



**CLEAN ENERGY POWERHOUSE**

# PIONEERING ENERGY

Based in Abu Dhabi, Masdar is one of the world's fastest-growing renewable energy companies at the forefront of the global energy transition.



# WHO WE ARE

Headquartered in the UAE, we have been advancing the development, commercialization and deployment of cutting-edge solutions since 2006. Masdar's expertise lies in the development of clean energy projects, the commercialization of high-impact innovations and hosting world-class industry and knowledge platforms that facilitate an inclusive and sustainable future for all. Today, Masdar is active in more than 40 countries across six continents and has invested in or committed to invest in projects with a combined value of over US\$30 billion, with a total capacity of over 20 gigawatts (GW), able to offset 30 million tonnes of CO2 emissions annually.

With our growing legacy in renewable energy delivery and our new green hydrogen business unit, Masdar plays a key role in the UAE's transition to a sustainable knowledge-based economy, expanding the UAE's energy leadership and supporting the global drive to net zero.



# OUR SHAREHOLDERS



In December 2022, Abu Dhabi National Energy Company PJSC (TAQA) and Abu Dhabi National Oil Company (ADNOC), joined Mubadala Investment Company (Mubadala) as shareholders in Masdar, to create a truly global clean energy powerhouse.

This new shareholding structure brings together the extensive experience in renewable energy shared by TAQA, Mubadala and Masdar, with ADNOC's experience in hydrogen, global trading capabilities, infrastructure and logistics network.

Under the new partnership, Masdar will become a national clean energy champion for the UAE, with plans to become a leading producer of green hydrogen and reach 100 gigawatts (GW) total renewable energy capacity by 2030.





## WHAT WE DO

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Masdar brings technical expertise, innovation and experience to help solve some of the most difficult challenges in renewable energy and sustainability. We identify and develop commercially viable solutions that push forward the world's ability to address key issues such as energy access, water scarcity, climate change and decarbonization.

Promoting the UAE's economic development vision, we build local talent and R&D capabilities, innovate new industry solutions and contribute to the country's economic diversification. We support the UAE's commitment to becoming one of the world's largest investors in renewable energy and green hydrogen.

Our work includes renewable energy power projects of all sizes – collaborative sustainability innovation, pioneering green hydrogen ventures, research and development projects, and knowledge and engagement platforms that bring together key groups to advance equitable sustainability.

Cooperation and partnership are pillars of our execution model, whether through strategic co-investments or joint research and development projects with peer organizations based in the UAE, the wider Middle East or across the globe.





## OUR PURPOSE

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Masdar was founded by Abu Dhabi's leadership to foster home-grown innovation and the development of cutting-edge technologies, as part of the UAE's ongoing economic diversification agenda, while also serving the vital cause of climate change mitigation.

Working in these future-focused industries helps drive the ambitions of Abu Dhabi and the wider UAE to diversify the scope of economic activity, drive growth in high-value, knowledge-intensive sectors, and achieve the country's net zero by 2050 goal.

Given the UAE's familiarity with extreme climate environments and the energy intensity required to live in such conditions, the significant benefits that can be gained from clean energy and sustainable development are very clear. The nation is, therefore, well positioned to build on its international leadership in conventional energy in order to champion future energy solutions and systems.

Masdar's growing international portfolio of clean energy projects supports the sustainability journeys of over 40 countries while our track record of clean energy innovation and project delivery drive the UAE's sustainable economic development.



# ACHIEVEMENTS SO FAR

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Masdar's dramatic growth since its launch in 2006 has come during a time of enormous transformation in the renewable energy and sustainability sectors. In its first decade, Masdar both contributed to this growth and evolved in response to the sector's ongoing development.

Masdar developed what was then the region's largest solar photovoltaic (PV) farm, as well as the region's first and at the time largest concentrated solar power (CSP) plant.

Internationally, Masdar is part of different consortia and joint ventures that, among other accomplishments, have delivered the world's largest offshore wind farm and the world's first CSP plant to deliver grid power 24 hours a day. We have helped deliver pioneering projects that have redefined what is achievable, like Hywind Scotland, the world's first floating offshore windfarm, and the Sharjah Waste to Energy Plant, the Middle East's first commercial-scale plant of its kind.





Other landmark projects recently developed within the UAE and around the world include the Cirata Floating Solar Plant, Southeast Asia's largest floating PV plant and the 2GW Al Dhafra Solar PV Project, the largest single-site solar power plant in the world in operation.

In addition, Masdar has played a significant role in the enormous potential of renewable energy and clean technologies. The Masdar-backed Solar Impulse 2, the first aircraft to fly around the world without using a drop of fuel, attracted international attention and excitement.

Our knowledge and engagement platforms like Abu Dhabi Sustainability Week, Youth 4 Sustainability (Y4S), and Women in Sustainability, Environment and Renewable Energy (WiSER) help advance inclusive sustainability by bringing together individuals and organizations to create partnerships, share expertise, and agree on actions.

At the same time, Masdar's Zayed Sustainability Prize recognizes companies, schools, non-profits and inspiring leaders around the world in honor of the sustainability legacy of the UAE's founding father, the late Sheikh Zayed bin Sultan Al Nahyan. The direct and indirect impact of the previous winners' solutions have, to date, benefitted over 378 million people in over 150 countries around the world.





# A COMPREHENSIVE APPROACH TO CLEAN-TECH

From the world's largest and first-of-a-kind renewable energy projects, to small-scale solar home systems, and from North America, Europe and Africa to the Middle East, Asia and South Pacific, Masdar has been transforming the status quo in communities and markets for more than 16 years. Masdar has invested in or committed to invest in renewable energy projects, that have a combined value of US\$30 billion. Leveraging technologies in wind, solar PV and concentrated solar power (CSP), the total generating capacity of these projects is over 20GW, able to offset more than 30 million tonnes of CO2 annually.

Some of the most significant projects include the 600MW London Array offshore wind farm – one of the world's largest wind farms in operation – and the 402MW Dudgeon Offshore Wind Farm. The UK is also home to world-leading innovation developed by Masdar – the world's first commercial-scale floating offshore wind farm Hywind Scotland, which was connected to Batwind – the first integrated energy storage system to be connected to a floating offshore wind farm.

Masdar was also the first investor in a UK government fund to help develop public charging infrastructure points for electric vehicles.

In Asia, Masdar has developed Southeast Asia's largest offshore floating solar plant in Indonesia through the Cirata project. In Africa, Masdar has signed agreements to develop 4GW capacity green hydrogen plants in Egypt.



A world map in light gray with the Middle East and North Africa (MENA) region highlighted in a darker shade. Overlaid on the MENA region are several concentric circles and icons representing solar and wind energy. The icons include a sun, a wind turbine, and a solar panel. The text 'REGIONAL EXPERTISE' is written in a bold, blue, sans-serif font below the map.

## REGIONAL EXPERTISE

In the MENA region, pioneering projects include the 100MW Shams concentrated solar power (CSP) plant in Abu Dhabi, one of the largest CSP plants in the world and the first of its kind in the Middle East and North Africa. The 117MW onshore Tafila Wind Farm in Jordan was the first commercial utility-scale wind power project in the Middle East. Also under development in Jordan is the 200MW Baynouna Solar Energy Project, the country's largest solar power plant.

In the UAE, Masdar was part of a consortium to develop the 800MW Phase 3 of the Mohammed bin Rashid Al Maktoum Solar Park in Dubai after setting a record-low bid price at the time for solar power generation of US cents 2.99 per kWh.

Masdar developed the world's largest single-site solar plant in operation in Al Dhafra, UAE, the 50MW Dhofar Wind Farm in Oman, and the Middle East's first commercial-scale waste to energy plant in Sharjah. Masdar is also part of a consortium developing Dumat Al Jandal, Saudi Arabia's first wind farm and the largest in the Middle East.



# GLOBAL IMPACT

Across all its projects, both large and small, Masdar works to push the frontiers of technology, systems integration, performance and commercial viability. Most projects achieve enhanced outcomes and breakthrough results via Masdar partnerships with organizations in government, industry, academia and the non-profit sector.

Worldwide energy security cannot, however, be delivered solely via utility-scale projects. Masdar's Energy Services team delivers small, distributed and localized projects and installations in challenging and remote locations, often far off the grid. The team brings the technology, project management and partnership expertise gained from Masdar's large-scale projects to deliver clean energy to rural locations.

Benefitting hard-to-serve communities, these projects range from tiny Pacific Island micro-grids and rural solar home systems in Afghanistan and Morocco, to onshore wind in the Republic of Seychelles and off-grid community solar PV projects in Egypt. Project sizes range from 1.7 kilowatt (kW) rooftop solar home projects to community solar PV and wind generation facilities with capacities from 100kW to 10MW, although most are less than 1 megawatt.

In Egypt, 62,000 homes, schools, mosques, health clinics and government buildings across more than 140 communities have benefitted from the Energy Services team's activities. This includes adding more than 30MW of solar power that offsets 42,700 tonnes of CO2 emissions.





Projects across 11 islands in the Pacific region added more than 6MW of clean power, helping these communities save 3.2 million tonnes of fuel every year.

Similarly, a project was launched to deliver renewable energy projects to 16 Caribbean Island nations, of which five have been delivered, to help reduce reliance on fossil-fuel imports, increase energy access, and enhance climate change resilience.

Additionally, the Energy Services team offers energy management solutions to clients through energy performance contracting including: on-site renewable energy generation; building enhancements & retrofits; HVAC replacement & optimization; lighting upgrades; energy performance design reviews; and asset operations and maintenance services.

Every project creates an outsized impact by transforming lives through the delivery of new electricity access. In addition, projects have a multiplier effect by contributing to local and national social and economic development initiatives – such as providing technical training to local utility engineers, improving water security, and unlocking educational and business opportunities through the provision of new sources of electricity.



# CLEAN-TECH INNOVATION

Masdar thrives on innovation, taking technologies, and the region, to new frontiers. Masdar was the first company in the Middle East and North Africa to build a utility-scale concentrated solar power plant, the first to develop a commercial-scale carbon capture usage and storage (CCUS) project with the Abu Dhabi National Oil Company (ADNOC), and the first to develop a commercial-scale wind farm in the GCC region.

Masdar also led the region's first sustainable seawater desalination project, which comprised five pilot projects using different technologies. Working with Abengoa, Suez, Veolia/Sidem, Trevi Systems and Mascara NT, the pilot project concluded that reverse osmosis and solar power are commercially attractive, sustainable long-term mainstream solutions to water and energy security in the Gulf region. This is particularly significant as conventional seawater desalination is energy intensive.



# KNOWLEDGE PLATFORMS

Masdar believes that the advancement of our industry fundamentally depends on cooperation, partnership and knowledge transfer, with a holistic and inclusive approach across multiple stakeholder groups.

With this in mind, Masdar has created a number of powerful knowledge platforms for the global sustainability community. These include Abu Dhabi Sustainability Week (ADSW); the Zayed Sustainability Prize (ZSP); and strategic initiatives such as Women in Sustainability, Environment and Renewable Energy (WiSER), and Youth 4 Sustainability (Y4S).



## Abu Dhabi Sustainability Week

Abu Dhabi Sustainability Week (ADSW) is a global platform to address the world's most pressing challenges through crucial conversations accelerating sustainable development and fostering inclusive economic, social and environmental progress.

Established in 2008, ADSW brings together global sustainability leaders including heads of state, ministers, policymakers, business leaders and civil society to engage around the bold climate action necessary to ensure a sustainable world.



## Zayed Sustainability Prize

The Zayed Sustainability Prize is the UAE's pioneering global award that recognises and rewards small and medium-sized enterprises (SMEs), nonprofit organisations (NPOs), and global high schools with sustainable solutions.

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

Spanning six distinct categories that align with the global sustainability agenda — Health, Food, Energy, Water, Climate Action, and Global High Schools — the Prize reflects the UAE's commitment to driving inclusive and resilient sustainable development.





World Future Energy Summit (WFES) is a global industry platform connecting business and innovation in energy, clean technology and efficiency for a sustainable future, attracting world leaders, international policymakers, industry experts, investors from the public and private sector and media.

WFES is held during Abu Dhabi Sustainability Week, which is hosted by Masdar.



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

WiSER is a global platform that champions women as leaders of sustainable change.

Since 2015, WiSER has focused on the core pillars of education, engagement and empowerment, and is born of the UAE leadership's longstanding and continuing commitment to the role of women; a commitment traced directly back to the vision of the late founding father Sheikh Zayed bin Sultan Al Nahyan. Aligned to the UAE's net-zero goals, WiSER was also rooted in a recognition that more needs to be done to support women in the global mission to tackle climate change.



## Youth 4 Sustainability

Launched 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 global initiative that empowers the next generation of sustainability leaders. More than 41,000 young people – aged between 15 and 35 – have participated in Y4S activities since 2016. Y4S uses a combination of virtual and real-life events to teach its members about sustainability and leadership skills.



# LOOKING AHEAD

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For nearly two decades, Masdar has been pioneering clean technology.

As we work to support communities to reach their net-zero goals within the UAE and around the world, we are spreading awareness about the UAE's commitment to embrace the future through innovation, economic diversification and a partnership approach that can overcome any hurdle.

The future is as bright as we want to make it. Through Masdar, the UAE is embracing the huge potential that renewable energy and sustainability offer economies to energize growth, foster advanced R&D, and find solutions to global challenges. To find out more, visit our website: [www.masdar.ae](http://www.masdar.ae)





