

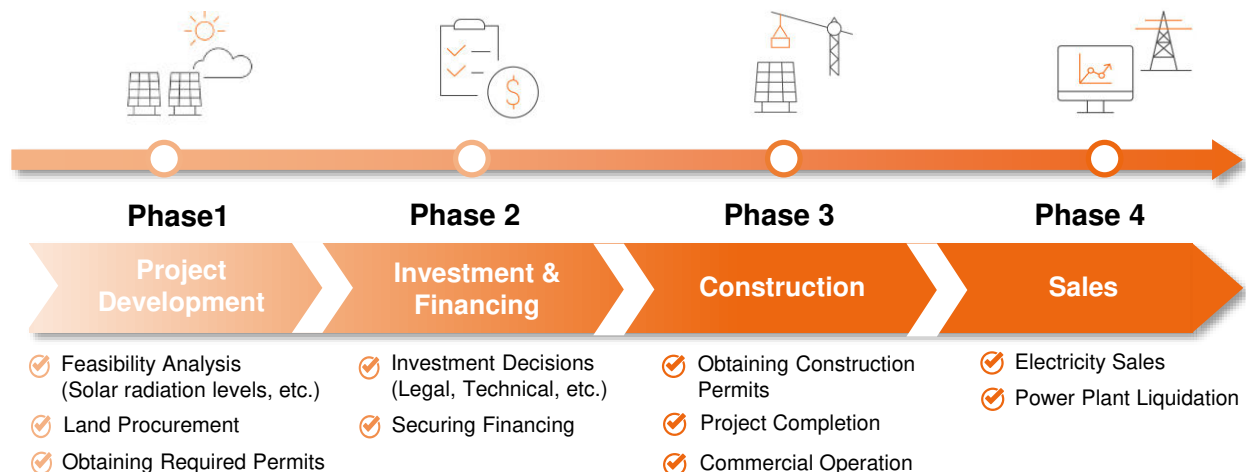
June 2023

Hanwha Energy USA Green Bond Impact Report

Introduction

Hanwha Energy pursues solar power projects as key driver for business expansion, focusing on downstream operations in conjunction with the group’s vertical integration in solar power. Hanwha Energy manages across the solar value chain from development, operations to sales.

Hanwha Energy USA Holdings (the “Company”) is a subsidiary of Hanwha Energy that operates specifically in North America. As of May 2022, the total installed capacity of solar power projects and ESS developed by the Company is approximately 1,500MWdc and 550MWh, respectively, not including projects currently under development. The total installed capacity of solar power projects in development is approximately 5,500MWdc and 7,800MWh of ESS. Moreover, the company has successfully established a business model that combines solar power projects and retail operations through its ownership of Chariot Energy, a power retailer in Texas.



ESG Highlight – Framework Update



Green Bond Highlights

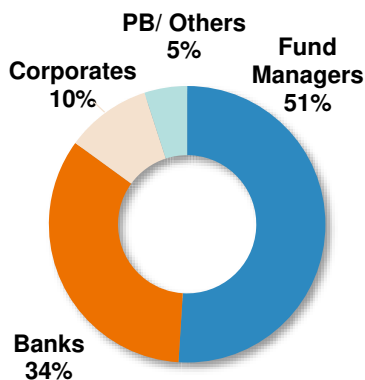
On 21 June 2022, Hanwha Energy USA guaranteed by KEXIM printed a **USD 300mn Senior Unsecured Green Bond**. The net proceeds of the Green Bond will be allocated to finance eligible projects that provide environmental benefits in accordance with 2022 Hanwha Energy USA Green Financing Framework.

Total proceeds of USD 300mn from Hanwha Energy USA Guaranteed Senior Unsecured Green Bond have achieved a **full allocation**.

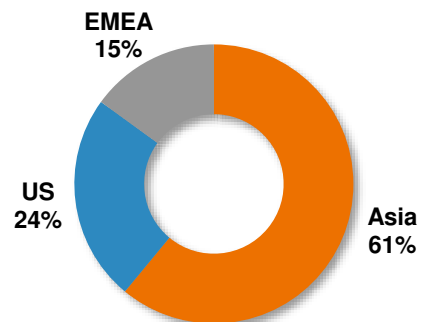
Key Issuance Metrics

Issuer	Hanwha Energy USA (KEXIM Guaranteed)
Instrument	Senior Unsecured Green Bond
Bond Rating	Aa2 (Moody's) / AA (S&P)
Pricing Date	21 June 2022
Size	USD 300 million
Coupon	4.125%
Maturity	5 July 2025
Use of Proceeds	Under 2022 Hanwha Energy USA Green Financing Framework
ISIN	144A: US41135WAB72 RegS: USU3821WAC11

< Allocation Distribution by Type >



< Allocation Distribution by Geography >



Environmental Impact Overview

Fully Allocated to **32**  Solar Power Projects



Expected to reduce:

142,401 tons of CO₂ per year



Energy Installed Capacity:

6,040 MWdc in Photovoltaic Plants

5,159 MWh in Energy Storage System



Expected to generate:

389,473 megawatts in hours of renewable energy per year





Allocation Reporting

Total proceeds of USD 300mn from Hanwha Energy USA Guaranteed Senior Unsecured Green Bond have been **fully allocated to invest in Solar Power projects in USA and Mexico.**

Projects ¹	Location ²	Amount Allocated (USD '000)
Pure PV – Renewable Energy		
Rayos del Sol	TX	10,666.2
Imeson	FL	744.7
Laguna	MX	3,489.9
Oberon 1A	TX	5,474.6
Oberon 1B	TX	1,302.6
Project A - I	CO	6,804.3
Project A - II	CO	5,109.8
Project B	AZ	10,605.2
Project C	AZ	36.8
Project D	CO	9,047.5
Project E	TX	4,639.8
Project F	UT	15,150.3
Project G	WY	10,436.9
Project H	UT	4,460.9
Project I	AZ	26,302.6
Project J	MS	5,799.7
Project K	LA	5,634.0
Project L	NC	15,150.3
Project M	CO	9,145.5
PV with ESS embedded – Renewable Energy		
Project N	GU	6,031.7
Project O	NV	8,881.9
Project P	NM	8,416.8
Project Q	HI	10,209.6
Project R	CA	32,994.0
Project S	CA	21,799.6
Project T	UT	13,172.3
Project U	OR	3,420.2
Energy Storage System – Energy Storage System and Grid		
Project V	NY	6,959.7
Project W - I	NV	14,582.2
Project W - II	NV	14,582.2
Project X	TX	6,959.7
Project Y	TX	1,988.5
Total		300,000.0

Notes:

1) Solar Power Projects except Laguna, Imeson, Oberon 1A, Oberon 1B and Rayos del Sol are under development

2) AZ (Arizona), CA (California), CO (Colorado), FL (Florida), GU (Guam), HI (Hawaii), LA (Louisiana), MS (Mississippi), MX (Mexico), NC (North Carolina), NM (New Mexico), NV (Nevada), NY (New York), OR (Oregon), TX (Texas), UT (Utah), WY (Wyoming)



Impact Reporting (1/ 3)

Pure PV – Renewable Energy

Projects	Location	Energy Installed Capacity	Project Total		Green Bond's Share	
			Exp. Energy Produced	Exp. CO ₂ Avoided	Exp. Energy Produced	Exp. CO ₂ Avoided
		MWdc	MWh/ year	tCO ₂ /year	MWh/ year	tCO ₂ /year
Rayos del Sol	TX	242	243,791	85,814	8,080	2,844
Imeson	FL	9	18,133	6,383	601	212
Laguna	MX	126	275,940	128,864	9,145	4,271
Oberon 1A	TX	194	195,436	68,793	6,477	2,280
Oberon 1B	TX	37	74,548	26,241	2,471	870
Project A - I	CO	185	371,731	130,849	12,320	4,337
Project A - II	CO	135	271,998	95,743	9,014	3,173
Project B	AZ	252	507,730	178,721	16,827	5,923
Project C	AZ	875	1,762,950	620,558	58,426	20,566
Project D	CO	247	498,300	175,402	16,514	5,813
Project E	TX	127	255,880	90,070	8,480	2,985
Project F	UT	360	725,328	255,315	24,038	8,461
Project G	WY	248	499,670	175,884	16,560	5,829
Project H	UT	106	213,569	75,176	7,078	2,491
Project I	AZ	625	1,259,250	443,256	41,733	14,690
Project J	MS	125	251,850	88,651	8,347	2,938
Project K	LA	125	251,850	88,651	8,347	2,938
Project L	NC	74	149,095	52,482	4,941	1,739
Project M	CO	250	503,700	177,302	16,693	5,876
Total		4,342	8,330,748	2,964,156	276,092	98,236



Impact Reporting (2/ 3)

PV with ESS embedded – Renewable Energy

Projects	Location	Energy Installed Capacity	Project Total		Green Bond's Share	
			Exp. Energy Produced	Exp. CO ₂ Avoided	Exp. Energy Produced	Exp. CO ₂ Avoided
		ESS: MWh PV: MWdc	MWh/ year	tCO ₂ /year	MWh/ year	tCO ₂ /year
Project N	GU	PV: 56 ESS: 124	112,829	71,195	3,739	2,359
Project O	NV	PV: 164 ESS: 232	330,427	116,310	10,951	3,855
Project P	NM	PV: 200 ESS: 200	402,960	141,842	13,355	4,701
Project Q	HI	PV: 167 ESS: 240	336,472	118,438	11,151	3,925
Project R	CA	PV: 532 ESS: 800	1,071,874	377,300	35,523	12,504
Project S	CA	PV: 266 ESS: 800	535,937	188,650	17,762	6,252
Project T	UT	PV: 250 ESS: 200	503,700	177,302	16,693	5,876
Project U	OR	PV: 63 ESS: 58	126,932	44,680	4,207	1,481
Total		PV: 1,698 ESS: 2,654	3,421,130	1,235,717	113,381	40,953

Impact Reporting (3/ 3)

ESS – Energy Storage System and Grid

Projects	Location	Energy Installed Capacity	Project Total		Green Bond's Share	
			Exp. Energy Produced	Exp. CO ₂ Avoided	Exp. Energy Produced	Exp. CO ₂ Avoided
		MWh	MWh/ year	tCO ₂ /year	MWh/ year	tCO ₂ /year
Project V	NY	400	-	15,476	-	513
Project W - I	NV	80	-	30,952	-	1,026
Project W - II	NV	800	-	30,952	-	1,026
Project X	TX	400	-	15,476	-	513
Project Y	TX	105	-	4,062	-	135
Total		2,505	-	96,918	-	3,212

Description of ESS

- ESS power plant does not generate energy on its own but serves as a storage and distribution system for the energy generated by other sources.

Calculation Methodology

- The solar power projects funded through Hanwha Energy USA's Green Bonds help to displace electricity generated from fossil fuels.
- The calculation approach as indicated in EIB Methodology for the Assessment of Project GHG Emissions and Emission Variations dated January 2023 was used to compute CO₂ emissions avoided.
- Country-specific combined margins for intermittent electricity generation were used as baseline. Source as follow:
https://www.eib.org/attachments/lucalli/eib_project_carbon_footprint_methodologies_2023_en.pdf
- For pure ESS project, assumption that the ESS fully charged and discharged once per day to calculate the expected energy production is considered.

Framework Overview

Hanwha Energy USA updated the Green Financing Framework (the “Framework”) in May 2022 to facilitate issuing bonds that contribute to sustainable development.

The financing and/or investments in renewable energy: A maximum 3-year look-back period

Use of Proceeds

- Renewable Energy**
 - Development, construction, installation, maintenance, and the procurement of parts of **solar energy production units**
- Energy Storage System and Grids**
 - Research and development, construction, manufacturing, installation, operation and maintenance and augmentation of **energy storage system and facilities**
 - Installation and operation of **utility-scale batteries**
- Green Hydrogen**
 - Production of **green hydrogen** using 100% renewable energy
 - R&D, manufacturing, operation and maintenance of **hydrogen charging systems** to facilitate the development of hydrogen-fueled mobility solutions

The projects are reviewed by the Investment Committee, comprised of representatives from the Development Team, Engineering Team, Operations & Maintenance Team, Legal Team, and Project Finance team, through a three-step process:

Evaluation and Selection of Projects

- Pre-Deal Request Committee (“Pre-DRC”)**: To evaluate the possibility of project development based on assessment of economic feasibility and environmental impact
- Deal Request Committee (“DRC”)**: To review and approve main contracts
- Global Investment Committee (“GIC”)**: To conduct the final reviews

After selection, Business Planning and Strategy Team coordinates with the Development Team to continuously monitor whether the project developments remain in line with the Framework .

A ledger is established to record the allocation of proceeds. The ledger will contain but not limited to the following information:

Management of Proceeds

- Green Bonds details**: pricing/ maturity date, principal amount of proceeds, coupon, ISIN etc.
- Allocation of Proceeds**: list of eligible green projects, amount allocated and unallocated proceeds, etc.

Any proceeds temporarily unallocated are placed in short-term liquid money instruments such as cash and market securities according to the internal investment guidelines.

On an annual basis until full allocation of proceeds and on a timely basis in case of material changes, Hanwha Energy USA will provide a dedicated green bond report with allocation and impact reporting.

Reporting

The Allocation & Impact Reporting will be made public on Hanwha Energy USA Holdings website: <https://174powerglobal.com/company/#green-bond>

Second Party Opinion



“...confident that Hanwha Energy USA is well-positioned to issue green bonds and that the Hanwha Energy USA Green Financing Framework is robust, transparent, and in alignment with the four core components of the Green Bond Principles 2021...”