MASDAR

Pioneering the Future of Sustainability

Contents






“We have to diversify the sources of our revenue and construct economic projects that will ensure a free, stable and dignified life for the people.”

The late Sheikh Zayed bin Sultan Al Nahyan
Founding Father of the UAE

1.0
OUR PURPOSE AND IMPACT

Purpose, Mission and Vision

PURPOSE
To provide affordable clean energy to the world for a more sustainable future.

MISSION

To accelerate the energy transition by delivering clean energy solutions to help communities meet their net-zero goals.

VISION

Building a global clean energy powerhouse in renewables and green hydrogen.

Pioneering Advances in Clean Energy

2006

- **Masdar Initiative launched**

2008

- **Masdar Sustainable City** breaks ground
- **World Future Energy Summit** launched

2013

- **Shams 1** (UAE's first large scale solar PV plant, 100 MW)
- **London Array** (offshore wind farm, 630 MW)
- Launch of **Abu Dhabi Sustainability Week**

2015

- **International Renewable Energy Agency (IRENA)** inaugurated in Masdar City

2016

- **Mohammed bin Rashid Al Maktoum Solar Park (800 MW)** awarded to Masdar & EDF Renewables

2017

- 402MW Dudgeon Offshore Wind Farm Inauguration in the UK
- UAE-Caribbean Renewable Energy Fund Launched

2019

- Inauguration of 158MW Cibuk 1 Wind Farm in Serbia
- Masdar awarded 100 MW Uzbekistan Solar PV Project

2020

- **Al Dhafra PV Project (2GW)** awarded, world's largest solar plant
- Masdar and EDF Renewables announce strategic investment in the US to acquire a 1.6 GW clean-energy portfolio

2021

- Masdar positioned **as a global clean energy powerhouse** by consolidating Abu Dhabi's **renewable energy and green hydrogen efforts**

2022

- **Sharjah – Middle East's first waste-to-energy (30 MW)**
- **Masdar Green Hydrogen business** launched

2023

- **Masdar** becomes a **member in the Hydrogen Council**
- **Al Dhafra Solar PV (2GW)**
- **UAE Wind Program,** first low-wind utility-scale wind project
- **UAE hosts COP 28**
- **€15bn agreement with Iberdrola** to evaluate offshore wind and green hydrogen in UK, US and Germany
- Masdar and Emirates Steel Arkan develop **the region's first green steel pilot**
- **£11bn** joint investment with **RWE** in **3GW Dogger Bank South (DBS)** offshore wind projects in the UK

2024

- Masdar acquires 50% stake in US renewables power producer Terra-Gen

- Masdar to acquire majority share in TERNA ENERGY in Greece in one of EU's largest transactions to date

Turning Vision Into Reality

- A **global clean energy powerhouse** across renewables and green hydrogen
- Leveraging **resources and expertise** of shareholders Mubadala, ADNOC and TAQA - **the UAE's leading energy champions**
- Driving **clean energy growth**, **tackling climate challenges**, and **accelerating an equitable energy transition**
- Deploying commercially-viable **clean energy** projects in over **40 countries around the world, including the UAE**
- Developing some of the **world's largest** solar and wind energy projects
- Advancing **clean-tech innovation** and delivering world-class **industry and knowledge platforms**
- Pursuing a **cycle of growth and innovation** set in motion by the UAE's visionary leadership.

2.0
MASDAR
RENEWABLE ENERGY

Masdar Renewable Energy

Masdar has over 18 years of experience as a disruptive clean energy pioneer, advancing the global energy transition and enabling the UAE's transformative vision as a global leader in a cleaner, greener energy future.

Promoting innovation in solar, wind, energy storage, waste-to-energy, and geothermal energy, Masdar has a proven record of delivering pioneering projects using cutting-edge clean energy technologies, that are commercially viable and bankable.

Masdar Renewable Energy: Essential Facts

One of the **world's fastest-growing renewable energy companies,**
and a **global pioneer** in advancing clean energy

Masdar has developed renewable energy projects across more than **40 countries**

Masdar has invested or committed to invest in renewable energy projects with a **combined capacity of over 20 GW**

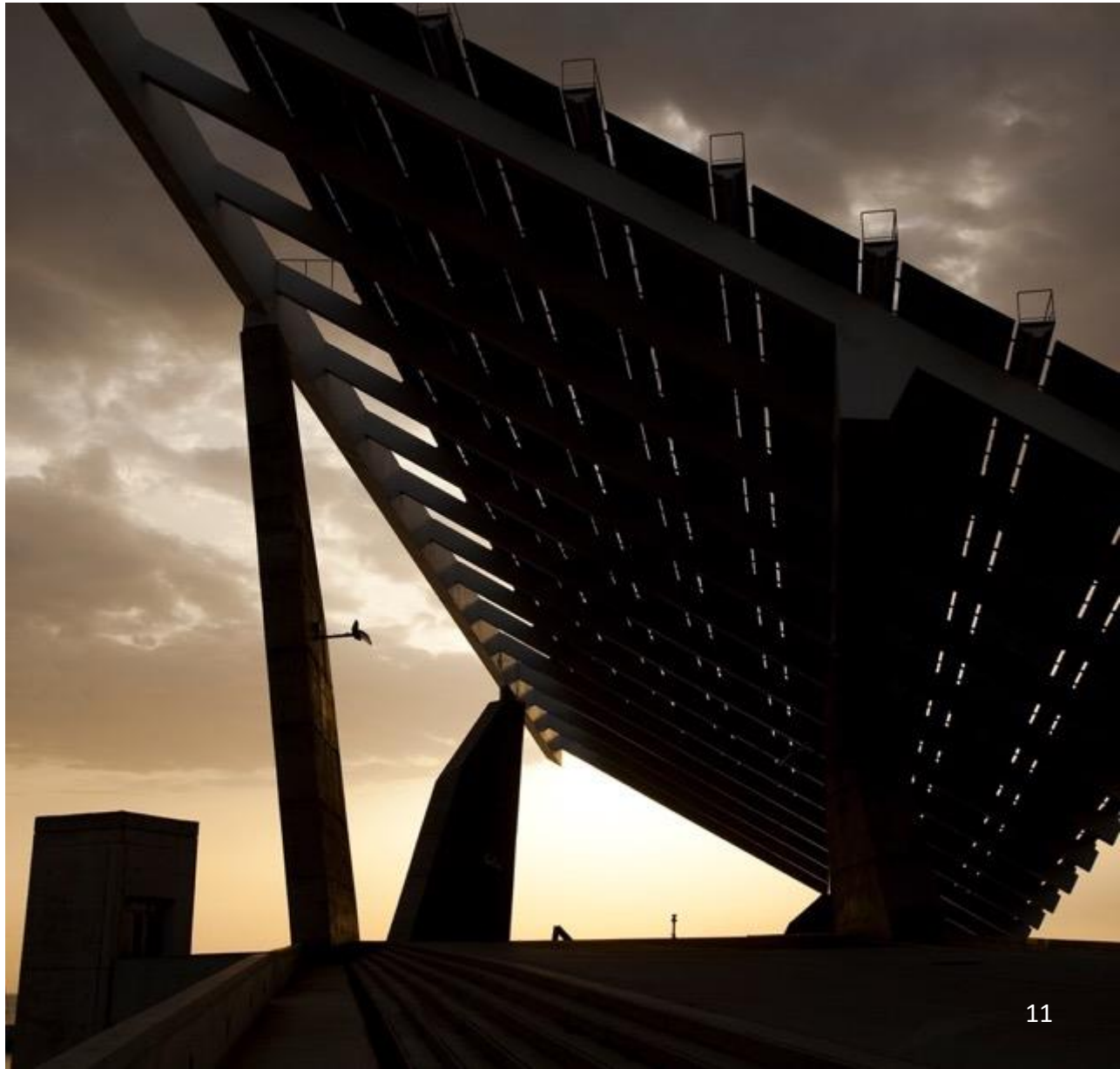
Projects displace nearly **30 million tonnes** of carbon dioxide (gross) per year

The gross investment in Masdar's committed renewable energy projects is over **US$30bn**

How We Operate

Masdar develops and invests in bankable and mature renewable energy technologies:

- Onshore Wind
- Offshore Wind
- Solar PV
- Concentrated Solar Power
- Waste to Energy
- Energy Storage
- Geothermal
- Small and Medium-sized Off-grid Projects
- Renewable Energy Water Desalination



Masdar Global Footprint

International and Middle East

1. ENGLAND, UK
   - London Array
   - Dudgeon Offshore Wind Farm
   - Arlington Battery Energy Storage System (BESS)
   - Dogger Bank South Offshore Wind Farm
2. SCOTLAND, UK
   - Hywind Scotland Floating Wind Farm
3. MOROCCO
   - Solar Home Systems
4. MAURITANIA
   - Sheikh Zayed Solar Plant
   - Rural Electrification Program
5. SERBIA
   - Čibuk 1 Onshore Wind Farm
6. MONTENEGRO
   - Krnovo Onshore Wind Farm
7. EGYPT
   - Benban Solar PV Plant
   - Toshka 10 MW Solar Power Plant
   - Red Sea Solar PV Power Plants
   - Siwa Solar PV Plant
   - Al Wadi Al Jadeed Solar PV Plants
   - 7,000 Solar Home Systems
   - West Bakr Wind Farm
8. JORDAN
   - Tafila Onshore Wind Farm,
   - Baynouna Solar Plant
9. OMAN
   - Dhofar Onshore Wind Power Project
10. AFGHANISTAN
    - Solar Home System, Rooftop PV
11. SEYCHELLES
    - Port Victoria Onshore Wind Farm
    - Ile de Romainville Solar Plant
12. PALAU
    - Palau Solar and Water Treatment
13. POHNPEI
    - Pohnpei Solar Plant
14. TUVALU
    - Tuvalu Solar Plant
15. NAURU
    - Nauru Solar Plant
16. HONIARA
    - Solomon Islands Solar Plant
17. VANUATU
    - Vanuatu Solar Plant
18. KIRIBATI
    - Kiribati Solar Plant
19. MAJURO
    - Marshall Islands Solar Plant
20. FIJI
    - Fiji Solar Plant
21. TONGA
    - Tonga Solar Plant
22. SAMOA
    - Samoa Onshore Wind Turbines
23. CARIBBEAN
    - 5 projects delivered through UAE-CREF, 11 more planned
24. SAUDI ARABIA
    - Dumat Al Jandal Wind Farm
    - South Jeddah Noor PV Plant
25. INDONESIA
    - Cirata Floating Solar
    - Geothermal Investment
26. AUSTRALIA
    - East Rockingham Waste to Energy
27. UNITED STATES
    - Rocksprings Wind Farm
    - Sterling Wind Farm
    - Coyote Wind Farm
    - Las Majadas Wind Farm
    - Milligan 1 Wind Farm
    - Desert Harvest 1 & 2 Solar PV Plants
    - Maverick 1 & 4 Solar PV Plant
    - Big Beau Solar PV Plant
28. AZERBAIJAN
    - Garadagh Solar PV Power Plant
29. UZBEKISTAN
    - Zarafshan Wind Farm
    - Nur Navoi Solar Plant
    - Samarkand PV
    - Sherabad PV Plant
    - Jizzakh PV Plant
    - Bukhara (Solar PV & BESS)
30. POLAND
    - Mlawa and Grajewo Wind Farms
31. ARMENIA
    - AYG-1 Solar
32. SENEGAL
    - Taiba Wind Farm
33. SOUTH AFRICA
    - Khobab Wind Farm
    - Loeriesfontein Wind Farm
    - Noupoort Wind Farm
    - Kangnas Wind Farm
    - Perdekraal Wind Farm
34. GERMANY
    - Baltic Eagle Offshore Wind Farm
35. GREECE
    - Gr-Eco Islands

Masdar UAE Footprint

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
15. AL DHAFRA
    Solar PV Project
16. UAE WIND PROGRAM
    Sir Baniyas Island
    Delma Island
    Al Sila
    Al Halah

DUBAI

17. MOHAMMED BIN RASHID AL MAKTOUM SOLAR PARK
    Phase 3 & 6
18. BAB AL SHAMS
    Solar PV Plant

SHARJAH

19. SHARJAH WASTE TO ENERGY FACILITY

RAS AL KHAIMAH

20. RASHID ABDULLAH OMRAN HOSPITAL
    Solar Rooftop Project

3.0
MASDAR GREEN HYDROGEN

Green Hydrogen – Fuel Of The Future

Tool to Reach Net Zero

Our climate is rapidly changing largely due to human-induced greenhouse gas emissions. While solar and wind don't generate carbon, they are unable to provide energy in all the forms needed.

In light of this, hydrogen is seen as a 'fuel of the future' which could drive the net-zero transition. Green hydrogen is produced using clean energy to split water into two parts; hydrogen and oxygen.

The resulting molecule and its derivatives, like green ammonia, can be used in many energy applications, helping to decarbonize existing and emerging hydrogen applications.

We aim to become a leading global producer of green hydrogen by 2030.

To meet green hydrogen demand in major segments like aviation, steel, maritime, refining, and heavy-duty transportation, Masdar is scaling up in key markets, supporting our commitment to advance the development of a vibrant, local, green hydrogen economy.

Masdar Green Hydrogen

To become an active leader in green hydrogen, Masdar has signed project agreements across a range of sectors:

- With bp, Masdar, Hassan Allam Utilities, and Infinity Power, have agreed to explore the potential development of a green hydrogen project in Egypt
- Our partnership with Emirates Steel Arkan is set to develop an innovative green hydrogen project to decarbonize the UAE's steel sector
- Masdar and the Azerbaijan government agreed to develop a 2GW integrated offshore wind and green hydrogen project
- We are collaborating with Japanese energy company INPEX to explore the production of e-methane in Abu Dhabi
- We are partnering with Hy24 which will provide access to a pipeline of up to €2 billion in co-investment and co-development opportunities
- We have signed a deal with VERBUND Green Hydrogen GmbH to explore developing a green hydrogen plant in central Spain
- We have partnered with OMV on a project to produce green hydrogen for decarbonizing industrial processes

4.0
ADVANCING CLEAN-TECH INNOVATION

Commercializing Technology in Solar and Wind

- **Phase 3 & 6 MBR Solar Park:** One of the world's largest solar PV plants using single-axis tracking technology
- **UAE Wind Program:** 103MW project paving the way for commercialization of utility scale, low-wind speed projects
- **Hywind Scotland:** The world's first commercial-scale floating wind farm
- **Batwind Scotland:** The first electricity storage system to be connected to an offshore floating wind farm
- **London Array:** One of the world’s leading offshore wind farms, which continues to be at the forefront of innovation
- **Shams:** One of the largest concentrated solar power projects in the world
- **Cirata Floating PV:** 145 MW project in Indonesia, set to be Southeast Asia’s largest

Pushing the Boundaries of Innovation

- **Electric Energy Storage Solutions Hub:** Dedicated to the study of advanced energy storage technologies with the aim of delivering more cost-effective solutions
- **Renewable Energy Desalination Pilot project:** Established commercial potential of desalination techniques powered by renewable energy with international partners
- **Masdar Solar Hub:** A testing and R&D hub for photovoltaic and solar thermal technologies

5.0
DELIVERING STRATEGIC PLATFORMS

Leading the Debate

ABU DHABI SUSTAINABILITY WEEK

Since 2008, Abu Dhabi Sustainability Week (ADSW) has grown to become one of the largest platforms of its kind in the world. Through its initiatives and events, ADSW brings members of the global community together to accelerate sustainable development.

Working with its public and private partners, ADSW hosts a series of events that welcome heads of state, policy makers, business leaders and technology pioneers, providing them with a global platform to share knowledge, showcase innovation and outline strategies for delivering climate action.

Transforming lives

ZAYED
SUSTAINABILITY
PRIZE

The Zayed Sustainability Prize was established by H.H. Sheikh Mohamed bin Zayed in 2008 to honor Sheikh Zayed, the UAE's founding father, and encourage global action on the development of renewable energy solutions.

- **Tackling Global Challenges:** The Prize is the UAE's pioneering global award in sustainability and humanitarianism, awarding small and medium-sized enterprises, nonprofit organizations, and high schools that are delivering impactful, innovative and inspiring solutions in health, food, energy, water and climate action.
- **Transforming Lives:** For 16 years, the Prize has positively impacted 384 million people globally through its winners, extending energy access to 54 million homes, providing safe water to over 11 million, enhancing nutrition for 3.6 million, and granting healthcare access to 744,600.
- **Empowering Youth:** The Global High Schools category encourages youth to take an active role in addressing sustainability challenges. The Prize's 47 Global High Schools winners have impacted the lives of over 55,186 students and 453,887 people in their wider communities.
- **Fueling Economies:** The Prize promotes sustainable growth by investing in organizations, creating over 823,000 jobs since 2008.

Empowering Women

WOMEN IN SUSTAINABILITY, ENVIRONMENT AND RENEWABLE ENERGY

WISER

WiSER - Women in Sustainability, Environment and Renewable Energy - is a global platform that champions women as leaders of sustainable change. Established by Masdar and the Zayed Sustainability Prize, WiSER embodies the country's vision for building a more sustainable future for all.

Since 2015, WiSER has focused on the core pillars of education, engagement, and empowerment - and is born of the UAE's leadership's longstanding and continuing commitment to the role of women - a commitment directly traced back to the vision of the nation's founding father, Sheikh Zayed bin Sultan Al Nahyan.

WiSER's training and mentoring schemes have supported over 130 young professional women, representing over 30 nationalities, to gain leadership skills through the lens of sustainability.

Charting a Brighter Future

YOUTH
4 SUSTAINABILITY

Under the patronage of His Highness Sheikh Khaled bin Mohamed bin Zayed Al Nahyan, Member of the Abu Dhabi Executive Council and Chairman of the Abu Dhabi Executive Office, Masdar's Youth 4 Sustainability (Y4S) initiative invests in and actively supports the development of young people.

Y4S creates awareness of the skills needed for future jobs in sustainability, and to support the growth of the next generation of sustainability leaders through Y4S programs and global outreach activities.

Thank you