
**Star Energy Geothermal
(Wayang Windu) Limited
Annual Green Bond Report 2019**



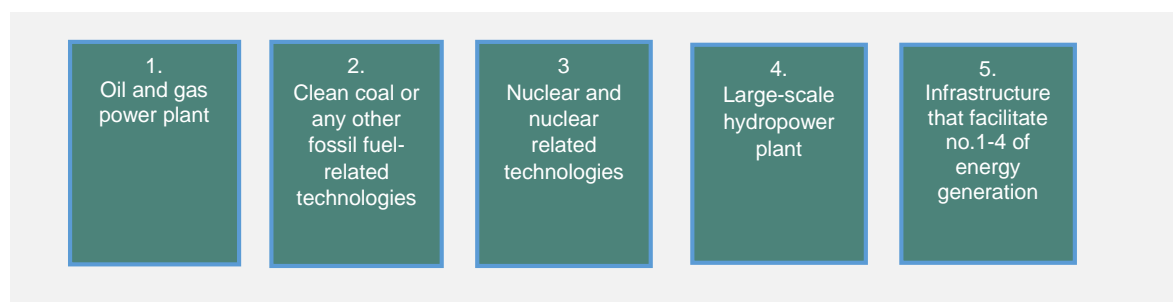
February 2019

Star Energy Geothermal (Wayang Windu) Limited

Green Bond Framework Summary

Pillar	Framework
Use of Proceed	<ul style="list-style-type: none"> • Geothermal Energy • Other asset category that are complimentary to geothermal energy generation or are comparable environmental benefit
Project Evaluation and Selection	<ul style="list-style-type: none"> • Agreed with Use of Proceeds criteria • Treasury Department propose the Use of Proceeds • Green Bond Committee validate and confirm the eligibility
Management of Proceeds	<ul style="list-style-type: none"> • Use of Proceeds tracked via Green Bond register
Reporting	<ul style="list-style-type: none"> • Wayang Windu is committed to publish information in a dedicated Green Bond Report, which shall be made available, on the company's corporate website (www.starenergy.co.id) on an annual basis • 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"> ✓ The total amount of outstanding Green Bonds ✓ 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 ✓ Where relevant additional information on type, number, and location of Green Bond assets within each category ✓ Examples of Green Bond assets financed with Green Bond net proceeds subject to confidentiality arrangements

Excluded Use of Proceeds



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

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 227 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 Gold Award from the Indonesian Ministry of Environment and Forestry on December 27, 2018¹. PROPER’s rating presents the company’s performance on how companies manage environmental and social aspects
- ISO 14001:2015 Environmental Management System (EMS) Re-Certification from Lloyds Register Quality Assurance (LRQA). The Audit was held on December 5-7, 2018
- ADITAMA Award for Environment Management from Ministry of Energy and Mineral Resources (MEMR), on September 28, 2018
- Zero Accident Award from Ministry of Man Power, on August 9, 2018
- Continue Implementation of Integrated Management System (IMS) and Certification of Environmental Management System, Quality, and OSH ISO 14001:2015, OHSAS 18001:2007 and ISO 9001:2008 in 2006, 2007, and 2014 from Lloyds Register Quality Assurance (LRQA), ISO 50001:2011, ISO 55001:2014 and ISO/IEC 17025:2008

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 26% by 2020. Proceeds of Bonds issued in accordance with the Framework will only be used in connection with assets with emissions of less than 100g CO₂ per kWh estimated carbon intensity. This compares favorably to the Indonesian national average emission factor for electricity of over 877g CO₂ per kWh in 2018 and coal-fired generation at nearly 990g CO₂ per kWh.

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 fossil energy that consists of oil, coal, and natural gas. For 2018 realization, referring to the Electricity Supply Business Plan (Rencana Usaha Penyediaan Tenaga Listrik 2019 – the “2019 RUPTL”) shows the following national grid-mix breakdown:

- Fossil fuels: 88%
- Hydroelectric: 6%
- Geothermal: 5%

¹ https://drive.google.com/file/d/1Q_eXGcG9fHr57ajXDEgnIWBBPgiMWa17/view

- Other: 1%

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

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. The remaining balance of the outstanding indebtedness under the Existing Senior Debt Facilities and associated repayment expenses was repaid using our existing cash.

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, there was no project evaluation and selection in 2018 whether the proceeds of bond issuance was used toward refinancing eligible green or renewable energy assets.

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.

As of 31 December 2018, the outstanding amount of Green Bond is US\$570,140,000.

Reporting

The followings are Wayang Windu latest indicator of environment impact:

Indicator	Description
CBI category:	Geothermal
Location:	Indonesia
Facility capacity (MW)	227
Total production of clean energy(MWh 2018)	1,895,257
Facility CO2 emission (g/KWh)	58.3
National average CO2 emission (g/KWh) *	877 ²
Total CO2 emission avoided (TCO2e)	= (total production)*(facility CO2e per unit production – national average CO2e per unit production) = -1,557,029
Facility Average H2S emission (mg/Nm3)	1.04
Local H2S emission standard (mg/Nm3) *	35 mg/Nm3
Total H2S emission avoided (TH2Se)	= total production)*(facility H2Se per unit production – national average H2Se per unit production) = 18,771 TH2Se
Energy intensity (%)	3.50

We have published our 2017 Sustainability Report on our company's corporate Website (www.starenergy.co.id).

² http://jcm.ekon.go.id/en/index.php/content/Mzg%253D/emission_factor