Cenergi SEA Berhad
Green Sukuk Annual Report
as at 31 December 2023

A. Introduction

Cenergi SEA Berhad's Sukuk Issuance

Issuance of Senior Islamic Medium Term Notes ("Senior Sukuk Wakalah") and/or Subordinated Perpetual Islamic Notes ("Perpetual Sukuk Wakalah") under a combined Islamic notes issuance programme of up to an aggregate amount of RM1.5 billion in nominal value based on the Shariah principle of Wakalah Bi Al-Istithmar ("Sukuk Programme").

Utilisation of Proceeds as at 31 December 2023	
Proceeds of the Issuance	RM 207.3 million
Amount Utilised towards Project Costs	RM 205.6 million
Amount Unutilised	RM 1.7 million

Rating Upgrade

During the year, RAM Ratings has upgraded Cenergi SEA Berhad's corporate credit ratings and the issue ratings of its RM1.5 billion Senior Sukuk/Subordinated Perpetual Sukuk Programme (2021/2121) (see Table 1). The Subordinated Perpetual Sukuk is rated two notches below the Senior Sukuk to reflect increased loss severity and the risk of non-performance relative to senior financing obligations.

Table 1:

Rating Type	Ratings	Rating Action
Corporate Credit Ratings	AA_3/Stable/P1	Upgraded from A_1/Stable/P1
Issue Ratings		
- **Senior Sukuk**	AA_3/Stable	Upgraded from A_1/Stable
- **Subordinated Perpetual Sukuk**	A_2/Stable	Upgraded from A_3/Stable

Source: RAM's Credit Rating Rationale as at September 2023

B. Allocation Reporting

Details of Green Sukuk Wakalah (by tranches):

Tranche 1

Type of Projects:	**Biogas, Solar and Energy Efficiency**
Country of Issuance/Origination:	**Malaysia**
Nominal Amount:	**RM85.0 million**
Subscription Price:	**RM84.1 million**
Profit Rate:	**5.30% p.a.**
Issue Date:	**23 December 2021**
Tenure:	**5 years**
Bond/Sukuk Listing:	**Not Listed**
Green/Social/Sustainability Bond:	**Green**
RAM Assigned Ratings:	**A1/Stable**

Tranche 2

Type of Projects:	**Biogas, Solar and Energy Efficiency**
Country of Issuance/Origination:	**Malaysia**
Nominal Amount:	**RM125.0 million**
Subscription Price:	**RM123.2 million**
Profit Rate:	**5.55% p.a.**
Issue Date:	**23 December 2021**
Tenure:	**7 years**
Bond/Sukuk Listing:	**Not Listed**
Green/Social/Sustainability Bond:	**Green**
RAM Assigned Ratings:	**A1/Stable**

Aggregate Nominal Amount: RM210.0 million
Total Subscription Price: RM207.3 million

List of Eligible Assets (by category):

Biogas

Allocated amount: RM112.7 mil ; Expenditure: RM112.7 mil

- Acquiring, developing, operating and/or maintaining projects related to the capture and conversion of methane into biogas, including biogas-to-electricity projects using Palm Oil Mill Effluent ("POME") and other agricultural waste, and biogas projects using municipal solid waste or waste sludge.

Solar

Allocated amount: RM72.4 mil ; Expenditure: RM72.4 mil

- Acquiring, developing, operating and/or maintaining solar projects including utility-scale solar farms and behind-the-meter solar photovoltaic projects (e.g. self-consumption and net energy metering).

Other Renewable Energy

Allocated amount: n/a ; Expenditure: n/a

- Acquiring, developing, operating and/or maintaining projects to generate energy from other renewable sources (e.g. mini-hydro, biomass and wind power plants).

Energy Efficiency

Allocated amount: RM17.3 mil ; Expenditure: RM17.3 mil

- Acquiring, developing, operating and/or maintaining Energy Efficiency projects including cogeneration/combined heat and power systems and waste-heat recovery systems.

Refinance Cost

Allocated amount: RM3.2 mil ; Expenditure: RM3.2 mil

Total allocated and expensed amount: RM205.6 million

Unallocated Proceeds

The balance of unallocated Green Sukuk proceeds amounting to RM1.7 million is being held in cash or cash equivalents and/or being allocated to temporary investment in money markets and other liquid marketable instruments, all of which shall be Shariah-compliant.

Details of Eligible Assets:

Category	Project Company	Project Name	Installed Capacity (MW)	Net Export Capacity (MW)	Expenditures (RM'000)
Biogas	Cenergi Cheekah Sdn. Bhd.	Cheekah	1.10	1.00	3,275
	Cenergi Sri Jelutung Sdn. Bhd.	Sri Jelutong	1.40	1.30	3,751
	Cenergi Pantai Remis Sdn. Bhd.	Pantai Remis	1.50	1.40	6,094
	Cenergi Tennamaram Sdn. Bhd.	Tennamaram	1.60	1.60	10,821
	Cenergi FJP Sdn. Bhd.	FJP	1.50	1.50	9,290
	Cenergi Chersonese Sdn. Bhd.	Chersonese	1.20	1.00	7,735
	Cenergi Sri Ganda Sdn. Bhd.	Sri Ganda	2.40	2.00	13,945
	Cenergi West Sdn. Bhd.	West	1.60	1.40	8,965
	Cenergi Sua Betong Sdn. Bhd.	Sua Betong	1.20	1.20	9,128
	Cenergi Endah Sdn. Bhd.	Astana Endah	1.20	1.00	7,952
	Bell Cenergi YP Sdn. Bhd.	Yong Peng	2.40	2.00	13,997
	Cenergi Elphil Sdn. Bhd.	Elphil	1.20	1.00	8,058
	Cenergi Langkap Sdn. Bhd.	Langkap	1.60	1.50	9,675
		Total by category	**19.90**	**17.90**	**112,686**
Solar	IRM Solar Sdn. Bhd.	IRM Solar	5.00	5.00	21,462
	Marudu Power Sdn. Bhd.	Marudu Power	1.00	1.00	5,777
	Digital Awan Sdn. Bhd.	Digital Awan	1.00	1.00	5,501
	CSES Rooftop Alpha Sdn. Bhd.	Aerospace Composites Malaysia	3.00	2.50	4,913 #
	Cenergi Sunseap Energy Solutions Sdn. Bhd.	Tanah Makmur Berhad	0.04	0.04	187
		HP Malaysia Manufacturing	2.70	2.20	4,919
		Rompin Integrated Pineapple	0.49	0.40	727
	Cenergi Solar Sdn. Bhd.	Inokom	1.21	0.95	1,802
		De Rhu Resort	0.46	0.35	832
		Texchem-Pack (M) Sdn Bhd	0.62	0.60	1,901
		Texchem Corporation Sdn Bhd	0.30	0.20	1,352
		@Mart Kempas	0.36	0.28	687
	NEDA Power (Sg. Tiang) Sdn. Bhd.	NEDA Sg. Tiang	11.30	8.00	22,330
		Total by category	**27.48**	**22.52**	**72,390**
Energy Efficiency	Cenergi EE Sdn. Bhd.	IIUM	n.a.	n.a.	17,315

Note: # The actual utilization for CSES Rooftop Alpha Sdn. Bhd. has been revised from RM6.0mil to RM4.9mil.

C. Impact Reporting

Category		RE Installed Capacity (MW)	RE Production (MWh) / Energy Savings (MWh)	GHG Emissions Avoidance (tCO_2e)	Number of Job Creation
Biogas		19.9	106,242	589,878 ^	120
Solar		16.2 *	20,158	15,058	15
Other Renewable Energy	Mini-hydro	-	-	-	4
	Biomass Pellet	2 tph #	935	355	12
Energy Efficiency		-	21,784	16,992	2
Sustainable Biomass Fuel		-	-	-	-
TOTAL			**149,119**	**622,283**	**153**

Notes:

** Excluding NEDA Sg. Tiang as the project is under development as of 31 December 2023*

 # Two tonne per hour (tph) represents the production capacity of pellet plant

^ GHG emissions avoidance from biogas includes avoidance from both methane capture and grid electricity displacement.

Methodology:

Greenhouse Gases ("GHG") emissions avoidance is based on actual performance and is calculated based on CDM methodologies:

1. Renewable Electricity Generation for Captive Use and Mini-Grid – AMS I.F (Biogas, Solar and Energy Efficiency)

2. GHG emissions avoidance due to methane capture is based on CDM methodology – AMS III.H (Biogas)

Assumption:

1. Biogas, Solar and Energy Efficiency Emission Factor applied by Cenergi: 0.780 tCO_2e per MWh (Peninsular), 0.527 tCO_2e per MWh (Sabah) is based on 2019 Combined Margin Emissions Factor in given Grid Emission Factor for Malaysia by Suruhanjaya Tenaga.

2. GHG emissions avoidance from biogas is calculated based on: (a) Project Emissions [from biogas methane capture and biogas-to-electricity generator] MINUS (b) Baseline Emissions [without methane capture or grid displacement].

3. Biomass Pellet Emission Factor: 1 tonne of co-fired Empty Fruit Bunch Fibre ("EFBF") Pellet reduces CO_2 emissions by 1.77 tonnes.

   Based on conversion ratio of 0.690 [Net Calorific Value (as received basis) for EFBF Pellet[1] of 4,000 kcal/kg; Average Net Calorific Value (as received basis) for South Korean coal[2] of 5,800 kcal/kg] and Emission Factor[3] of 2.56 tonnes CO_2/tonne bituminous coal.

[1] *Source: From HK Bioenergy S/B Product Specification Sheet*

[2] *Source: World-Energy.org*

[3] *Source: Climate Accountability Institute*