

# MASDAR GREEN FINANCE REPORT

Allocation and Impact Report 2023



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## **Assurance Approach**

Abu Dhabi Future Energy Company PJSC – Masdar (Masdar) appointed Ernst & Young LLP (EY) to provide independent assurance over certain sustainability metrics, indicated with an (\*) in this report. The assurance engagement was planned and performed in accordance with the International Standard on Assurance Engagements (UK) 3000 (July 2020), Assurance Engagements Other than Audits or Reviews of Historical Financial Information. An assurance report was issued and is included within this consolidated report which includes further details on the scope, respective responsibilities, work performed, limitations and conclusion.

# 1.0 INTRODUCTION

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## **Masdar as a pioneer in renewable energy**

Abu Dhabi Future Energy Company PJSC – Masdar (“Masdar”) is delighted to present its second Green Finance Allocations and Impact Report. Following the release of our Green Finance Framework in February 2023, this updated report aims to provide transparency regarding our continued commitment to Green Finance by detailing existing Green Finance Instruments and the projects they have supported.

Since Masdar was first established by the UAE leadership in 2006 as a renewable energy pioneer, Masdar has been on a path of unprecedented growth that has accelerated the deployment of clean energy at home and around the world. Today, Masdar has grown to become a global clean energy powerhouse, active in over 40 countries across five continents. As at 31 March 2024, Masdar’s portfolio encompasses over 21 gigawatts (“GW”) of gross generational clean energy capacity, including operational, under construction, and committed utility scale projects. Masdar also has a pipeline of a further 10 GW of opportunities in various stages of development.

In 2022, Masdar officially welcomed Abu Dhabi National Oil Company (“ADNOC”) and Abu Dhabi National Energy Company PJSC (“TAQA”) as Masdar’s shareholders alongside Mubadala Investment Company (“Mubadala”), setting out on an ambitious course to grow our clean energy capacity to 100 GW by 2030. In doing so, we also continued to build on Masdar’s strong foundations for achieving this milestone, which are some of the most ambitious clean energy targets in the world.

As a clean energy pioneer, and enabler of the UAE’s vision as a global leader in sustainability and climate action, Masdar’s ambitions are built upon its commitment to sustainability and upholding the highest ESG standards. In every project we undertake in the UAE and around the world, ESG is woven into everything we do as we strive towards reaching net-zero goals on a global scale. Ultimately, central to our mission is to ensure we have a positive impact on the environment and support all communities in reducing their carbon footprint.



# 2.0

## Masdar's contribution to the SDGs through Sustainable Finance

As a prominent player in renewable energy and clean technology, Masdar feels a responsibility to leverage our resources and innovative capabilities to contribute to the achievement of the UN's Sustainable Development Goals ("UN SDGs"). As a result, Masdar is making a significant contribution across multiple SDGs through its core operations and strategic platforms. This is especially important in how Masdar chooses its investments. Since 2006, Masdar has built a balanced and resilient portfolio that has delivered long-term value and strong operational results, while prioritising positive environmental and social impact. Masdar's Green Finance Framework seeks to contribute to the UN SDG 7 (Affordable and Clean Energy) and 13 (Climate Action) in particular.

### Affordable and Clean Energy



Masdar has made several efforts to contribute to the UN SDG 7 (Affordable and Clean Energy). The company has a global target of 100 GW of renewable energy capacity by 2030, and as at 31 March 2024 Masdar achieved a total production capacity of 21.55 GW across its clean energy projects worldwide. In addition, Masdar aims to reach an annual capacity of 1 million tonnes of green hydrogen by 2030, which would reduce CO2 emissions by over 6 million tonnes.

### Climate Action



Masdar's projects have a direct and tangible impact in the fight against climate change around the world. In 2023, Masdar demonstrated this through abating approximately 11 million tonnes of CO2 emissions<sup>1</sup>.

### Masdar's approach to managing environmental and social issues

Masdar acts on its sustainability vision and mission by implementing key policies that prioritize positive environmental impact and embed sustainable practices at the core of the business. All our employees are trained in the right policies and procedures to ensure that every step is taken in the right direction. These policies include:

1. Excluding Masdar's 15% share of Pertamina Geothermal's assets.

<p><b>Environmental and Social Impact Assessment</b></p>	<p>All our clean energy projects are subject to mandatory environmental impact assessments. This includes Biodiversity Management Plans to demonstrate no net loss of natural habitat and species occurs, with appropriate mitigation measures in place. In order to promote transparency, the Environmental and Social Impact Assessments of our projects are publicly available for consultation.</p>
<p><b>Health, Safety, Environment and Quality</b></p>	<p>A Corporate Quality, Health, Safety and Environment (“QHSE”) and Occupational Safety and Health (“OSH”) management systems, which reference achieving no damage to the environment and no risk for stakeholders. We are also certified for ISO 45001:2018 Management system. All our Policies and Procedures are in line with this.</p>
<p><b>Supply chain &amp; Procurement</b></p>	<p>A sustainable procurement policy, which is followed by the procurement committees, tender committee and bid opening committee. We require all suppliers to disclose information on their sustainability performance. As part of the sourcing of the photovoltaic modules for its projects, Masdar undertakes to ensure there is no forced labor in the supply chain and ensures compliance with Internationally recognized environmental and social standards (including the International Labor Organization conventions).<sup>2</sup></p>
<p><b>Non-discrimination</b></p>	<p>We have zero-tolerance towards discrimination, violence, abuse and sexual harassment. Our equal pay policy advocates that the salary of each employee is directly driven by the job evaluation and grading scale.</p>

2. More details about our actions and Supply Chain policies can be found in our Sustainability Report 2022.

# 3.0

## Highlights of 2023

### **COP28 – UAE Consensus**

Masdar showcased its pivotal role in advancing the UAE's sustainability and climate action agenda at the United Nations Climate Conference COP28. With deals inked across six continents, Masdar spearheaded the energy transition in response to the all too real impacts of climate change. At the conference held in Expo City Dubai from November 30 to December 12, 2023, attended by over 70,000 participants, Masdar kicked off with a landmark GBP11 billion partnership with RWE in the UK offshore wind market, announced by UK Prime Minister Rishi Sunak. Over two weeks, Masdar sealed 36 deals worldwide and engaged in extensive events and communication campaigns, including 360 events, 35 hours of specialist programming, and participation in 45 events and over 60 interviews with international media. COP28 culminated in the historic UAE Consensus, uniting 198 parties behind an enhanced package to accelerate global climate action. Masdar remains committed to translating these commitments into tangible actions, aiming to triple global renewable energy capacity by 2030.

### **Masdar's inaugural Green Finance Framework has been published**

To finance our ambition, Masdar seeks to introduce itself to the sustainable debt capital markets and invite financial institutions and investors to be a part of this journey to clean energy. In preparation to this, on 23 February 2023, Masdar published its inaugural Green Finance Framework ("GFF") (updated on 18 May

2023 pursuant to the release of the latest Green Loan Principles and Climate Bond Standard v4). Moody's Investors Service conducted an external review and assigned a Sustainability Quality Score of SQS1 (Excellent), the highest possible rating. The rating of SQS1 reflects the best-in-class alignment of the GFF with the four components of the International Capital Markets Association's Green Bond Principles ("GBP"), dated 2021, and the Green Loan Principles ("GLP") of the Asia Pacific Loan Market Association, the Loan Market Association, and the Loan Syndications and Trading Association, dated 2023, and a high expected contribution to sustainability.

### **Debut Green Bond Issuance and Climate Bond Standard V4.0 Certification**

In July 2023, Masdar successfully issued its inaugural green bond, raising US\$750 million through 10-year senior unsecured Notes. The bond, oversubscribed by 5.6 times, reflects strong investor confidence in Masdar's financial robustness and its 17-year track record in sustainability. The issuance attracted significant interest from both regional and international investors, with 87.5% of the allocation going to international investors and 12.5% to MENA investors. This issuance marks the first step in a larger programme aiming to raise up to US\$3 billion to support Masdar's equity funding commitments for new renewable energy projects, as part of its strategy to achieve 100GW of capacity by 2030. The Climate Bonds Standard certification of our Green Finance Framework, debut green bond and selected renewable energy assets further endorses our green credentials and demonstrates that Masdar meets the highest standards for climate integrity.

## Masdar signed new agreements to develop renewable energy increasing our combined capacity in excess of 30 GW

In 2023 Masdar made significant strides in advancing the clean energy transition on a global scale whilst supporting the UAE’s ongoing sustainable economic development. In addition to its portfolio of operating and under construction projects, Masdar has signed various agreements to develop and acquire renewable energy projects which will bring the total gross capacity of the group to in excess of 30 GW.

Masdar entered into the geothermal energy sector in February 2023 through a strategic investment in Pertamina Geothermal Energy (“PGE”), one of the world’s largest geothermal players.

This investment complements Masdar’s strong existing footprint in Indonesia, the world’s second largest geothermal market, and demonstrates its continuing commitment to Indonesia’s energy transition. In March 2023, Infinity Power, a joint venture between Masdar and Infinity (Egypt), acquired a 100% shareholding of Lekela Power, an Africa-based wind power platform. Through its investment in Infinity Power, Masdar has extended its reach across Africa and is supporting developing nations in their clean energy transitions. This acquisition gives Infinity Power greater scale to deploy practical climate solutions that deliver measureable outcomes, in line with the COP28 objective of being inclusive, transparent, pragmatic, and results oriented.

# 4.0

## Our Green Finance Instruments

### Overview of Masdar’s outstanding Green Bonds (as of 31 December 2023)

Masdar successfully issued its inaugural green bond in July 2023, raising US\$750 million through 10-year senior unsecured Notes. The bond, oversubscribed by 5.6 times, reflects strong investor confidence in Masdar’s financial robustness and its 17-year track record in sustainability. The issuance attracted significant interest from both regional and international investors, with 87.5% of the allocation going to international investors and 12.5% to MENA investors.

All Masdar’s future issuances in the loan and debt capital markets will be guided by our Green Finance Framework, in line with best practices in the sustainable finance industry.

ISIN	Bond type	Face Value (U.S.\$)	Coupon	Issuance Date	Maturity Date	Total Allocated Proceeds (U.S.\$) (*)	Total Unallocated Proceeds (U.S.\$)
XS2651619285	Senior	750,000,000	4.875 %	25 July 2023	25 July 2033	653,079,921	96,920,079
<b>TOTAL</b>						<b>653,079,921</b>	<b>96,920,079</b>

(\*) Within scope of EY Assurance. Refer to the front page and to section 7 of this report for more information.

## Overview of Masdar's outstanding Green Loan Instrument (as of 31 December 2023)

In August 2023, Masdar repaid and cancelled its first two green 'bridge-to-bond' facilities using the Green Bond proceeds. A new green syndicated bridge facility was signed in December 2023 and is undrawn as of 31 December 2023.

Type	Issue date	Net Drawn Proceeds (U.S.\$)	Proceeds Disbursed (U.S.\$)	Proceeds Allocated 2023 (U.S.\$)	Total Proceeds Allocated (U.S.\$)	Unallocated Proceeds (U.S.\$)
Syndicated green loan	December 2023	0	0	0	0	0
<b>TOTAL</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## 5.0 Green Bond Allocation Summary

The table below displays eligible projects in Masdar's Green Finance Register, as of 31 December 2023. Case studies for selected projects can be found in Section 6.

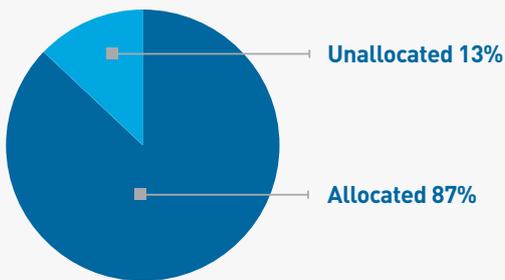
Net proceeds from Masdar's green finance instruments have been used exclusively to finance and/or refinance new or existing project as set out in the [Green Finance Framework](#)<sup>3</sup>

Project Name	Eligible Green Project Sub-Category	Nominal Project Capacity	Contracted Project Capacity	Project Location	Masdar Ownership Percentage	Total Green Bond allocation as of 31/12/2023 <sup>(*)</sup>	% of Masdar total equity commitment
		MW	MW			U.S.\$	
Jizzakh PV	Solar	221	220	Uzbekistan	100%	77,635,163	100%
Samarkand PV	Solar	221	220	Uzbekistan	100%	75,513,521	100%
Sherabad PV	Solar	497	457	Uzbekistan	100%	182,077,417	100%
Zarafshan Wind	Wind	522	500	Uzbekistan	100%	154,620,031	69%
Garadagh / Area 60 PV	Solar	230	230	Azerbaijan	100%	153,653,349	100%
Bukhara PV+BESS	Solar and Energy Storage	250 (+63)	250(+63)	Uzbekistan	100%	9,036,000	15%
DEWA 6 PV / Shuaa Energy 4 Solar Photovoltaic Plant	Solar	1,800	1,800	UAE	40%	544,440	0.26%
<b>TOTAL</b>	<b>-</b>	<b>3,741</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>653,079,921</b>	<b>-</b>

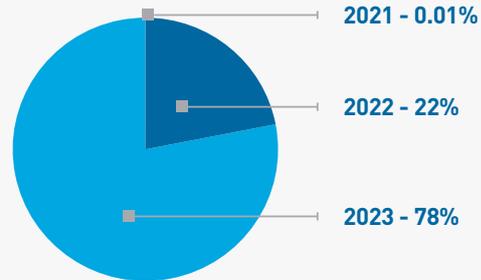
3. Link to Masdar's Green Finance Framework

(\*) Within scope of EY Assurance. Refer to the front page and to section 7 of this report for more information.

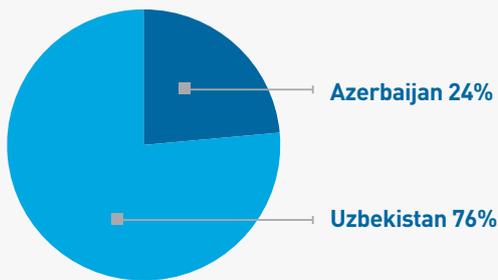
### Share of Green Bond proceeds allocated...



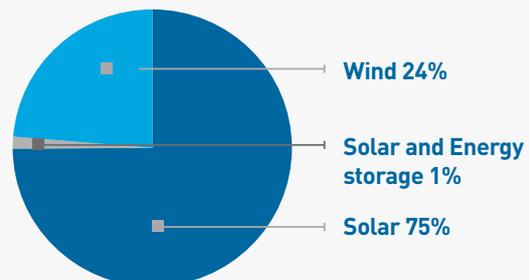
### ...per year (% of allocated proceeds)



### ...per country (% of Allocated proceeds)



### ...per eligible sub-category (% of Allocated proceeds)



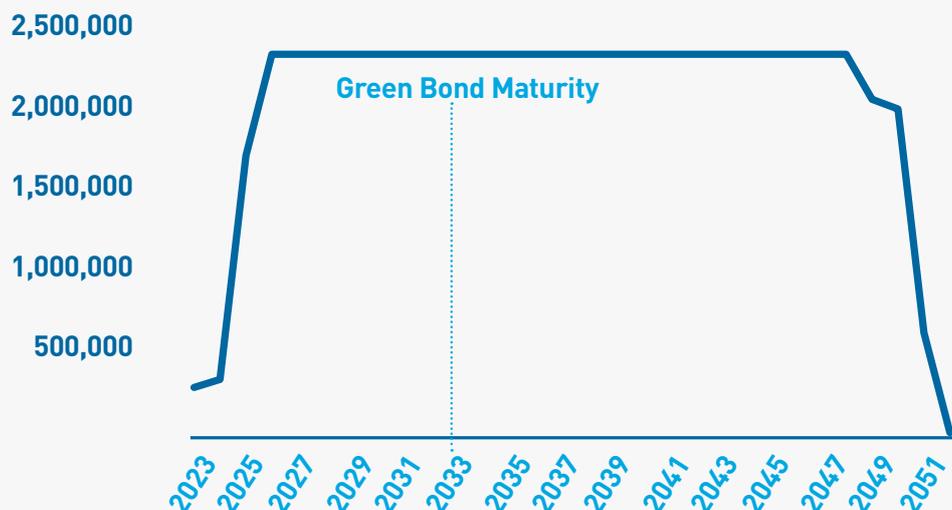
## 6.0 Sustainability Impact of Our Projects

All projects developed and managed by Masdar aim at delivering environmental and social benefits to local communities and to the world in general. The positive impact from the projects financed by the U.S.\$750m Green bond are described below. We have estimated these impacts in accordance with the indicators proposed in Masdar's Green Finance Framework.

Project Name	Eligible Green Project Sub-Category	Nominal Project Capacity (1)(*)	Contracted Project Capacity	Start of operations	Annual project energy generation (2)(*)	Intermittent energy emission factors (3)	Total project avoided emissions	Masdar Green Bond Impact (4)(*)
		MW	MW		(GWh)	gCO2/kWh	(tCO2 / year)	(tCO2 / year)
Jizzakh PV	Solar	221	220	2025	577	558	321,966	321,966
Samarkand PV	Solar	221	220	2025	562	558	313,596	313,596
Sherabad PV	Solar	497	457	2026	1,078	558	601,524	601,524
Zarafshan Wind	Wind	522	500	2025	1,805	558	1,007,190	693,312
Garadagh / Area 60 PV <sup>(5)</sup>	Solar	230	230	2023	568	478	271,504	271,504
Bukhara PV+BESS	Solar and Energy Storage	250 (+63)	250(+63)	2025	623	558	347,634 <sup>(6)</sup>	52,179
DEWA 6 PV / Shuaa Energy 4 Solar Photovoltaic Plant	Solar	Phase A : 600 Phase B : 400 Phase C : 800	1,800	2024 2025 2027	1,877 1,221 2,390	464	2,546,432	2,641
<b>TOTAL</b>	<b>-</b>	<b>3,741</b>		<b>-</b>	<b>10,701</b>		<b>5,387,574</b>	<b>2,256,722</b>

(\*) Within scope of EY Assurance. Refer to the front page and to section 7 of this report for more information.

## GHG emissions avoided (tCO2) by Masdar's Green Bond



1. Nominal capacity (or grid limitation capacity if inferior to nominal capacity) is provided by third party technical reports.
2. P50 annual generation per ILF yield assessment (projects lenders' technical advisors).
3. Source: Emission factors based on the International Financial Institution ("IFI") Dataset of Default Grid Factors v.3.2 from April 2022, created by the IFI Technical Working Group on GHG Accounting:
4. Masdar Green Bond Impact is calculated on the basis of Masdar's ownership share of the project.
5. Garadagh commenced operations in 3Q 2023, energy generation data has been estimated from technical reports.
6. Avoided emissions and energy generated for Bukhara project are calculated for the photovoltaic ("PV") plant only and avoided emissions related to battery storage have not been included to avoid double counting.

[IFI TWG - List of methodologies | UNFCCC](#)

The methodological approach can be found on the UNFCCC's website:

[IFITWG Methodological approach to common dataset.pdf \(unfccc.int\)](#)

As a result, the potential estimated avoided emissions from the Green Bond referenced under this report, is 3,455 tCO2 eq./ m U.S.\$/ year(\*).

(\*) Within scope of EY Assurance. Refer to the front page and to section 7 of this report for more information.

# 7.0

## Overview of Projects with Green Finance Allocations

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This section provides information on the eligible projects which have been financed by the U.S. \$750m Green Bond. Information on Garadagh Solar Photovoltaic Plant and Zarafshan Onshore Wind Farm can be found on our 2022 Green Finance Report.

### **JIZZAKH SOLAR PHOTOVOLTAIC PLANT**

Location: [Djizzakh, Uzbekistan](#)

In July 2021, Masdar signed an agreement with the Ministry of Investment and Foreign Trade of the Republic of Uzbekistan and JSC National Electric Grid of Uzbekistan to design, finance, build and operate a 220-megawatt (“MW”) utility-scale solar PV project. As lead transaction advisor, the International Finance Corporation assisted the Government of Uzbekistan to structure the projects and organize the selection of the winning bidder through an open tender process, under its Scaling Solar program.

The project will supply electricity to 50,000 homes, mitigate 333,000 tonnes of CO2 annually, and support Uzbekistan’s national goal of developing 7 GW of solar and 5 GW of wind capacity by 2030.



## Applicable Environmental and Social Mitigation Programmes

- Develop and implement a Project Environmental and Social Management System (“ESMS”), aligned with the Lenders requirements and ISO standards.
- Develop and implement a Human Resources Policy (“HRP”) applicable to both employees, non-employee workers and contractors.
- Implement the employee grievance mechanism and the community grievance mechanism with support of CLOs.
- Delivery of resettlement compensation, transitional support, and vulnerability assistance to Project Affected Persons (“PAP”) identified over the course of the Livelihood Restoration Plan (“LRP”) development.
- Implementing measures to ensure No Net Loss (“NNL”) of Priority Biodiversity Features (“PBF”) avifauna species including anti-collision and anti-electrocution measures as well as the required fatality monitoring. Offset options are also being considered, in addition to measures to ensure net gain (“NG”) for the Great Bustard.
- Micro siting the Overhead Transmission Line (“OHTL”) towers with the supervision of an archaeological expert and applying a chance find procedure for potential archaeological finds.

### QUICK FACTS



**220 MW** utility-scale solar PV plant



Will power approximately **50,000 homes**



Commercial operation is **expected in 2025**



Will mitigate **330,000 tonnes** of carbon dioxide annually

## SAMARKAND SOLAR PHOTOVOLTAIC PLANT

Location: Samarkand, Uzbekistan

In July 2021, Masdar signed an agreement with the Ministry of Investment and Foreign Trade of the Republic of Uzbekistan and JSC National Electric Grid of Uzbekistan to design, finance, build and operate a 220 MW utility-scale solar PV project. As lead transaction advisor, the International Finance Corporation assisted the Government of Uzbekistan to structure the projects and organize the selection of the winning bidder through an open tender process, under its Scaling Solar program.

In addition to the Samarkand Solar Project, Masdar is further expanding its footprint in the Republic of Uzbekistan through the development of two utility-scale solar PV projects located in the Surkhandarya and Jizzakh regions with a generating capacity of 457 MW and 220 MW respectively. These projects add to Masdar's successful track record in the country, building from the 100 MW Nur Navoi Solar Project that achieved commercial operations in August 2021 and the 500 MW Zarafshan Wind Farm, which achieved financial close in September 2022.

The projects also support Uzbekistan's national goal of developing 7 GW of solar and 5 GW of wind capacity by 2030.



## Applicable Environmental and Social Mitigation Programmes

- Develop and implement a Project ESMS, aligned with the Lenders requirements and ISO standards.
- Develop and implement a HRP applicable to both employees, non-employee workers and contractors.
- Implement the employee grievance mechanism and the community grievance mechanism with support of CLOs.
- Delivery of resettlement compensation, transitional support, and vulnerability assistance to PAPs identified over the course of the LRP development.
- Implementing activities to reach no net loss including the collection and placement of all tortoises from the site into a nursery within the site during their active period in the spring; installation of bird flight divertors and aviation balls for reducing the risk of bird collision on the project OHTL. Implementing required fatality monitoring and offset measures, in addition to measures to ensure NG for the Great Bustard.
- Developing and applying a chance find procedure for potential archaeological finds.

### QUICK FACTS



**220 MW** utility-scale solar PV plant



Will power approximately **49,000 homes**



Commercial operation is **expected in 2025**



Will mitigate **325,000 tonnes** of carbon dioxide annually

## SHERABAD SOLAR PHOTOVOLTAIC PLANT

Location: Surkhandarya, Uzbekistan

In August 2021, Masdar signed an agreement with the Ministry of Investment and Foreign Trade of the Republic of Uzbekistan and JSC National Electric Grid of Uzbekistan to design, finance, build and operate a 457 MW utility-scale solar PV project. As lead transaction advisor, the Asian Development Bank assisted the Government of Uzbekistan to structure the project and organize the selection of the winning bidder through an open tender process. In addition to the Sherabad Solar Project, Masdar is further expanding its footprint in the Republic of Uzbekistan through the development of two utility-scale solar PV projects located in the Djizzakh and Samarkand regions, each with a generating capacity of 220 MW. These projects add to Masdar's successful track record in the country, building from the 100 MW Nur Navoi Solar Project that achieved commercial operations in August 2021 and the 500 MW Zarafshan Wind Farm, which achieved financial close in September 2022.

The projects also support Uzbekistan's national goal of developing 7 GW of solar and 5 GW of wind capacity by 2030.



## Applicable Environmental and Social Mitigation Programmes

- Develop and implement a Project ESMS, aligned with the Lenders requirements and ISO standards.
- Develop and implement a HRP applicable to both employees, non-employee workers and contractors.
- Implement the Employee grievance mechanism and the community grievance mechanism.
- Delivery of resettlement compensation, transitional support, and vulnerability assistance to PAPs identified over the course of the LRP development.,
- Regarding biodiversity aspects, several mitigation measures are and were implemented including: establishing exclusion zones taking into consideration the Uzbekistan Red Listed flowering plant Chesneya tribuloides. Implementing measures to ensure NNL of PBF avifauna species including anti-collision and anti-electrocution measures as well as the required fatality monitoring. Implementing measures to ensure NG for the Tajikistan toadhead agama.
- Micro siting the OHTL towers with the supervision of an archaeological expert and applying a chance find procedure for potential archaeological finds.

### QUICK FACTS



**457 MW** capacity  
solar PV plant



Will power approximately  
**94,000 homes**



Commercial operation  
is **expected in 2026**



Will mitigate  
**623,477 tonnes** of carbon  
dioxide annually

## **NUR-BUKHARA SOLAR PHOTOVOLTAIC PLANT + BATTERY ENERGY STORAGE SYSTEM**

Location: Bukhara, Uzbekistan

In April 2023, Masdar signed a Power Purchase Agreement (“PPA”) and Government Support Agreement (“GSA”) with the Government of the Republic of Uzbekistan to design, finance, build and operate the 250 MWac Solar PV and 63 MW/126 MWh capacity of battery energy storage system (“BESS”) project in the Bukhara region, Uzbekistan, the first of its kind in the CIS region. The project was awarded to Masdar under the International Finance Corporation’s Scaling Solar Program Round 3, following a competitive tender featuring more than 10 pre-qualified bidders, with Masdar bidding the lowest tariff. It is scheduled to achieve commercial operations by the end of 2024 and will produce enough power for over 55,000 households, displacing around 367,000 tonnes of CO2 per year. Masdar has multiple renewable energy projects at various stages of operation and development in Uzbekistan. Nur Navoi was the first Masdar project to begin operations in Uzbekistan in August 2021, and the company has since secured a number of additional projects including an agreement to develop, build and operate a 500 MW wind farm in Zarafshan, set to be the largest in Central Asia.

The projects also support Uzbekistan’s national goal of developing 7 GW of solar and 5 GW of wind capacity by 2030. Under the IFC’s Scaling Solar programme, Uzbekistan plans to install 1 GW of solar PV power.



## Applicable Environmental and Social Mitigation Programmes

- Development of an ESMS aligned with National Law, Lender Standards and ISO Standards.
- Biodiversity Action Plan to achieve no net loss and net gain on relevant target species.
- Project design changes to minimise impacts on listed plants.
- Develop and implement a HRP applicable to both employees, non-employee workers and contractors.
- Implement the employee grievance mechanism and the community grievance mechanism with support of CLOs.
- Delivery of resettlement compensation, transitional support, and vulnerability assistance to PAPs identified over the course of the LRP development.
- Gender Management Plan developed to streamline women equality considerations across the Project lifecycle.

### QUICK FACTS



**250 MW** utility-scale solar PV and **63 MW** Battery Storage System



Will power approximately **55,000 homes**



Commercial operation is **expected in 2024**



Will mitigate **367,000 tonnes** of carbon dioxide annually

## **DEWA 6 / SHUAA ENERGY 4 SOLAR PHOTOVOLTAIC PLANT**

Location: Dubai, United Arab Emirates

Masdar has been selected as the Preferred Bidder to build and operate the sixth phase of the 1800-MW Mohammed bin Rashid Al Maktoum Solar Park, using photovoltaic solar panels based on the Independent Power Producer (“IPP”) model. This phase will provide clean energy for approximately 540,000 residences and will reduce around 2.36 million tonnes of carbon emissions annually. The project will cover an area of 20 square kilometres. In addition, the 6th phase has achieved the lowest Levelized Cost Of Energy (“LCOE”) of US\$1.6215 cents per kilowatt hour (kWh) in the Solar Park. For the 6th phase of the Solar Park, DEWA established Shuaa Energy 4 in partnership with Masdar.

DEWA owns 60% of the company, Masdar owns the remaining 40%.



## Applicable Environmental and Social Mitigation Programmes

- Development of an ESMS aligned with National Law, Lender Standards and ISO Standards.
- Biodiversity Action Plan to achieve no net loss and net gain on relevant target species, including gaff trees and gazelles.
- Develop and implement a HRP applicable to both employees, non-employee workers and contractors.
- Implement the employee grievance mechanism and the community grievance mechanism with support of CLOs.

### QUICK FACTS



**1800 MW** capacity  
solar PV plant



Will provide electricity to  
**540,000 homes**



Total Solar Park  
capacity will exceed  
**5,000 MW by 2030**



Will mitigate  
**2,360,000 tonnes** of carbon  
dioxide annually

# 8.0

## Assurance Report



Ernst & Young LLP  
25 Churchill Place,  
London,  
E14 5EY

Tel: + 44 20 7951 2000  
Fax: + 44 20 7951 1345  
ey.com

### **INDEPENDENT ASSURANCE REPORT TO THE DIRECTORS OF Abu Dhabi Future Energy Co – PJSC – MASDAR ON SELECTED METRICS WITHIN THE ALLOCATION AND IMPACT REPORT 2023**

EY was engaged by Abu Dhabi Future Energy Co – PJSC – MASDAR (the ‘Company’) to perform an assurance engagement in accordance with International Standard on Assurance Engagements (UK) 3000 July 2020, in respect of selected performance metrics attached as Appendix A (the ‘Subject Matter’) presented in the Allocation and Impact Report as at 31 December 2023.

The subject matter is marked up with an asterisk (\*) within the Report. Other than as described in the preceding paragraph, which sets out the scope of our engagement, we did not perform assurance procedures on the remaining information included in the Report, and accordingly, we do not express an opinion or conclusion on this information.

This report is produced in accordance with the terms of our engagement letter dated 1 May 2024 for the purpose of reporting to the Directors of the Company in connection with the assurance of selected performance metrics for the period ended 31 December 2023.

This report is made solely to the Company’s Directors, as a body, in accordance with our engagement letter dated 1 May 2024. Those terms permit disclosure on Abu Dhabi Future Energy Co – PJSC – MASDAR’s website, solely for the purpose of the Company showing that it has obtained an independent assurance report in connection with the Selected Information. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company’s Directors as a body, for our examination, for this report, or for the opinions we have formed.

Our work has been undertaken so that we might report to the Directors those matters that we have agreed to state to them in this report and for no other purpose. Our report must not be recited or referred to in whole or in part in any other document nor made available, copied or recited to any other party, in any circumstances, without our express prior written permission. This engagement is separate to, and distinct from, our appointment as the auditors to the company.

#### **Responsibilities of the company**

As Directors of the company, you are responsible for the Subject Matter which is attached as Appendix A to this report. The Directors of the company remain solely responsible for presenting the Subject Matter in accordance with Masdar’s Green Finance Framework and the methodology as described within the framework and within the Allocation and Impact Report (the ‘Criteria’).

#### **Responsibilities of Ernst & Young LLP**

It is our responsibility to provide a conclusion on the Subject Matter based on our examination. The Criteria has been used as the basis on which to evaluate the measurement and presentation of the Subject Matter as defined in Appendix A.

#### **Our approach**

We conducted our engagement in accordance with International Standard on Assurance Engagements (UK) 3000 (July 2020) *Assurance engagements other than audits or reviews of historical financial information* (“ISAE (UK) 3000 (July 2020)”) as promulgated by the Financial Reporting Council (FRC). For the purpose of the engagement, we have been provided by the directors with the Subject Matter. The directors of the company remain solely responsible for the Subject Matter.

In performing this engagement, we have applied International Standard on Quality Management (ISQM) 1 and the independence and other ethical requirements of the Institute of Chartered Accountants of



England and Wales (ICAEW) Code of Ethics (which includes the requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants (IESBA)).

We have performed the procedures agreed with you and set out in our engagement letter dated 1 May 2024. Our work included, but was not limited to:

- Gaining an understanding of the reporting process through interview with management responsible for ESG and Sustainability management and reporting;
- Reviewing systems and procedures management have in place to capture, collate, aggregate, validate and process source data for the in-scope KPI and metrics that will be included within the Allocation and Impact Report over which we will provide limited assurance;
- Analytical procedures, process walkthroughs, and other substantive procedures as deemed necessary to obtain limited assurance; and
- Reviewing the Information Provided by the Entity (“IPE”) (i.e. any information provided to us utilising your IT applications, End User Computing tools or other means) to the extent that the procedures support our ability to form a limited assurance conclusion.

The objective of a limited assurance engagement is to perform such procedures as to obtain information and explanations in order to provide us with sufficient appropriate evidence to express a negative conclusion on the Subject Matter. The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

### **Inherent limitations**

Our conclusion is based on historical information and the projection of any information or conclusions in the attached report to any future periods would be inappropriate. Our examination excludes audit procedures such as verification of all assets, liabilities and transactions and is substantially less in scope than an audit performed in accordance with International Standards on Auditing (UK) and therefore provides a lower level of assurance than an audit. Accordingly, we do not express an audit opinion on the information.

### **Conclusion**

Based on the procedures performed and evidence obtained, nothing has come to our attention that causes us to believe that the accompanying subject matter information as defined in Appendix A is not fairly stated, in all material respects, based on the applicable criteria.

*Ernst & Young LLP*

Ernst & Young LLP

London

03 July 2024

## Appendix A: Subject Matter Information

The metrics listed below constitute the selected performance metrics in scope of assurance (the 'Subject Matter')

Subject Matter Information subject to Limited Assurance		
<b>Allocation and Impact Report 2023: Renewable Energy</b>	1a	Renewable energy capacity in MW
	1b	Annual project energy generation in GWh
	1c	Masdar Green Bond Impact in tonnes of CO2 equivalent per year
	1d	Total Green Bond Allocation as at 31/12/2023 in US \$

The assured values are as follows:

Project Name	Renewable Energy Capacity (MW)	
Jizzakh PV	221	
Samarkand PV	221	
Sherabad PV	497	
Zarafshan Wind	522	
Garadagh / Area 60 PV	230	
Bukhara PV+BESS	250	
<b>DEWA 6 PV / Shuaa Energy 4 Solar Photovoltaic Plant</b>	Phase A	600
	Phase B	400
	Phase C	800
<b>Total</b>	<b>3,741</b>	

Project Name		Annual Project Energy Generation (GWh)
Jizzakh PV		577
Samarkand PV		562
Sherabad PV		1,078
Zarafshan Wind		1,805
Garadagh / Area 60 PV		568
Bukhara PV+BESS		623
DEWA 6 PV / Shuaa Energy 4 Solar Photovoltaic Plant	Phase A	1,877
	Phase B	1,221
	Phase C	2,390
<b>Total</b>		<b>10,701</b>

Project Name		Masdar Green Bond Impact (tCO2e/year)
Jizzakh PV		321,966
Samarkand PV		313,596
Sherabad PV		601,524
Zarafshan Wind		693,312
Garadagh / Area 60 PV		271,504
Bukhara PV+BESS		52,179
DEWA 6 PV / Shuaa Energy 4 Solar Photovoltaic Plant	Phase A	2,641
	Phase B	
	Phase C	
<b>Total</b>		<b>2,256,722</b>

<b>Project Name</b>	<b>Total Green Bond Allocation as at 31/12/2023 (US \$)</b>
Jizzakh PV	77,635,163
Samarkand PV	75,513,521
Sherabad PV	182,077,417
Zarafshan Wind	154,620,031
Garadagh / Area 60 PV	153,653,349
Bukhara PV+BESS	9,036,000
DEWA 6 PV / Shuaa Energy 4 Solar Photovoltaic Plant	544,440
<b>Total</b>	<b>653,079,921</b>

## **Masdar**

PO Box 54115, Abu Dhabi, UAE

**T** +971 2 653 3333, **E** [info@masdar.ae](mailto:info@masdar.ae)

[www.masdar.ae](http://www.masdar.ae)

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