

# Corporate Factsheet

# FAST FACTS

## ABOUT MASDAR

Masdar is one of the world's leading renewable energy companies, positioning the UAE at the forefront of the global energy transition. Since inception in 2006, Masdar has been a pioneer in clean energy and has developed and partnered in projects in more than 40 countries. Our worldwide portfolio of investments, which are either operational, under construction or in exclusive development, have a combined value of more than US\$30 billion. The combined capacity of these projects is more than 20GW – enough to power 5.25 million homes. Altogether, these are expected to displace more than 30 million tonnes of carbon dioxide per year – equivalent to taking 6.5 million cars off the road.

Masdar's latest evolution sees it bringing together three UAE energy champions –

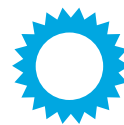


– as its shareholders, enabling the company to utilize their combined expertise to become a truly global clean energy powerhouse across renewables and now green hydrogen.

As the UAE takes on the responsibility of hosting the United Nations Conference of Parties 2023 (COP28), the supercharged Masdar will accelerate growth and reinforce the UAE's commitment to become one of the

world's largest, and potentially the largest, investor in renewable energy and green hydrogen, supporting countries around the world with their own decarbonization plans. In service of this, Masdar is targeting:

- A portfolio capacity of more than 100GW by 2030, with ambitions to double that in the years to come



**100 GW**  
Capacity by 2030

- Production of 1 million tonnes of green hydrogen by 2030 through the new Masdar green hydrogen business



**1 million**  
Tonnes of green hydrogen by 2030

## ENERGY LEADERSHIP

Masdar, as the UAE's clean energy powerhouse, will drive clean energy growth, tackle climate challenges and accelerate an equitable energy transition. Transforming Masdar into the world's largest renewable energy company and global green hydrogen leader will also place the UAE at the forefront of the energy transition and highlight the UAE's pioneering leadership in the run-up to COP28 and beyond.



# FOUR PILLARS OF MASDAR



## Developing Renewable Energy

As a renewable energy developer, Masdar is building and investing in some of the world's most sophisticated commercially-driven clean energy projects in solar, wind, waste to energy, energy storage, and energy services. Masdar also delivers specialized small- and medium-sized renewable energy applications and operates projects in areas presenting unique energy and technology challenges. Masdar has utility-scale and off-grid projects in over 40 countries.



## Smart First-Mover in Green Hydrogen

Masdar has been active in hydrogen production and power generation as far back as 2008. Although plans then were ahead of their time, Masdar believes the time is now right to significantly accelerate investment in this technology, to advance the sector to diversify the UAE's economy and realize the global clean energy transition. Masdar is now collaborating with other developers and potential offtakers in the research, development, commercialization, and implementation of clean hydrogen and sustainable fuel businesses, which would have both local and regional applications.



## Driving Clean-Tech Innovation and Creative Solutions

Masdar is advancing clean-tech innovation and creative solutions by deploying the latest technologies at scale, enhancing their commercial viability and advancing the boundaries of what is achievable in the clean-tech space. Some such projects include:



### Sharjah Waste to Energy

The Middle East's first commercial-scale waste to energy project



### Hywind Scotland

The world's first utility-scale offshore wind farm and the first offshore wind farm connected to a smart battery system.



### Cirata Floating Solar Plant

To be Southeast Asia's largest floating PV plant when completed



### Shams 1

One of the world's largest concentrated solar power plants and the first of its kind in the MENA region.



### Arlington Energy

The UK-based battery energy storage system developer has a proven record having taken over 170MW of assets through to operation.





## Fostering Inclusive Engagement and Delivering Impactful Platforms

As part of Masdar's wider commitment to equitable sustainability, it advances clean energy access, energy independence, and climate resilience for countless communities, helping secure a better future for all through its strategic platforms.



### Abu Dhabi Sustainability Week (ADSW)

Abu Dhabi Sustainability Week (ADSW) is a global initiative championed by the UAE and its clean energy powerhouse Masdar, to accelerate sustainable development and advance economic, social, and environmental progress. ADSW brings together leaders from across governments, the private sector and civil society, to discuss and engage on bold climate action and the innovations that will ensure a sustainable world for future generations.



ZAYED  
SUSTAINABILITY  
PRIZE

### Zayed Sustainability Prize (ZSP)

ZSP is the UAE's pioneering global award in sustainability that recognizes and rewards small and medium-sized enterprises, non-profit organizations and high schools around the world that are delivering impactful, innovative, and inspiring solutions in health, food, energy, water, and climate action. Through its 106 winners, the Prize has positively impacted the lives of over 378 million people across 151 countries.



### Youth 4 Sustainability (Y4S)

Under the patronage of His Highness Sheikh Khaled bin Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi, Youth 4 Sustainability (Y4S) is a Masdar initiative, which invests in and actively supports the development of young people to enable them to become the sustainability leaders of tomorrow. More than 39,000 young people aged 18 - 35 have participated in Y4S activities since 2016.



WOMEN IN SUSTAINABILITY,  
ENVIRONMENT AND  
RENEWABLE ENERGY

### Women in Sustainability, Environment and Renewable Energy (WiSER)

WiSER is a global platform that champions women as leaders of sustainable change. Established by Masdar, it convenes influential figures from business, government, and academia to advance the global dialogue on sustainability and inclusion. Its educational and mentorship programs for young professional women aim to provide leadership skills through the lens of sustainability.

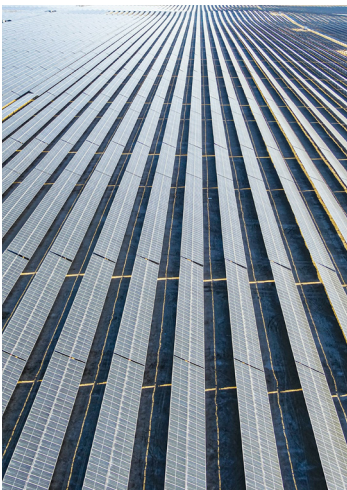
# MASDAR CLEAN ENERGY OVERVIEW

Masdar is a leading developer and operator of utility-scale renewable energy projects, applications providing energy access to communities away from the electricity grid, and energy services consultancy.

Since 2006, Masdar has been a catalyst for renewable energy and clean-tech innovation in the MENA region and countries around the world – working with governments, businesses, and non-governmental organizations. Masdar is a global renewable energy leader and one of the largest developers of off-grid solutions in the world.

## KEY UAE PROJECTS

### OPERATIONAL



#### Al Dhafra 2GW Solar PV Project

2GW Al Dhafra Solar PV project is the world's largest single-site solar power plant and was inaugurated ahead of the UAE hosting the UN climate change conference, COP28. The mega solar plant, 35 kilometers from Abu Dhabi city, was built in a single phase and generates enough electricity to power almost 200,000 homes, displacing 2.4 million tonnes of carbon emissions every year. The project created 4,500 jobs and uses almost 4 million bi-facial solar panels to ensure maximum sunlight is captured. In less than fifteen years, the UAE has become a global leader in solar energy. In 2009, Masdar switched on the country's first solar project at 10MW - today, Al Dhafra Solar PV is a plant that is 200 times that size.



**200,000**

Homes powered



**2.4 million**

Tonnes of carbon dioxide displaced annually



#### UAE Wind Program

The 103.5-megawatt (MW) landmark project introduced cost-effective, large-scale, utility wind power to the UAE's electricity grid, further diversifying the country's energy mix and advancing its energy transition. The wind farms leverage advances in technology, material science and aerodynamics to capture low wind speeds at utility scale, paving the way for further projects. The UAE Wind Program is expected to power more than 23,000 UAE homes a year. It will displace 120,000 tonnes of carbon dioxide, equivalent to removing more than 26,000 petrol-powered cars from the road annually.



**23,000**

Homes powered



**120,000**

Tonnes of carbon dioxide displaced annually



### Masdar City 10MW PV Plant and 1MW Rooftop Installation

The Masdar City 10MW Solar Photovoltaic Plant was the first grid-connected renewable energy project in the UAE and the largest of its kind in the Middle East when inaugurated in 2009. The power plant and rooftop solar panels installed on the Mohamed bin Zayed University of Artificial Intelligence campus buildings power Masdar City and supply the national grid. Combined, they produce approximately 19,100MWh of electricity annually, displacing 15,000 tonnes of CO<sub>2</sub> emissions per year, enough to power 500 homes annually.



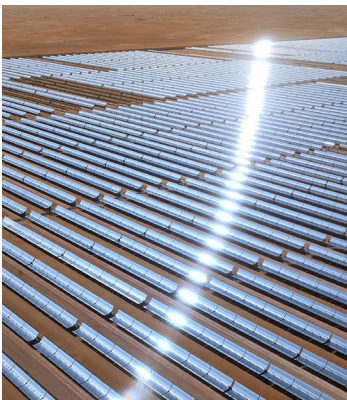
**19,100 MWh**

Approximate annual electricity produced



**15,000**

Tonnes of CO<sub>2</sub> emissions displaced per year



### Shams, Abu Dhabi (100MW CSP plant)

In March 2013, Masdar inaugurated Shams, one of the world's largest concentrated solar power (CSP) plants and the first of its kind in the Middle East & North Africa (MENA) region. Masdar partnered with Total and Abengoa to deliver the 100 megawatt (MW) solar thermal project. In January 2016, Masdar purchased Abengoa's stake in the project. In October 2018, Abu Dhabi Retirement Pensions and Benefits Fund (ADRPBF) purchased a 29% stake in Shams. Masdar remains the majority shareholder with a 51% stake.



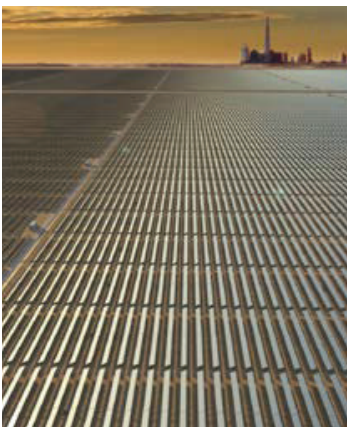
**100 MW**

Total energy production capacity



**51 %**

Masdar remains the majority shareholder



### Mohammed bin Rashid Al Maktoum Solar Park, Phase 3

A Masdar-led consortium was selected to develop the 800MW third phase of the Mohammed bin Rashid Al Maktoum Solar Park in Dubai. At the time, the consortium's winning tariff of 2.99 US cents per kilowatt hour was the lowest price quoted for solar power generation in the world. Phase 3 was constructed in three stages: the first 200MW was completed in 2018; the second 300MW was completed in 2019; and the final 300MW in 2020. The 800MW facility powers 240,000 homes in Dubai, offsetting around 1,400,000 tonnes of CO<sub>2</sub> emissions per year.



**800 MW**

Total energy production capacity



**240,000**

Homes powered



### Sharjah Waste to Energy Project

The Emirates Waste to Energy Company, a joint venture between BEEAH and Masdar, has developed a cutting-edge waste to energy plant in Sharjah. Diverting around 300,000 tonnes of solid waste from landfill each year, contributing to the UAE's waste diversion goals. It produces up to 30MW, which is supplied directly to the Sharjah electricity grid, enough to power 28,000 homes.



**300,000**

Tonnes of solid waste diverted from landfill each year

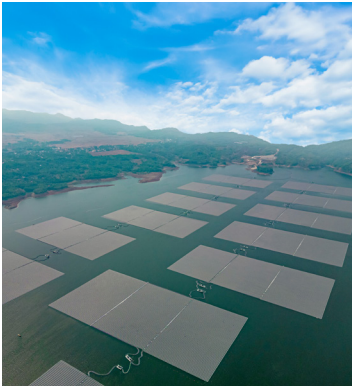


**30 MW**

Total energy production capacity

# KEY INTERNATIONAL PROJECTS

## OPERATIONAL



### Cirata, Indonesia (145MW)

The 145MW Cirata floating solar power plant is Southeast Asia's largest and powers 50,000 homes. Masdar has developed the plant with PT Pembangkitan Jawa-Bali Investasi (PT PJB), a subsidiary of PLN. Renewable energy generated by the plant displaces 214,000 tonnes of carbon emissions every year. The facility has also created 1,400 jobs.



**50,000**

Homes to be powered



**1,400**

Jobs to be created



### Garadagh, Azerbaijan (230MW)

The Garadagh Solar Photovoltaic Power Plant is the country's first foreign investment-based independent utility scale solar project structured as a public-private partnership. Located nine kilometers northwest of the Alat settlement in the Republic of Azerbaijan, the plant generates half a billion kilowatt-hours of electricity annually, enough to meet the needs of more than 110,000 homes and reduce emissions by 200,000 tonnes a year.



**110,000**

Homes to be powered



**200,000**

Tonnes of CO<sub>2</sub> emissions to be displaced annually



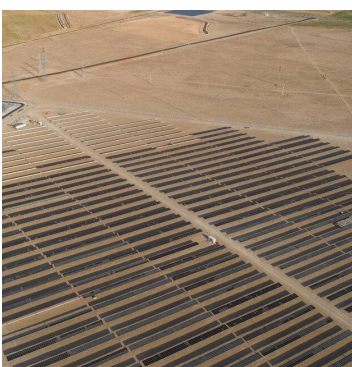
### South Jeddah Noor, Saudi Arabia (300MW)

A consortium led by Masdar with EDF Renewables and Nesma Company as partners has developed the 300MW South Jeddah Noor Photovoltaic Plant. The plant utilizes the latest technology, combining bifacial PV modules with mounting structures that use single-axis tracking technology to maximize energy generation by following the sun's position throughout the day.



**300 MW**

Total energy production capacity



### Nur Navoi, Uzbekistan (100MW)

The Nur Navoi Solar Plant is the first Masdar project in Uzbekistan, with the company having committed to a number of other solar and wind projects in the Central Asian country. The plant is Uzbekistan's first utility-scale solar project and produces enough energy to power 31,000 households and displaces around 150,000 tonnes of CO<sub>2</sub> each year.



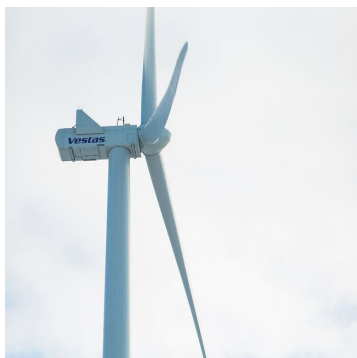
**31,000**

Homes to be powered



**150,000**

Tonnes of CO<sub>2</sub> emissions to be displaced annually



### Dumat Al Jandal, Saudi Arabia (400MW)

With an installed capacity of 400MW, Dumat Al Jandal is Saudi Arabia's first wind farm and the largest operational in the Middle East. The project displaces approximately 1 million tonnes of carbon dioxide annually. The wind farm is located 900 kilometers north of Riyadh in the Al Jouf region of Saudi Arabia.



**400 MW**

Total energy production capacity



**1 million**

Tonnes of CO<sub>2</sub> emissions to be displaced annually



### London Array, UK (630MW)

A joint venture between RWE (30%), Orsted Energy (25%), Caisse de dépôt et placement du Québec (CDPQ) (25%) and Masdar (20%), London Array is the world's second-largest offshore wind farm currently in operation. Inaugurated in July 2013, the plant powers over half a million homes and displaces about 925,000 tonnes of CO<sub>2</sub> emissions per year.



**630 MW**

Total energy production capacity



**925,000**

Tonnes of CO<sub>2</sub> emissions displaced per year.



### Tafila Wind Farm, Jordan (117MW)

The first commercial utility-scale wind power project in the Middle East, the Tafila Wind Farm has increased the country's total power capacity by 3% and generates enough electricity to power 83,000 homes.



**3 %**

Country's total power capacity



**83,000**

Homes powered



### Dudgeon, UK (402MW)

The Dudgeon Offshore Wind Farm is located 32 km off the coast of North Norfolk in East Anglia, UK. Masdar, with a 35 percent share, partnered with Equinor and China Resource Holdings for the project, which provides electricity for around 410,000 homes and displaces 893,000 tonnes of CO<sub>2</sub> emissions annually.



**35 %**

Masdar stake in the project



**893,000**

Tonnes of CO<sub>2</sub> emissions displaced annually



### Hywind Scotland, UK (30MW)

Hywind is one of Masdar's iconic investments in the UK renewable energy sector and the world's first commercial scale floating offshore wind farm, located 30 km off the coast of Peterhead, Scotland. Hywind was jointly developed by Equinor (75%) and Masdar (25%) and provides electricity for approximately 22,000 homes.



**30 km**

Located off the coast of Peterhead



**22,000**

Homes powered



### Krnovo, Montenegro (72MW)

The Krnovo Wind Farm is Masdar's first investment in Montenegro's renewable energy sector. The 72MW onshore wind farm is Montenegro's first wind farm and one of the largest in the region. Masdar acquired 49% of Krnovo Green Energy, the owner and developer of the Krnovo wind farm. The farm supplies around 45,000 households with electricity and displaces an estimated 80,000 tonnes of carbon emissions annually.



**45,000**

Homes powered



**80,000**

Tonnes of CO<sub>2</sub> emissions displaced annually



### Čibuk 1, Serbia (158MW)

The Čibuk 1 Wind Farm in Serbia is the largest utility-scale commercial wind project in Serbia and the Western Balkans. The wind farm has a capacity of 158MW and was inaugurated in October 2019. The project provides clean, reliable and economically viable electricity to approximately 113,000 Serbian homes, mitigating approximately 370,000 tonnes of CO<sub>2</sub> emissions each year.



**158 MW**

Total energy production capacity



**370,000**

Tonnes of CO<sub>2</sub> emissions displaces each year



### Dhofar, Oman (50MW)

Masdar has delivered the first large-scale wind farm in the Gulf region. The 50MW project is located in Dhofar Governorate, in the Sultanate of Oman. Funding for the wind farm is provided by the Abu Dhabi Fund for Development (ADFD). The project includes 13 GE 3.8MW wind turbines and powers approximately 16,000 homes and displaces approximately 110,000 tonnes of CO<sub>2</sub> annually.



**110,000**

Tonnes of CO<sub>2</sub> emissions displaced annually



**16,000**

Homes powered






### Baynouna, Jordan (200MW)

Located east of Amman, Baynouna is the largest single solar energy project in Jordan. The project constitutes 4 percent of the installed capacity in Jordan, supplying the annual energy needs of 160,000 homes and displacing 360,000 tonnes of CO<sub>2</sub> emissions each year.

 **160,000**  
Homes powered

 **360,000**  
Tonnes of CO<sub>2</sub> emissions displaced each year

### UNDER DEVELOPMENT



### Sterling Wind Farm in New Mexico, US


Masdar acquired John Laing Group plc's interest in the wind farm in the United States in 2019, marking the first time the company invested in renewable energy projects in North America. In the process, Masdar entered into a partnership with French renewable power producer Akuo Energy to operate two wind farms. The 29.9MW Sterling project in Lea County, New Mexico was commissioned in 2017 and comprises 13 GE 2.3MW turbines.


 **29.9 MW**  
Sterling project in Lea County



### Maverick 1 and Maverick 4 PV projects

The project comprises of two solar PV plants with a total capacity of 311MWdc located in Riverside County, California. Together, the projects feature 780 thousand bifacial Canadian Solar panels with SMA inverters on NexTracker single axis trackers upgraded with TrueCapture Software, guaranteed to increase project output.

 **311 MWdc**  
Total energy capacity

 **780,000**  
Bifacial Canadian Solar panels



### Big Beau

Big Beau is a 164MWdc solar PV and 40MW/160MWh battery energy-storage system. Located in Kern County, California. The project features more than 443 thousand bifacial solar panels with power electronics inverters on trackers.

 **164 MWdc**  
Solar PV

 **443,000**  
Bifacial Solar panels



### Desert Harvest 1 and Desert Harvest 2 PV projects

The Desert Harvest 1 and Desert Harvest 2 PV projects, which total 217MWdc of solar, started commercial operation in December 2020. The projects are located in Riverside County, California. Together, the projects feature more than 500 thousand solar panels with power electronics inverters on trackers. Desert Harvest 2 has a 35MW/140MWh battery.



**217** MWdc  
Solar



**500,000**

Solar panels with power electronics inverters on trackers



### Las Majadas Onshore Wind Farm

The 273MW Las Majadas wind project is part of Masdar’s second strategic investment located in Willacy County, Texas. This coastal wind project features (113) 2.2MW and (12) 2.0MW Vestas turbines.



**273** MW  
Wind project



### Coyote Onshore Wind Farm

The 243MW Coyote wind project is part of Masdar’s second strategic EDF investment in Scurry County, Texas and features (48) 4.5MW and (11) 2.4MW Siemens Gamesa turbines.



**243** MW  
Wind project



### Rocksprings Wind Farm in Texas, US

The 149MW Rocksprings project was commissioned in 2017 and is comprised of (53) 2.3MW and (16) 1.7MW GE wind turbines at a site in Val Verde County, taking advantage of the exceptional wind conditions characteristic of the Texas region.



**149** MW  
Wind project



### East Rockingham Waste to Energy Project, Australia (29MW)

In January 2020, Masdar made its first investment in Australia after acquiring a stake in the East Rockingham Waste to Energy. When completed, the facility will process 300,000 tonnes waste and up to 30,000 tonnes of biosolids per annum, producing around 29MW of renewable energy, enough to power 36,000 homes.



**330,000**  
Tonnes waste to be processed annually



**36,000**  
Homes to be powered

# ENERGY SERVICES

The Energy Services department within the Clean Energy Business Unit offers full turn-key supply and demand side energy management solutions to clients through energy performance contracting (ESCO) and O&M services. The team has a proven track record in small- to medium-scale client funded renewable energy projects delivery in remote, complex and challenging geographical locations. Numerous building energy audits have also been completed, which identified up to 40,000MWh per year worth of energy savings.

## OPERATIONAL



### Afghanistan

Masdar has installed 600 solar home systems in 27 villages in Helmand Province in southern Afghanistan. Completed in September 2013, the project is improving the lives of more than 3,000 people without access to electricity.



**600**

Solar home systems installed



**3,000**

Lives improved



### Sheikh Zayed Solar Power Plant, Mauritania (15MW)

Masdar's 15MW PV power plant in Nouakchott was the largest solar power installation in Africa at the time of its completion. The project was the first utility-scale solar power installation in the Islamic Republic of Mauritania, accounting for 10% of Mauritania's grid capacity.



**15 MW**

Total energy production capacity



**10%**

Grid capacity of Mauritania met



### Distributed Solar PV projects in Mauritania (16.6MW)

Eight rural solar energy projects, with a capacity of 16.6MW, were completed in November 2016, nearly doubling the UAE's total contribution to Mauritania's clean energy capacity. The projects supply clean power to remote communities, meeting 30% of their demand on average.



**16.6 MW**

Total energy production capacity



**30%**

Of remote community demand met



### Port Victoria Wind Power Project, the Republic of Seychelles (6MW)

The Port Victoria Wind Power Project, a 6MW onshore wind farm in the Republic of Seychelles, is the country's first large-scale renewable energy project. It accounts for more than 8% of the grid capacity on the archipelago's main island of Mahé, where 90% of the country's residents live.



**8%**

Of island grid capacity met



**6 MW**

Total energy production capacity



### Bab Al Shams (1.2MW)

Located in the Bab Al Shams area of Dubai, the project is a 1.2MW PV plant connected to the DEWA grid. It provides electricity to a large farm that is growing animal fodder. The plant is located in the desert and equipped with automatic cleaning robots to clear the dust from the PV modules and assure continual high energy production.



**1.2 MW**

Total energy production capacity



### Solar Home Systems in Morocco

Masdar installed 19,438 solar home systems across 1,000 villages through a partnership agreement with Morocco's Office National de l'Electricité et de l'Eau Potable (ONEE). Each system contains two solar panels with a total capacity of 290 watts and two batteries with storage capacity of up to three days.



**19,438**

Solar home systems installed



**1,000**

Villages benefited through program



### Ile de Romainville Solar Park, the Republic of Seychelles (5MW)

The Ile de Romainville Solar Park is a 5MW solar photovoltaic (PV) power plant with battery storage in the Republic of Seychelles. The project includes an energy storage system with a capacity of 5MW and 3.3 megawatt-hours (MWh), allowing for the safe and stable supply of electricity from the PV power plant to the main island of Mahé and further increasing the resilience of the national grid of the Seychelles. The project was financed by Abu Dhabi Fund for Development (ADFD), and was developed by Masdar and the Seychelles' Public Utilities Corporation (PUC).



**5 MW**

Solar photovoltaic (PV) power plant with battery storage



**3.3 MWh**

Capacity allowing for the safe and stable supply of electricity

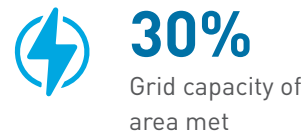
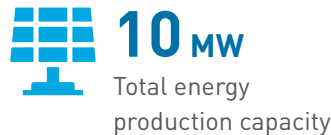
## Masdar's renewable energy projects in Egypt

Masdar has delivered 30MW of utility-scale clean energy projects and 7,000 solar home systems in remote and strategically important areas across Egypt. The projects are part of a UAE-funded grant program for rural electrification in Egypt, carried out in partnership with Egypt's New and Renewable Energy Authority (ENREA). Masdar is also collaborating with partners to build Africa's biggest wind farm. At 10GW capacity, it will reduce around 9 percent of Egypt's annual carbon emissions by displacing 23.8 million tonnes of CO<sub>2</sub> annually.



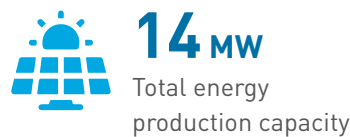
### Siwa Solar PV Plant (10MW)

Masdar's 10MW solar PV power plant in Siwa was the largest solar power installation in Egypt at the time of its completion in March 2015. The project is the first utility-scale solar power installation in the country and accounts for 30% of the grid capacity of Siwa City and its neighbouring areas.



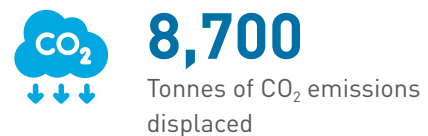
### Red Sea Solar Power Plants (14MW)

Built in the Red Sea cities of Marsa Alam (6MW), Shalateen (5MW), Abu Ramad (2MW), and Halayeb (1MW), the four PV plants in Egypt's Red Sea Governorate have a total capacity of 14MW and provide reliable energy supply to support the area's vital tourism sector.



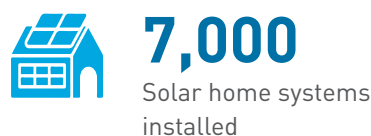
### Al Wadi Al Jadeed Solar PV Plants (6MW)

Masdar built three solar power plants in the Governorate of Al Wadi Al Jadeed, the largest and most sparsely inhabited region in Egypt. The plants have been developed in the cities of Al Farafra (5MW), Abu Minqar (0.5MW) and Darb Al Arbaeen (0.5MW). They provide electricity for over 4,800 homes, displacing over 8,700 tonnes of CO<sub>2</sub> emissions and reducing the diesel consumption of existing power plants by over 40%.



### 7,000 Solar Home Systems

Masdar has provided 7,000 standalone solar home systems (SHS) to homes and public/community buildings in remote areas in six Egyptian governorates without access to the national electricity grid. Each SHS consists of two solar panels, two batteries, charge controllers, energy saving light bulbs, cables, switches, and a mounting structure.



## UAE-Pacific Partnership Fund projects

The UAE-Pacific Partnership Fund (UAE-PPF) is a US\$50 million initiative led by the Masdar Energy Services unit. The fund delivers grant-funded renewable energy projects across 11 Pacific Island nations. All projects are delivered by Masdar in cooperation with each nation's government, with grant funding provided by the Abu Dhabi Fund for Development (ADFD).



### Cycle 1

#### Kiribati: 500 kW Solar PV & Water Protection

The UAE-PPF project is helping to meet the needs of 17% of Kiribati's population who live off-grid. The 500 kW solar PV plant is also protecting an endangered freshwater aquifer by restricting access and limiting contamination. The project also features a state-of-the-art control system.



**17%**

Of Kiribati energy needs met



**500 kW**

Total energy production capacity



#### Fiji: LaKaRo 525 kW Solar PV

The 525 kW solar photovoltaic system installed on three of Fiji's outer islands (Kadevu, Kalekba, and Rotuma) provide residents with round-the-clock energy access, where they previously only had power 12-18 hours a day.



**525 kW**

Total energy production capacity



#### Samoa: 550 kW Cyclone-Proof Wind Farm

Samoa depends on imported diesel to meet 70% of its energy demand. This UAE-PPF project is the first wind farm in the country and is designed as a cyclone-proof facility with two 55 meter tall turbines that pivot at the base, enabling them to be lowered and locked in place in less than one hour.



**550 kW**

Total energy production capacity



**55 meter**

Tall turbines



#### Tonga: Vava'u 512 kW Solar PV

Masdar has helped reduce fuel consumption on the Tongan island of Vava'u by installing a 512 kW solar PV plant along with advanced control systems. These systems ensure a maximum of 70% of the solar energy is efficiently fed into the grid at peak hours, while any surplus is stored in a battery bank for later use.



**512 kW**

Total energy production capacity



### Tuvalu: 500 kW Rooftop Solar PV

Built on a 4 meter high structure, the UAE-PPF project in Tuvalu creates shaded public space while feeding clean energy into the grid. 500 kW of energy capacity is distributed across three roofs and three structures.



**500 kW**

Total energy  
production capacity



### Vanuatu: Port Vila 767 kW Solar PV

Only 27% of people in Port Vila, Vanuatu, have access to electricity. Masdar installed three solar PV plants to help increase the country's share of renewable energy in the energy mix in addition to providing shading for 112 parking spaces at the country's key civic areas.



**767 kW**

Total energy  
production capacity

## Cycle 2



### Solomon Islands: 1MW Solar PV Plant in Honiara

The Republic of the Solomon Islands consists of over 1,000 islands inhabited by a total population of 609,883. Approximately 90% of the electricity produced is diesel generated. The 1MW plant, which was expanded from 600 kW following a grant from the New Zealand Ministry of Foreign Affairs and Trade, bolsters energy resilience and reduces costs associated with diesel imports.



**1 MW**

Total energy  
production capacity



### Marshall Islands: 600 kW Solar Water Collection in Majuro

The Republic of the Marshall Islands is made up of 29 low-lying atolls and five elevated islands inhabited by 71,000 citizens. The nation is dependent on diesel for more than 90% of its electricity. Masdar built a 600 kW PV plant in Majuro on an existing water reservoir to power the grid and increase water yield of the reservoir through increased run-off.



**600 kW**

Total energy  
production capacity



### The Republic of Nauru: 500 kW Nauru Solar

The Republic of Nauru is an island of just 21 square kilometers with more than 9,500 citizens who are highly dependent on imported fossil fuels for transport and power generation. The 500 kW solar PV plant bolsters energy resilience by contributing electricity to the national grid.



**500 kW**

Total energy production capacity



### Palau: 420 kW Solar Penetration and Water Access

The three projects in Palau consist of a 100 kW PV / 150 kW low-load diesel hybrid generation plant on Peleliu, a 100 kW PV / 100 kW diesel hybrid plant on Angaur, which powers a water treatment facility capable of supplying 50 cubic meters of clean water per day, and 100 1.7 kW solar home systems on the island of Koror provided through a subsidy loan program by the National Development Bank of Palau.



**100**

Solar home systems



**420 kW**

Total energy production capacity



### Pohnpei, Federated States of Micronesia (FSM): 600 kW Solar PV

The Pohnpei Island State is one of the four main groups of islands in FSM. The 600 kW solar plant, the largest PV project in FSM, supplies up to 10% of the peak demand of Pohnpei's 34,000 residents.



**600 kW**

Solar plant, the largest PV project in FSM



**10%**

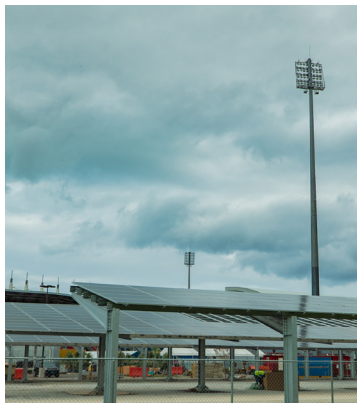
Peak demand of Pohnpei residents met



## UAE-Caribbean Renewable Energy Fund

The UAE-Caribbean Renewable Energy Fund (UAE-CREF) is a US\$50 million initiative that aims to deliver renewable energy projects across 16 Caribbean Island nations to help reduce reliance on fossil-fuel imports, increase energy access, and enhance climate change resilience. The fund is a partnership between the UAE Ministry of Foreign Affairs and Cooperation, Abu Dhabi Fund for Development, and Masdar. Project details for all are below:

### Cycle 1



#### **Bahamas: Thomas A. Robinson National Stadium 925 kW Solar PV Carport Power Plant**

The 925-kilowatt (kW) solar photovoltaic (PV) plant at the national stadium, which also serves as a carport with 342 parking spaces including 4 spots for families and 2 spots with fast charging electric vehicle (EV) charging stations, is the country's first large-scale solar energy project. Developed in partnership with the Bahamas Ministry of Environment and Housing, it sets a regulatory precedent for new renewable energy plants to feed into the grid.



**925 kW**

Total energy production capacity



**342**

Parking spaces provided, including spots for families



#### **Barbados: Bridgetown 350 kW Solar PV Carport Power Plant & Bowmanston 500 kW Solar PV Power Plant**

This project has two elements: a 350 kW solar PV carport with 124 parking spaces, which include six level 2 EV charging stations, and a 500 kW ground-mounted PV plant. Both projects were developed in partnership with the Barbados Water Authority and are built on sites operated by the authority. The project supports BWA operations at their water treatment plant and the water pumping station.



**350 kW**

Solar PV carport with 124 parking spaces



**500 kW**

Ground-mounted PV plant



#### **Saint Vincent & the Grenadines: Union Island 600 kW Solar PV Battery Hybrid Power Plant**

Developed in partnership with St Vincent Electricity Services Limited (VINLEC), the project sets a strong precedent for using renewable energy to drive down energy costs on outer islands. Located on Union Island, the 600 kW solar PV plant and 637 kilowatt-hour (kWh) lithium-ion battery project supplies all of the island's daytime power needs, and represents Masdar's first fully implemented grid-connected battery energy storage system.



**600 kW**

Solar PV plant



**637 kWh**

Lithium-ion battery project

## Cycle 2



### Suriname Solar-PV Hybrid

1.2MWp solar power plant is located at Anton de Kom University of Suriname Campus, also including 576kWh BESS for energy shifting, peak shaving, output stabilisation and education purposes. The solar+BESS will be used for 'Renewable Energy Education' courses in the faculty of Engineering.



**1.2 MW<sub>p</sub>**  
Solar power plant



**576 kWh**  
BESS for energy shifting



### Limlair Solar-PV Hybrid

The 856kWp solar plant is located on the Carriacou island grid, in Grenada. It includes 768kWh battery to ensure continuous electricity and contributes towards the fact that 15 percent of the grid is now powered by renewables. It helps to save 380,000 liters a year in diesel fuel.



**800 kW**  
Solar PV panels



**380,000**  
liters a year in diesel fuel



### Antigua and Barbuda: 720 kW Solar PV Battery Hybrid Green Barbuda Project

With support from the Government of Antigua and Barbuda, the CARICOM Development Fund, and the New Zealand Ministry of Foreign Affairs and Trade, Green Barbuda was designed to be a climate-resistant hybrid diesel and solar plant. The project includes an 800-kilowatt diesel power station, 720 kilowatt-peak of solar PV panels, and a 863-kilowatt-hour (kWh) battery, to reliably produce and store electricity. The energy produced from this plant will save Barbuda 406,000 liters of diesel and offset 1,055,600 kg of carbon emissions.



**380,000**  
Diesel power station



**800 kW**  
Solar PV panels



### Belize: 400 kW Solar PV Battery Hybrid Belize Rural Electrification Project

With 400 kW of solar photovoltaic panels, 600 kWh of battery storage, and 184 kW backup diesel generation, the system will mainly be powered by solar energy, with a standby diesel generator to provide power during the wet season. Powering homes, schools, clinics, water pumping facilities and tourist operations, the climate-resistant project will transform lives in Belize's native Mayan villages of Indian Creek, Golden Stream and Medina Bank, through improved energy independence and resilience. The plant will save Belize almost 200,000 liters of diesel fuel and avoid around 500 tonnes of CO<sub>2</sub> emissions yearly.



**200,000**  
Liters of diesel fuel to be saved



**500**  
Tonnes of CO<sub>2</sub> emissions displaced annually



## RENEWABLE ENERGY WATER DESALINATION PROGRAM

In 2013, Masdar launched a renewable energy desalination pilot program to research and develop energy-efficient, cost-competitive desalination technologies that are suitable to be powered by renewable energy. The project was officially inaugurated during UAE Innovation Week in November, 2015.

The commercial partners – Abengoa, Suez, Veolia and Trevi Systems – each developed and operated a next-generation pilot seawater desalination plant. The four plants tested a range of innovative approaches to boost operational efficiency of reverse osmosis, a technique where salt water is purified through membranes. A fifth pilot was installed in October 2016 by Mascara Renewable Water, a unique off-grid solar powered solution without batteries, ideally suited for remote locations.

A Masdar report published at Abu Dhabi Sustainability Week 2018 on the results of the program found that the solutions are up to 75% more energy efficient than the thermal desalination technologies currently used in the UAE, delivering annual energy savings of as much as US\$550 million.

The desalination project was sponsored by the Abu Dhabi Government, with co-funding provided by the industry partners. Masdar was leading the project management and coordinated the program with key Abu Dhabi stakeholders.

# MASDAR'S DOMESTIC AND INTERNATIONAL PROJECTS

- Developing a gross capacity of more than 20GW of renewable energy projects worldwide, either in operation or under development
- Investing in renewable energy projects valued at more than US\$30 billion globally



## International and Middle East

- |  |  |   |   |   |
|--|--|---|---|---|
| <ol style="list-style-type: none"> <li>1. <b>ENGLAND, UK</b><br/>London Array<br/>Dudgeon Offshore Wind Farm<br/>Arlington Battery Energy Storage System (BESS)</li> <li>2. <b>SCOTLAND, UK</b><br/>Hywind Scotland Floating Wind Farm</li> <li>3. <b>MOROCCO</b><br/>Solar Home Systems</li> <li>4. <b>MAURITANIA</b><br/>Sheikh Zayed Solar Plant<br/>Rural Electrification Program</li> <li>5. <b>SERBIA</b><br/>Citbuk 1 Onshore Wind Farm</li> <li>6. <b>MONTENEGRO</b><br/>Krnovo Onshore Wind Farm</li> <li>7. <b>EGYPT</b><br/>Benban Solar PV Plant<br/>Toshka 10 MW Solar Power Plant<br/>Red Sea Solar PV Power Plants</li> </ol> | <ol style="list-style-type: none"> <li>8. <b>JORDAN</b><br/>Tafila Onshore Wind Farm,<br/>Baynouna Solar Plant</li> <li>9. <b>OMAN</b><br/>Dhofar Onshore Wind Power Project</li> <li>10. <b>AFGHANISTAN</b><br/>Solar Home System, Rooftop PV</li> <li>11. <b>SEYCHELLES</b><br/>Port Victoria Onshore Wind Farm<br/>Ile de Romainville Solar Plant</li> <li>12. <b>PALAU</b><br/>Palau Solar and Water Treatment</li> <li>13. <b>POHNPEI</b><br/>Pohnpei Solar Plant</li> <li>14. <b>TUVALU</b></li> </ol> | <ol style="list-style-type: none"> <li>15. <b>NAURU</b><br/>Nauru Solar Plant</li> <li>16. <b>HONIARA</b><br/>Solomon Islands Solar Plant</li> <li>17. <b>VANUATU</b><br/>Vanuatu Solar Plant</li> <li>18. <b>KIRIBATI</b><br/>Kiribati Solar Plant</li> <li>19. <b>MAJURO</b><br/>Marshall Islands Solar Plant</li> <li>20. <b>FUJI</b><br/>Fiji Solar Plant</li> <li>21. <b>TONGA</b><br/>Tonga Solar Plant</li> <li>22. <b>SAMOA</b><br/>Samoa Onshore Wind Turbines</li> <li>23. <b>CARIBBEAN</b><br/>5 projects delivered through UAE-CREF. 11 more planned</li> </ol> | <ol style="list-style-type: none"> <li>24. <b>SAUDI ARABIA</b><br/>Dumat Al Jandal Wind Farm<br/>South Jeddah Noor PV Plant</li> <li>25. <b>INDONESIA</b><br/>Cirata Floating Solar<br/>Geothermal Investment</li> <li>26. <b>AUSTRALIA</b><br/>East Rockingham Waste to Energy</li> <li>27. <b>UNITED STATES</b><br/>Rocksprings Wind Farm<br/>Sterling Wind Farm<br/>Coyote Wind Farm<br/>Las Majadas Wind Farm<br/>Milligan 1 Wind Farm<br/>Desert Harvest 1 &amp; 2 Solar PV Plants<br/>Maverick 1 &amp; 4 Solar PV Plant<br/>Big Beau Solar PV Plant</li> <li>28. <b>AZERBAIJAN</b><br/>Garadagh Solar PV Power Plant</li> </ol> | <ol style="list-style-type: none"> <li>29. <b>UZBEKISTAN</b><br/>Zarafshan Wind Farm<br/>Nur Navoi Solar Plant<br/>SamarKand PV<br/>Sherabad PV Plant<br/>Jizzakh PV Plant</li> <li>30. <b>POLAND</b><br/>Mlawa and Grajewo Wind Farms</li> <li>31. <b>ARMENIA</b><br/>AYG-1 Solar</li> <li>32. <b>SENEGAL</b><br/>Taiba Wind Farm</li> <li>33. <b>SOUTH AFRICA</b><br/>Khabab Wind Farm<br/>Loeriesfontein Wind Farm<br/>Noopoot Wind Farm<br/>Kangnas Wind Farm<br/>Perdekraal Wind Farm</li> </ol> |
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## United Arab Emirates - Middle East

### ABU DHABI

1. **SHAMS**  
CSP Plant
2. **ABU DHABI GOVERNMENT**  
Solar Rooftop Program
3. **UM AL ZUMOOL**  
Off-grid PV Plant
4. **MURAWAH ISLAND**  
PV Plant
5. **SEA PALACE**  
Solar Rooftop Project

6. **DESALINATION PILOT PROJECT**
7. **AL AIN DIWAN**  
Lighting Efficiency Project
8. **AL JARNAIN ISLAND**  
PV Plant
9. **CROWN PRINCE COURT**  
Solar Rooftop Project
10. **ABU DHABI FUND FOR DEVELOPMENT**  
HQ Solar Rooftop Project  
Water & Energy Saving Project

11. **MASDAR CITY**  
PV Plant & Rooftop Solar PV
12. **MIRAL - WARNER BROS. WORLD ABU DHABI**  
Solar Rooftop Project
13. **FUTURE REHABILITATION CENTER**  
Water & Energy Saving Project
14. **ABU DHABI AIRPORTS COMPANY (ADAC)**  
Solar Project

16. **UAE WIND PROGRAM**  
Sir Baniyas Island  
Delma Island  
Al Sila  
Al Halah
17. **DUBAI**  
**MOHAMMED BIN RASHID AL MAKTOUM SOLAR PARK**  
Phase 3
18. **BAB AL SHAMS**  
Solar PV Plant

19. **SHARJAH WASTE TO ENERGY FACILITY**
20. **RAS AL KHAIMAH**  
**RASHID ABDULLAH OMRAN HOSPITAL**  
Solar Rooftop Project