through water recycling • Reduced waste generation |
| Renewable energy | Renewable energy <i>(e.g. solar PV systems, biogas generators)</i> | <ul style="list-style-type: none"> • Net-zero or reduction in GHG emissions relative to BAU baseline |

4 Governance Structure

The Sustainability Committee that is co-chaired by Deputy Chief Executives, with a number of Department Directors as committee members has overall responsibility for implementing this Framework. The main responsibilities include reviewing nominated Eligible Green Projects, updating the process to align the purpose of this Framework relevant to PUB business activities, and amending the scope of financial instruments covered by this Framework, and the eligibility for use of proceeds.

5 Process for project evaluation and selection

All PUB departments shall consider and nominate any Eligible Green Project(s) set out as described in Table 1 to the Sustainability Committee. For the nominated projects, an environmental screening will be carried out for projects that are located in biodiversity-sensitive areas, and where relevant Environmental impact assessments will also be conducted. Similarly, there is an assessment on the social impact of the project, and where relevant, stakeholder engagement is conducted as required on a project by project basis

The shortlisted projects will be reviewed by the Sustainability Committee to ensure that the nominated Eligible Green Project(s) meet the criteria under the Framework. All Eligible Green Projects will be reviewed by the Sustainability Committee and approved by the Chief Executive.

After such projects are approved and considered as an Eligible Green Project in accordance with this Framework, it will be earmarked for the use of proceeds under this Framework.

6 Management of proceeds

PUB will credit the proceeds of the bonds into a general account. Each green bond will be earmarked as of pending allocation, and with allocations being applied to existing or new Eligible Green Projects set out in Table 1 within 3 years.

PUB will also create a green bond register (“**Register**”) to monitor the allocation of the use of proceeds. The Register will contain (where applicable) the following information for each green bond issued:

- Identifier for the bond: Issuing entity, ISIN, transaction or listing date, principal amount outstanding, pricing (e.g. coupon/interest rate), repayment schedule or amortisation profile, maturity date.
- Allocation details: Eligible category (or categories), amount of investment, other relevant information so that the aggregate of issuance proceeds allocated to Eligible Green Projects is always recorded.

During the tenure of the issued green bonds, if any Eligible Green Project ceases to fulfil the requirements in Table 1, PUB will use its best efforts to reallocate the unused proceeds to replacement assets that comply with requirements of an Eligible Green Project as soon as reasonably practicable.

Where the allocation of proceeds is pending due to there being insufficient approved Eligible Green Projects at any given time during the tenor of the bond, PUB will deploy the proceeds at its own discretion in cash instruments in accordance with PUB’s approved cash investment policy in the interim.

Any unallocated amount will not be invested in any instruments, which may contribute to any carbon intensive activities or facilities.

7 Reporting

PUB will prepare a progress report on an annual basis until full allocation. This progress report will consist mainly information from the Register:

1. Allocation Reporting

- Amount of allocated proceeds by eligible category (as shown in first column of Table 1).
- Amount of allocated proceeds for financing and refinancing.
- Remaining balance of unallocated proceeds at the end of reporting period, if any.
- Description of green projects

2. Impact Reporting

Where relevant and applicable, PUB will report the impact of allocated Eligible Green Projects. Indicative impact indicators that may be used are as follows, and these are also publicly reported through PUB's Sustainability Report.

Table 2: List of indicative impact indicators that may be used in impact reporting

| Project Category | Project Sub-category | Indicative Impact Indicators |
|---|---|--|
| Sustainable water and wastewater management | Water monitoring (e.g. water quality monitoring systems, used water monitoring systems) | <ul style="list-style-type: none"> • GHG emissions avoided (tCO₂e) • Sensor numbers / system coverage |
| Sustainable water and wastewater management | Water collection, storage and distribution (e.g. stormwater management systems, water distribution systems) | <ul style="list-style-type: none"> • GHG emissions avoided (tCO₂e) • Number of leaks avoided • System distribution losses (%) |
| Sustainable water and wastewater management | Water treatment (e.g. water recycling systems, wastewater treatment systems) | <ul style="list-style-type: none"> • GHG emissions avoided (tCO₂e) • Amount of wastewater treated (m³) • Recovery rate of wastewater recycling process (%) • Amount of waste avoided/reduced (kg or m³) |
| Renewable energy | Renewable energy (e.g. solar PV systems, biogas generators) | <ul style="list-style-type: none"> • GHG emissions avoided (tCO₂e) • Amount of renewable energy generated (MWh) |

Where there are confidentiality concerns that limits the amount of details that can be made available, PUB may choose to present the information in generic terms or on an aggregated portfolio basis.

8 External review

8.1 Pre-Issuance Review

PUB has engaged an independent external reviewer to provide a Second Party Opinion on PUB's Green Financing Framework. This pre-issuance review is performed to confirm the alignment of this framework with the key features of the Green Bond Standards.

This review is done on a one-off basis, unless there are material changes to this Framework.

8.2 Post-Issuance Review

PUB will also engage an independent assurance provider on an annual basis to review its progress report – including the allocation of net proceeds and the impact of its green bonds. This annual review will commence a year from the issuance date of the first green bond, until the full allocation of the net proceeds.

Both the pre-issuance review and the annual review will be made available on www.pub.gov.sg.