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**Star Energy Geothermal  
(Wayang Windu) Limited  
Annual Green Bond Report 2023**



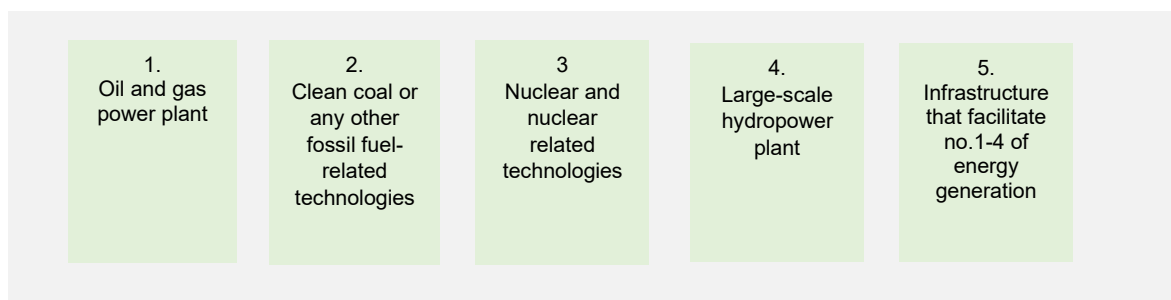
**September 2023**

## Star Energy Geothermal (Wayang Windu) Limited

### a. Green Bond Framework Summary

Pillar	Framework
<b>Use of Proceed</b>	<ul style="list-style-type: none"> <li>• Geothermal Energy</li> <li>• Other asset category that are complimentary to geothermal energy generation or are comparable environmental benefit</li> </ul>
<b>Project Evaluation and Selection</b>	<ul style="list-style-type: none"> <li>• Agreed with Use of Proceeds criteria</li> <li>• Treasury Department propose the Use of Proceeds</li> <li>• Green Bond Committee validate and confirm the eligibility</li> </ul>
<b>Management of Proceeds</b>	<ul style="list-style-type: none"> <li>• Use of Proceeds tracked via Green Bond register</li> </ul>
<b>Reporting</b>	<ul style="list-style-type: none"> <li>• Wayang Windu is committed to publish information in a dedicated Green Bond Report, which shall be made available, on the company's corporate website (<a href="http://www.starenergy.co.id">www.starenergy.co.id</a>) on an annual basis</li> <li>• The Green Bond Report will be written on the basis of the company's Green Bond Register and provide the following information:               <ul style="list-style-type: none"> <li>✓ The total amount of outstanding Green Bonds</li> <li>✓ The amount of net proceeds allocated within each Green Bond Asset category, as well as the balance of net proceeds not yet allocated to Green Bond Assets</li> <li>✓ Where relevant additional information on type, number, and location of Green Bond assets within each category</li> <li>✓ Examples of Green Bond assets financed with Green Bond net proceeds subject to confidentiality arrangements</li> </ul> </li> </ul>

### b. Excluded Use of Proceeds



### c. Summary

Overall, the proceeds of 2018 Green Bond has been fully and entirely used for repayment of outstanding indebtedness under the Existing Senior Debt Facilities

## Introduction

### a. Issuer Overview

Star Energy Geothermal (Wayang Windu) Limited (“Wayang Windu” / “Company”) is a leading geothermal energy company operating a geothermal power plant with a gross installed capacity of 230.5 MW, situated in the Wayang Windu contract area near the town of Pangalengan in West Java, Indonesia.

The Wayang Windu geothermal power plant helps to reduce Indonesia’s overall carbon emissions. Indonesia’s energy mix shows that the national electricity grid is still heavily reliant on carbon-intensive electricity.

Wayang Windu is an active supporter of various programmes in the environmental sector, as well as of the economic development of the community in its operational area. The company was awarded and certified many times for its environmental management and community empowerment, nationally and internationally.

Throughout the year, Wayang Windu attained awards and certifications include among others:

- **PROPER Green Award** from the Indonesian Ministry of Environment and Forestry. PROPER's rating presents the Company's performance on how companies manage environmental and social aspects. PROPER inauguration was held on 29 December 2022 for period 2021-2022.
- **Zero Accident Award** from The Indonesia Ministry Of Employment for Wayang Windu was received on May 2022.
- **P2HIV AIDS award** from The Indonesia Ministry Of Employment for Wayang Windu was received on May 2022
- **P2 Covid-19 award** from The Indonesia Ministry Of Employment for Wayang Windu was received on May 2022.
- **SMK3 (PP 50/2012)** Occupational Health & Safety Management System renewal certification from Sucofindo was held on 9 – 11 March 2022.
- **ISO 50001:2018** Energy Management System renewal certification from Lloyds Register Quality Assurance (LRQA) was held on 14 – 17 November 2022.
- Continue Implementation of **Integrated Geothermal Operations Management System (IGOMS)** and Certification of ISO 14001:2015 Environmental Management System and ISO 45001:2018 Occupational Health & Safety Management System

### b. Indonesian / Regional Energy Outlook

The Green Bond’s Framework defines eligible projects as geothermal energy generation facilities that support the objectives of the Indonesian government’s sustainability strategy, which includes the commitment to decrease greenhouse gas emissions by 29% by 2030. Proceeds of Bonds issued in accordance with the Framework will only be used in connection with assets with emissions of less than 100g CO<sub>2</sub> per kWh estimated carbon intensity. This compares favorably to the local grid (Jamali) average emission factor for electricity of over 870g CO<sub>2</sub> per kWh in 2019.

Furthermore, as geothermal projects can have different negative environmental impacts, Wayang Windu established a variety of programmes to demonstrate its high commitment to environmental protection. These programmes mainly cover the areas of water conservation, energy efficiency, waste reduction, and re-vegetation and help to eliminate or minimise unwanted side effects.

Indonesia’s primary energy is dominated by coal energy. Referring to the Electricity Supply Business Plan (Rencana Usaha Penyediaan Tenaga Listrik 2021-2030 – the “2021-2030 RUPTL”) shows the following national grid-mix breakdown in year 2020:

- Fossil fuels: 85.7%
- Hydroelectric: 6.6%

- Geothermal: 5.7%
- Other: 2.0%

### c. Inaugural Green Bond Issuance

Issuance Details	
Issuer	Star Energy Geothermal (Wayang Windu) Limited.
Notional	US\$580 million
Issue Price	100% of the principal amount of the Notes.
Issue Date	April 24, 2018
Maturity Date	April 24, 2033
Coupon	6.75%
ISIN	Restricted Global Note: ISIN: US85511XAC48 Regulation S Global Note: ISIN: USG84393AC49
Listing	SGX-ST

## The Green Bond Framework

### a. Use of Proceeds

We applied the entire proceeds of US\$580 million from the issues of the Notes towards the repayment of outstanding indebtedness under the Existing Senior Debt Facilities of Wayang Windu Geothermal Asset. The remaining balance of the outstanding indebtedness under the Existing Senior Debt Facilities of Wayang Windu Geothermal Asset and associated repayment expenses was repaid using our existing cash.

### b. Project evaluation and selection

Since the proceed of 2018 Green Bond has been fully and entirely used for the repayment of outstanding indebtedness under the Existing Senior Debt Facilities of Wayang Windu Geothermal Asset, there was no project evaluation and selection in 2022 whether the proceeds of bond issuance was used toward refinancing eligible green or renewable energy assets.

### c. Management of Proceeds

We did not conduct monitoring whether the proceeds of bond issuance was used toward refinancing eligible green or renewable energy assets due to the proceed of 2018 Green Bond has been fully and entirely used for the repayment of outstanding indebtedness under the Existing Senior Debt Facilities of Wayang Windu Geothermal Asset.

As of 30 June 2023, the outstanding amount of Green Bond is US\$470,264,000..

#### d. Reporting

The followings are Wayang Windu latest indicator of environment impact:

Indicator	Description
CBI category:	Geothermal
Location:	Indonesia
Facility capacity (MW)	230.5
Total gross production of clean energy (MWh 2022)	1,950,786
Total net production of clean energy (MWh 2022)	1,884,013
Facility CO <sub>2</sub> emission (g/KWh)	65.93
Local grid (JAMALI) average CO <sub>2</sub> emission (g/KWh)	870 <sup>1</sup>
Total CO <sub>2</sub> emission avoided (TCO <sub>2</sub> )	= (total gross production) *(facility CO <sub>2</sub> per unit production – Jamali average CO <sub>2</sub> emission per unit production) = - 1,568,575.97
Facility Average H <sub>2</sub> S emission (mg/Nm <sup>3</sup> )	0.19
Total H <sub>2</sub> S emission (TH <sub>2</sub> S)	2,067.31

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<sup>1</sup> [https://jcm.ekon.go.id/en/index.php/content/Mzg%253D/emission\\_factor](https://jcm.ekon.go.id/en/index.php/content/Mzg%253D/emission_factor)