

ANNUAL SUSTAINABILITY REPORT | 2021

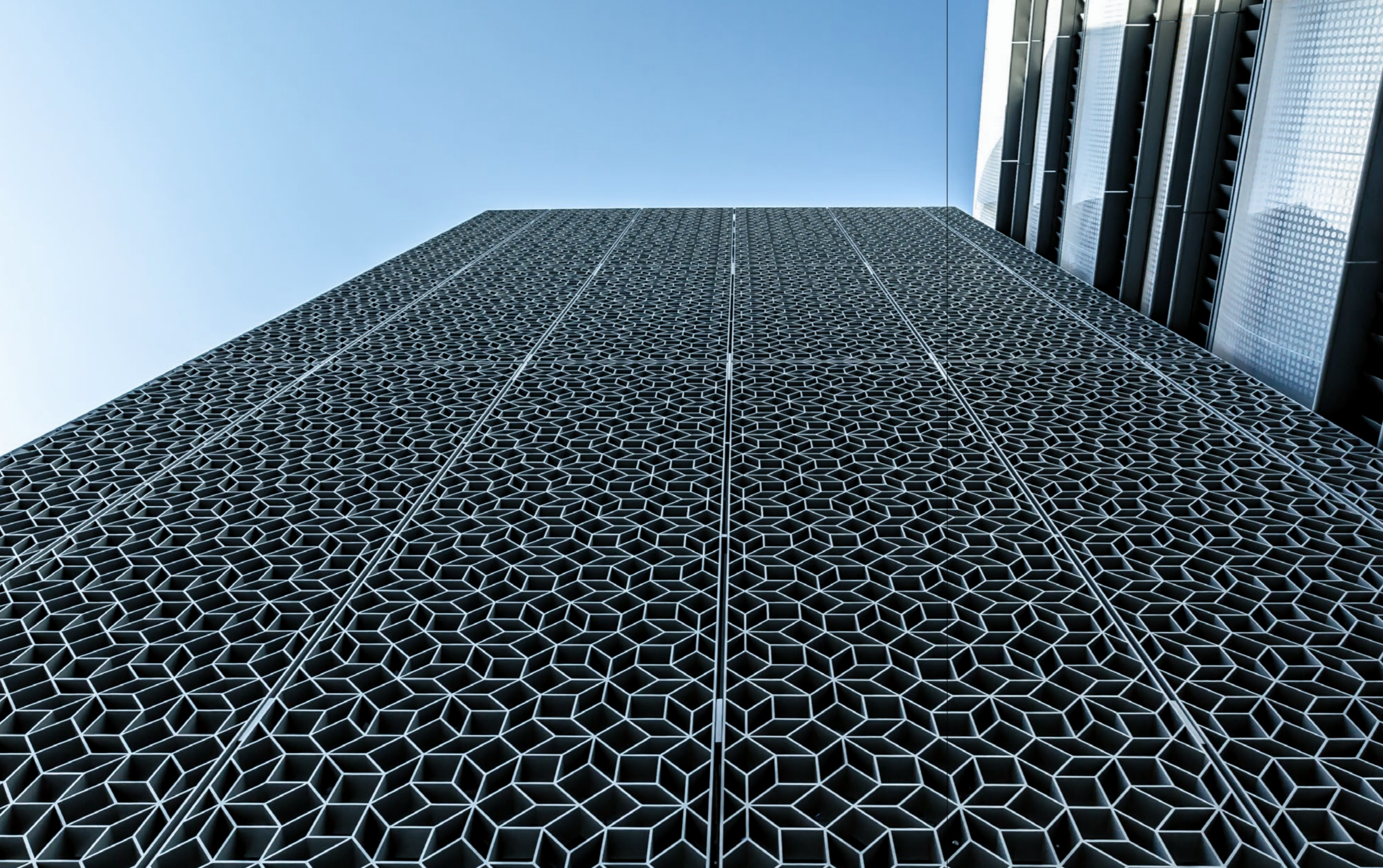


ANNUAL SUSTAINABILITY REPORT | 2021

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INTRODUCTION AND OVERVIEW



STATEMENT FROM OUR CHAIRMAN



HE Dr Sultan Ahmad Al Jaber
Chairman

I am pleased to present to you Masdar's 2021 Sustainability Report, the ninth edition of this landmark publication. This year, we marked milestone anniversaries both for Masdar, which turned 15, and for the United Arab Emirates, which celebrated 50 years since its founding.

As a trail blazer in ESG and in sustainability, I am proud of Masdar's successes over the past year in expanding its renewable energy footprint, securing its first investment-grade credit ratings, launching the region's first green real estate investment trust, attracting more innovators to Masdar City, and many more impressive achievements.

Masdar will continue to raise the bar in the years to come. Following the guidance of His Highness Sheikh Mohammed bin Zayed Al Nahyan, it was announced at the end of 2021 that three of the UAE's energy giants – ADNOC, TAQA and Mubadala – will join forces to transform Masdar into a truly global, super-charged, clean energy powerhouse.

The new Masdar will almost double its renewable energy capacity overnight. Building on this foundation, our ambition is to accelerate this development globally to reach 100 gigawatts (GW), and then to ultimately double that again.

This represents a huge opportunity, but also a big responsibility, not just to shareholders, partners and employees, but to the UAE itself as it accelerates its own sustainability journey. As Masdar expands, so must its ESG capabilities, ensuring this growth goes hand-

in-hand with stronger and more transparent sustainability and governance guidelines.

Masdar's sustainability expertise will also play a key role in helping the UAE achieve its Net Zero by 2050 Strategic Initiative, also unveiled in 2021, and support the journey to COP 28, being hosted here in the UAE in 2023.

In doing so, Masdar will align with the Principles of the 50, unveiled by the UAE's leaders to mark the nation's Golden Jubilee in 2021, and which sets out a roadmap for the next 50 years of sustainable growth.

Through its innovations in technology, project implementation and financing; its platforms and outreach supporting nations and communities most at risk from climate change; and through its adherence to best sustainable practices in governance and human capital, Masdar has been addressing the UAE's most urgent challenges since inception – and the world's.

I look forward to Masdar achieving even more in 2022.

MESSAGE FROM OUR CHIEF EXECUTIVE OFFICER



Mohamed Jameel Al Ramahi
Chief Executive Officer

It gives me great pleasure to present to you our 2021 Sustainability Report, which this year reflects a number of significant advances for Masdar as we continue to forge ahead with our ambitious sustainability agenda.

At Masdar, we are proud pioneers in communicating our sustainability goals and achievements to our stakeholders.

This, our ninth report, provides clear and concise information about our own sustainability philosophy, and offers an overview of our activities and achievements across these pillars throughout 2021.

Our mission since we were founded in 2006 has been to put the UAE on a path to a sustainable, diversified economy.

Today, the UAE is far along that path. The nation is recognized globally for its leadership on sustainability issues such as climate change; indeed, 2021 saw the UAE announce its Net Zero by 2050 Strategic Initiative, and awarded the honor of hosting the 28th Conference of the Parties (COP28) in 2023.

For Masdar, 2021 was a year of celebration, as we marked the 15th anniversary since our founding with a global campaign, For A Sustainable Future, showing our remarkable progress so far.

It was also one of expansion, as a number of long-planned projects and initiatives came to fruition, the most notable being that, following the guidance of HH

Sheikh Mohammed bin Zayed Al Nahyan, ADNOC and TAQA are joining Mubadala to transform Masdar into a global clean energy powerhouse.

It was also a year where COVID continued to disrupt our working lives. Ensuring the wellbeing of our employees, therefore, remained our number one priority, and I am very proud of how our employees embraced the programs, training and initiatives we put in place to maintain a great working environment for everyone.

Masdar's mission to help nations around the world meet their own sustainability goals accelerated in 2021. By the end of the year, we were committed to delivering a generating capacity of 15 GW around the world, an increase of 4.3 GW from 2020.

The amount of CO2 our projects abated increased to 7.5m tonnes in 2021 from an adjusted 5.4m tonnes in 2020, representing an increase of 38 percent in CO2 abated.

We entered new markets such as Azerbaijan, Armenia, Georgia, Greece, Iraq and Poland, growing our footprint to over 40 countries.

In Uzbekistan, we inaugurated the 100MW Nur Navoi Solar project, the country's first utility-scale solar farm, delivered the first power from the 400 MW Dumat Al Jandal wind farm in Saudi Arabia, and in Indonesia, we achieved financial close on the Cirata Floating Power Plant, the region's largest floating solar PV farm.

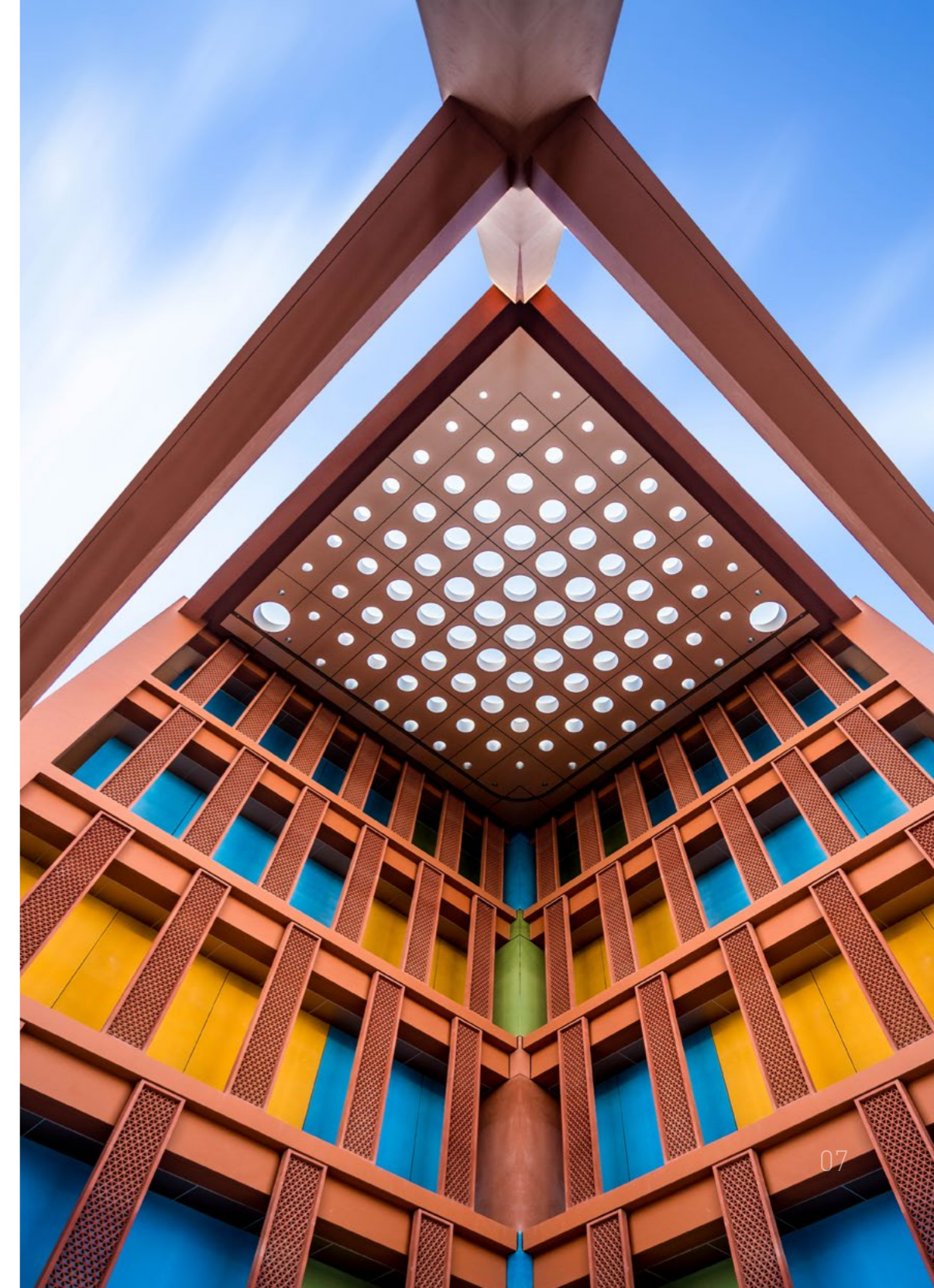
Masdar City, meanwhile, firmly established

itself as the Middle East's dedicated sustainability innovation hub, hitting the milestone of 1,000 active companies within our Freezone and achieving 99 percent occupancy in commercial assets.

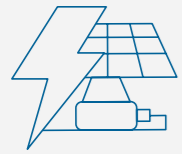
Next year will see Masdar and our sustainability mission scale even greater heights. With our new shareholders and structure in place, we are looking to grow our global clean energy capacity to 100 GW.

In doing that, we pledge to further strengthen our ESG credentials while increasing our contribution to the United Nations (UN) Sustainable Development Goals (SDGs), in line with the UAE's own efforts.

I look forward to working with all Masdar's stakeholders as we continue to set the pace for corporate sustainability in the UAE, the region, and wherever we operate.



MASDAR KEY HIGHLIGHTS 2021



~15,000 GWh+

generation from clean sources



A2/A+ Inaugural Credit Ratings

assigned by **Moody's and Fitch**, respectively, placing Masdar firmly in the investment grade category and opening up new avenues to find competitive funding for our projects



40 countries

and a portfolio of clean energy projects worldwide with a total value of more than **US\$20 billion** and a production capacity of over 15 GW



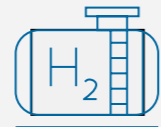
1,000+ active companies

registered at Masdar City free zone, with **99% occupancy** of commercial assets at the Middle East's dedicated sustainability innovation hub



~7.5M tons CO2

CO2 abated by clean energy portfolio during reporting period [1]



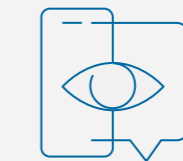
Green Hydrogen

entered key clean energy sector with strategic partnership with ENGIE to develop projects with a 2 GW capacity by 2030, with total investment of US\$5 billion; signing collaboration agreement with TotalEnergies and Siemens Energy to act as co-developers for a Masdar City demonstrator plant; signing strategic cooperation agreements with ADNOC and BP to develop two clean hydrogen centers in the UAE and the UK



15 utility-scale projects

announced during 2021, with a combined value of more than **\$US3 billion**



3m+ online views

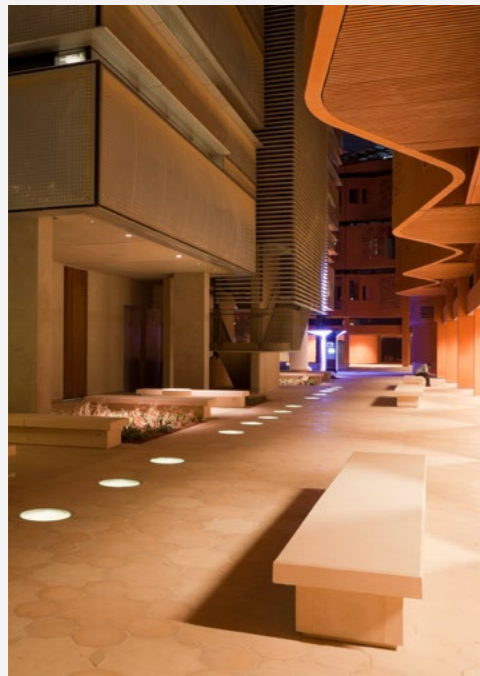
at **Abu Dhabi Sustainability Week 2021**, plus 500 global leaders from government, business and technology sectors

[1] CO2 abatement calculated based on actual generation and using the yearly updated grid emission factors in our respective operating markets

2021 OUR YEAR IN REVIEW

During 2021, significant advancements were made by Masdar in the renewable energy space that continue to support the UAE's leadership and vision – progressing the nation's ambition to achieve net zero emissions by 2050, while strengthening global efforts on climate action.

It was a year where Masdar committed to more than US\$3bn in renewable energy investments, bringing the combined value of our renewable energy portfolio to more than US\$20bn in over 40 countries worldwide.



SUPERCHARGING THE UAE'S LEADERSHIP IN SUSTAINABILITY

Our leadership and vision on sustainability begins firmly at home. As a result, this year has seen a number of strategic partnerships agreed with Abu Dhabi-based stakeholders who share our passion for making the UAE a global leader in sustainability.

In December, His Highness Sheikh Mohammed Bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, announced a new strategic agreement between Mubadala, ADNOC and TAQA.

This initiative brings the three UAE energy giants together under the Masdar brand to form a clean energy powerhouse intended to spearhead the drive to net zero emissions by 2050.

Signed at the UAE pavilion at Expo 2020 Dubai, the partnership will have a combined current, committed, and exclusive capacity of over 23 GW of renewable energy, with the expectation of reaching well over 50GW total capacity by 2030.

Upon completion of this transaction, the expanded Masdar entity will become one of the largest clean energy companies of its kind and be well positioned to lead the industry on a global scale.

We have strengthened our projects and commercial activities within the framework of our long-term strategy that aims to build a sustainable future for generations to come, and support the economic development and social goals of the UAE. It also continues the process of building and giving in a way that reflects the aspirations of the nation and is in line with the Principles of the 50.



In September, alongside ADNOC and BP, we signed a series of strategic cooperation agreements to develop two clean hydrogen centers in the UAE and the UK. The initial production capacity of one gigawatt each, in each of the two countries, supports our respective government's sustainability strategies.

Masdar's entry into the green hydrogen sector was also enhanced by the signing of a collaboration agreement with Siemens Energy and TotalEnergies to act as co-developers for a demonstrator plant project at Masdar City. The plant will help to establish the commercial viability of green hydrogen as an essential decarbonized fuel of the future, and support Abu Dhabi's development as a green hydrogen hub.

In addition, cooperation alongside ENGIE saw both companies sign an agreement with Fertiglode to develop a globally competitive green hydrogen production plant in the UAE.

The production capacity of 200 megawatts will support green ammonia development.

A further agreement was also inked with Cosmo Energy Holdings Co., one of the largest energy companies in Japan, to explore opportunities for developing renewable energy projects.

LEADING THE WAY IN GLOBAL SOLAR AND WIND

The year also saw a step change in our international investment in wind and solar energy production, signing agreements in countries such as Saudi Arabia, Iraq, the United States, Uzbekistan, Poland, Indonesia, Ethiopia, Ukraine, Kazakhstan, Armenia, Azerbaijan, Greece and Georgia.

In December, we inaugurated two wind energy projects in Poland, where we had acquired 50 percent stakes. Combined, the projects produce enough electricity to supply approximately 90,000 households in Poland, and offset 146,000 tonnes of carbon dioxide each year.

February saw us close phase one of a deal to acquire 50 percent of the 1.6 GW clean energy portfolio in the United States from EDF Renewables North America, via a tripartite memorandum of understanding.

In March, we signed an MoU with Petronas to discuss opportunities for cooperation and joint investment in developing renewable energy projects throughout Asia – such as in Malaysia, Vietnam and Taiwan – and further afield.

In the same month, we reached an agreement with Ethiopia to develop solar projects with a total capacity of 500 megawatts in multiple locations across the country.

In August, the Nur Navoi solar power plant in Uzbekistan, with a production capacity of 100 megawatts, was inaugurated. It is the first photovoltaic solar power plant at the level of service facilities in the country.

In the Middle East, we continued construction work on the Dumat Al-Jandal wind power plant project in the Kingdom of Saudi Arabia, where the plant has been connected to the main electricity network.

This Masdar-led consortium, which includes EDF Renewables and Nesma, is also cooperating in developing a 300 MW solar power plant in Jeddah, Saudi Arabia.

MASDAR CITY – A YEAR OF ONWARD EXPANSION

In 2021, Masdar City continued its progression as a leading center for innovative research and development initiatives and a leading business zone in Abu Dhabi.

The City welcomed more small, medium, and international companies throughout the year, and marked the opening of the world's first university dedicated to artificial intelligence, the Mohamed bin Zayed University of Artificial Intelligence (MBZUAI).

Masdar City is now home to more than 1,000 companies, all of which benefit from world-class infrastructure support, exceptional digital facilities, as well as cutting-edge legislative frameworks and research and development initiatives.

In support of the Abu Dhabi leadership's business stimulation activity, Masdar City's Free Zone launched highly competitive new business packages to further promote entrepreneurship and innovation in the UAE.

A number of new research projects were also launched at the City, including the world's first solar/thermal energy storage-powered project to extract water from air by AQUOVUM, Khalifa University and Masdar, and the Azelio electrical thermal energy storage system technology that enables 24/7 clean energy utilization, also based at Masdar City's Masdar Institute Solar Platform.

Masdar City also launched 'Innovate', a global initiative to identify and develop the next generation of sustainable technologies which will focus on the areas of urban mobility, clean energy, agritech and food security, water, energy storage, and artificial intelligence.



YEAR OF THE 50 – OUR MILESTONE ACHIEVEMENTS

As the UAE celebrated its Golden Jubilee, Masdar marked 15 years of impact in clean energy and sustainability in the UAE and around the world



2006

Masdar initiative launched

2008

Masdar City breaks ground

World Future Energy Summit launched in Abu Dhabi

2009

First Zayed Future Energy Prize awards ceremony

Masdar inaugurates 10 MW photovoltaic plant at Masdar City site – first grid-connected renewable energy project in the UAE

2010

Launch of Personal Rapid Transit (PRT) system in Masdar City

2013

Masdar inaugurates Shams 1 in Abu Dhabi, the UAE's first large scale solar power plant with a capacity of 100 MW

Masdar inaugurates London Array with a capacity of 630 MW

Launch of Abu Dhabi Sustainability Week

2014

Masdar inaugurates the Siemens Middle East headquarters in Masdar City, the first LEED Platinum certified office in Abu Dhabi



2015

Masdar inaugurates the headquarters of the International Renewable Energy Agency (IRENA) in Masdar City



2016

DEWA appoints Masdar & EDF to build 800 MW third phase of the Mohammed bin Rashid Al Maktoum Solar Park in Dubai

2017

Inauguration of 402 MW Dudgeon Offshore Wind Farm in the UK

Launch of the UAE-Caribbean Renewable Energy Fund. Masdar

launches Emirates Waste to Energy Company with Bee'ah in Sharjah, to develop the UAE's first waste-to-energy facility with a capacity of 30 MW

Masdar, with Equinor, launches the 30 MW Hywind Scotland, the world's first floating wind farm



2018

YEAR OF ZAYED

The Zayed Future Energy Prize evolves into the Zayed Sustainability Prize

Launch of the 200 MW first stage of the third phase of the Mohammed bin Rashid Al Maktoum Solar Park

Batwind, the world's first battery connected to an offshore wind farm, is launched at Hywind, Scotland



2019

YEAR OF TOLERANCE

Inauguration of 158 MW Cibuk 1 Wind Farm in Serbia

The EDF Renewables-Masdar consortium is awarded the Dumat Al Jandal (400 MW) wind project in Saudi Arabia

Masdar inaugurates three solar projects in the Caribbean as part of the UAE-Caribbean Renewable Energy Fund (UAE-CREF)

Masdar is awarded the 100 MW Uzbekistan Scaling Solar PV Project A consortium of EDF Renewables

Masdar and Green of Africa wins Morocco's landmark Noor Midelt Phase 1 hybrid solar power plant

2020

YEAR OF PREPARATION FOR THE NEXT 50 YEARS

Masdar's first entry into Azerbaijan and Uzbekistan with utility scale solar and wind projects

Masdar signs deal with EDF Renewables North America

for acquisition of 1.6 GW clean-energy portfolio

Expansion of presence in Australia with investments in two waste-to-energy projects in Western and Eastern Australia

Masdar signs agreement to deliver Cirata first floating solar photovoltaic plant in Indonesia

Masdar is named as part of a consortium that will develop the world's largest solar power plant in Al Dhafra Abu Dhabi, at a new record low rate

The UAE-Caribbean Renewable Energy Fund (UAE-CREF) successfully completes new development and funding agreements for eight Caribbean nations

Masdar's sustainable real estate investment trust (REIT) becomes the first 'green' REIT to be introduced in the UAE

2021

YEAR OF THE 50

First ever credit ratings received from Moody's and Fitch, placing Masdar firmly in the investment grade category and opening up new avenues to find competitive funding for our projects

A portfolio of clean energy projects in around 40 countries worldwide with a total value of

more than US\$20 billion and a production capacity of around 14 gigawatts

Green hydrogen strategic partnership with ENGIE announced during French President Macron's UAE visit, to develop projects with a capacity of at least 2 GW by 2030, with total investment of US\$5 billion

Further green hydrogen agreements with Mubadala, where we signed a Memorandum of Understanding (MoU) with ADNOC and ADQ to form the Abu Dhabi Hydrogen Consortium; Siemens Energy and TotalEnergies to co-developer a demonstrator plant project at Masdar City; Engie and Fertigllobe to develop a globally competitive green hydrogen production plant in the UAE; and Cosmo Energy Holdings Co., one of the largest energy companies in Japan

Over 1,000 active companies reached at Masdar City Free Zone, with 99 percent occupancy of commercial assets at the Middle East's dedicated sustainability innovation hub





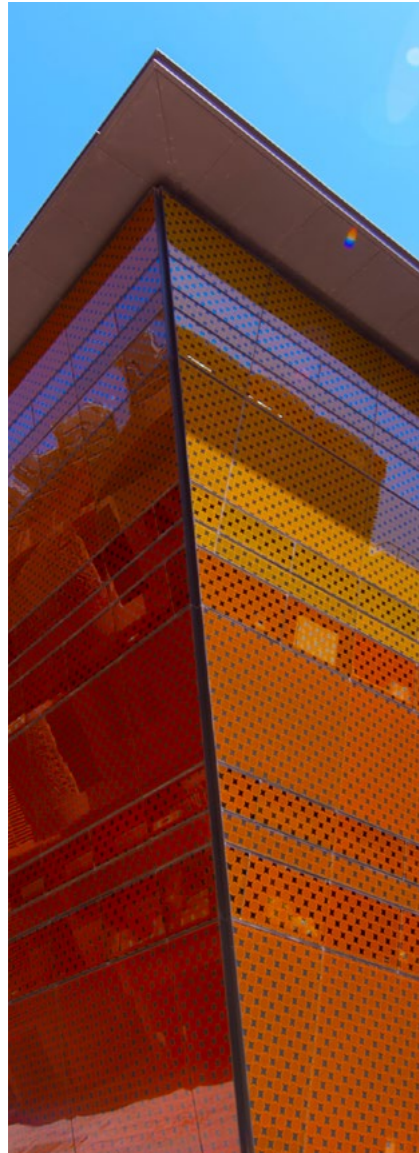
PRINCIPLES OF THE 50

The year 2021 is a momentous one for the UAE, marking 50 years since the founding of the union, and providing an opportunity to look ahead to the next 50. As the country enters the next phase of its journey, the UAE leadership unveiled in September the landmark Principles of the 50 document.

The 10 principles lay out a roadmap for the UAE's national development, and Masdar has a vital role to play in helping the country realize these principles. The business and social impact of Masdar and its strategic initiatives in the UAE and overseas over the last 15 years are testament to its alignment with the UAE's domestic and foreign policy objectives and, especially now, the Principles of the 50.

As with all ministries, federal and local government authorities and institutions across the UAE, Masdar is called to rigorously adhere to all of these guiding principles for the next half century of progress and development. But there are some principles that particularly call on Masdar to step up to the challenge of the next 50 years.

HOW MASDAR ALIGNS WITH KEY PRINCIPLES



02 PRINCIPLE TWO

Building a dynamic economy

The second principle calls on us all to build the best and most dynamic economy in the world. At Masdar, we are investing in projects in the UAE that utilize cutting-edge technologies, as well as piloting new business models and technologies across the sustainability spectrum including autonomous mobility and hydrogen. Our flagship initiative Masdar City is an innovation and technology cluster, with over 1,000 businesses located there – everything from multinationals to homegrown start-ups.



03 PRINCIPLE THREE

A collaborative foreign policy

Principle three focuses on achieving foreign policy goals that support the UAE's economic interests, to provide the best quality of life for our citizens. Masdar's strategic investments in more than 40 countries around the world and knowledge sharing with global partners serve these foreign policy goals and economic interests. We have investments with a gross value of US\$20 billion in markets including the UK, the US, Australia, Southeast Asia and in Central Asia, through our projects in Indonesia, Azerbaijan, Armenia and Uzbekistan, to name a few.

04 PRINCIPLE FOUR

The value of people

The fourth principle is focused on human capital as a driver of growth. Masdar is committed to growing and developing the talent of the future by striving to achieve gender balance by upskilling women in the sustainability industry.

We have created a number of platforms to develop world-class human resource and capital for the future, such as WiSER, Youth 4 Sustainability (Y4S) and internal programs such as Leadership Excellence with Harvard Business Review, Pioneers of Success, Emerging Leaders and a mentorship program. These are all aimed at developing youth and Masdar's mid-management employees.

05



PRINCIPLE FIVE

Being a good neighbor

The fifth principle prioritizes good neighborliness, particularly in our region. Masdar is a representation of the UAE's sustainability vision, through our regional investments and we are working with our neighbors and friends to build a sustainable future for all. We fully support the UAE's climate action agenda and work on climate change mitigation across the globe.

Masdar is proud to be recognized as a champion asset, crucial to the UAE's sustainability and climate change mission.



07 PRINCIPLE SEVEN

The power of innovation

The digital, technical and scientific potential of the UAE is recognized as the benchmark of success in the seventh principle. Masdar champions innovation and technology through its world first projects and investments, such as at Masdar City, where we have built a 'greenprint' for urban sustainable living and technology.

We are also supporting the region's first clean technology start-up accelerator – The Catalyst. We have developed regional-first projects such as the 50 MW Dhofar wind farm in Oman (developed in collaboration with ADFD), the floating solar PV plant in Indonesia (Cirata) and the world's first floating wind project in Scotland (Hywind), as well as a number of innovative clean energy projects across the world.

09 PRINCIPLE NINE

Our humanitarian mission

The humanitarian mission of the UAE is encapsulated in the ninth principle. In every investment we make, Masdar is focused on the impact it will have on communities across the world. The Zayed Sustainability Prize is a pioneering global award in sustainability, which has generated sustainability solutions for over 352 million people across the world.

Masdar has also developed grant-funded renewable energy projects across 11 Pacific Island nations and 16 Caribbean Island nations in

collaboration with the Abu Dhabi Fund for Development (ADFD). Furthermore, we have deployed Abu Dhabi-funded projects in other parts of the world such as Afghanistan, Mauritania, Morocco, Egypt and elsewhere.

The Principles of the 50 are bold, ambitious and at the heart of what the UAE aspires to be as a nation over the next half century, and they match the ambition and determination we at Masdar hold for a sustainable energy future.



15 YEARS OF MASDAR: FOR A SUSTAINABLE FUTURE



In April this year, we were proud to launch “For A Sustainable Future”, a global, multi-channel campaign to reinforce the company’s leadership in renewable energy and sustainable technology, highlight the sustainable development goals of the UAE, and reiterate our commitment to a sustainable future for all.

The timing of the launch was no coincidence – it marked 15 years since Masdar was established to drive the sustainability agenda across the UAE and beyond, and it also coincided with the state visit of John Kerry, the US Special Presidential Envoy for Climate.

The campaign was successfully delivered in three phases, each highlighting the vital work of all of Masdar’s operations: our extensive clean energy portfolio; the technology and sustainable innovations of Masdar City; and our current and future strategic initiatives. The campaign gathered momentum throughout the year, building up to the COP26 UN Climate Change Conference held in the UK in November, at which Masdar was able to showcase its strategic initiatives to the world.

We used the publicity generated by the campaign to promote a series of important announcements made by the Masdar clean energy unit and its international partners.

These included the design, financing, building and operating of Zarafshan, the first wind farm in Uzbekistan, the energization of the Middle East’s largest wind farm at Dumat Al Jandal in the Kingdom of Saudi

Arabia, and a strategic agreement with Iraq’s National Investment Commission to develop solar projects with a minimum capacity of 2 gigawatts – enough to power 2 million homes. Masdar commissioned For A Sustainable Future to demonstrate to the world how seriously the UAE takes the global sustainability agenda.

The campaign included regional and international television commercials, online advertisements in English and Arabic publications, outdoor advertisements in strategic locations around the world, and a comprehensive social media launch. The campaign also included a short film, conveying the purpose and ambition of Masdar.

We were particularly proud to have our sustainability leadership displayed on LED billboards across the world, such as in New York’s Times Square, Beijing Airport, and the King Abdulaziz International Airport in the Kingdom of Saudi Arabia.

For A Sustainable Future is not simply a one-off campaign; it heralds the step change that Masdar took in 2021 to inspire and support the world as a global sustainability leader.

The campaign saw a huge increase in global interest in the work of Masdar, with our website receiving around 338,000 hits in the opening weeks of the campaign, and Masdar City’s business development team receiving over 3,000 prospective enquiries in the first few months.

AN OVERWHELMING SUCCESS

For A Sustainable Future generated widespread media coverage, both domestically and internationally, and was a big hit on social media



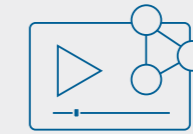
270+
articles



400m+
potential reach



\$400m+
advertising value
equivalency



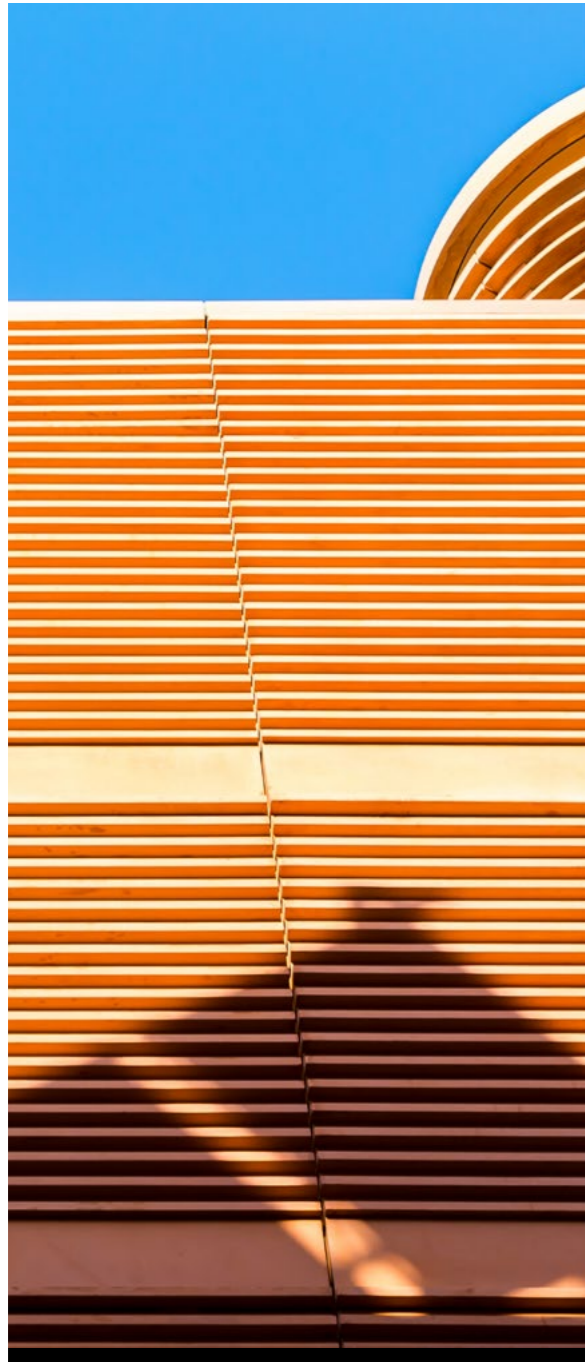
5.5m+
video views across
social media



#No 1
campaign hashtag
trended in the UAE, KSA, Kuwait,
Bahrain, Qatar and Oman



227m
impressions



MISSION, VISION AND VALUES

OUR VISION

To make Abu Dhabi the world's reference for knowledge and collaboration in the advancement of renewable energy, clean technologies and sustainable development.

OUR VALUES

AGILE

We believe that success in today's energy sector requires the ability to move swiftly in sync with changes in technology.

COMMERCIAL

We believe that the best way to increase the use of clean technologies is to demonstrate that they are commercially viable.

OUR MISSION

To help maintain the UAE's leadership in the global energy sector, while supporting the diversification of both its economy and energy sources for the benefit of future generations.

SUSTAINABLE

We believe that sustainability should be a key consideration in all decision making.

GROUNDDED

Everything we do is grounded in what is technically and financially feasible. We believe this ultimately leads to better technology, healthier business returns, and the wider use of renewable energy.

OUR APPROACH TO ENVIRONMENT, SOCIAL AND GOVERNANCE



When we hosted Abu Dhabi Sustainability Week at the beginning of this year, we made the point that Environment, Social and Governance practices (ESG) are now mainstream for all companies. Led by growing investor awareness and the popularity of purpose-led business strategies, ESG has reached enough of a critical mass that it is clearly the future for all organizations, and Masdar is proud to be a pioneer of putting this step change into practice.

Our Masdar Sustainability Committee (MSC), an employee-led body, focuses on identifying and implementing sustainable practices wherever we work. Via the Committee, we are integrating sustainability into Masdar's day-to-day operations, initiatives and practices and seeking to increase sustainability awareness across the company. We are also taking a leading role in best environmental practices and reducing our environmental impact in the workplace.



The Committee's focus is on five 'Pillars of Action' – Comfort & Well-being, Energy, Transport, Waste and Water. The Committee is an employee-led initiative, empowering all Masdar colleagues to make a difference in how we approach our lives in the office or the field, and also at home.

As Abu Dhabi's future energy company, ESG has always been at the core of our mission and purpose since we were founded over 15 years ago. Our mandate was to seek quality investments in renewable energy and sustainable technologies.

We invested in sectors that were still in their early stages at the time, taking an early-mover risk both with regards to technologies and also in terms of regulatory support schemes and competitive business models. Our pioneering journey was not easy, but Masdar has stayed the course to deliver tangible results.

Our approach to ESG focuses on actions that drive absolute and positive impact. This is especially important in how we choose our investments. Since 2006, we have built a balanced and resilient portfolio that has long-term value and impact and delivers strong operational results, while prioritizing positive environmental and social impact.

This approach extends to our role as the host of Abu Dhabi Sustainability Week (ADSW) and our strategic initiatives such as Women in Sustainability,

Environment and Renewable Energy (WiSER) and Youth 4 Sustainability (Y4S).

This also covers critical internal governance functions, where we follow the best practices championed by our parent body, Mubadala Investment Company, and our own platforms such as our ethics, diversity and inclusion program and our responsible sourcing initiative.

ESG FRAMEWORK

ENVIRONMENT



Masdar is advancing the commercialization and deployment of renewable energy, sustainable urban development, and clean technologies to address global sustainability challenges and mitigate climate change.

Masdar also advances clean-tech innovation and plays a key role in supporting world-class industry and knowledge platforms that are driving the global sustainability debate, such as ADSW.

Guiding principles

- Provide low-carbon energy for the future.
- Ensure that every project is delivered to the highest standard.

SOCIAL



Masdar is a responsible corporate citizen, providing meaningful employment, a safe workplace, and a healthy environment that respects tradition and local culture.

Guiding principles:

- Be an industry leader in health, safety, and environment practices and performance.
- Develop a diverse and inclusive workforce.
- A commitment to community-driven initiatives.

GOVERNANCE



Mubadala Investment Company, Masdar's sole shareholder, manages long-term investments that deliver strong financial returns and genuine social benefits for Abu Dhabi. The Mubadala Board of Directors is responsible for ensuring that there is an effective ethics and compliance program in place. We have established an Ethics & Compliance Office to develop, coordinate, and support the ethics and compliance program across the Mubadala Group. The Ethics & Compliance Office reports functionally to the Board's Audit, Risk & Compliance Committee and has direct access and support from the Ethics & Compliance Review Board, which consists of Mubadala's senior executive management.

Masdar was one of the first UAE companies to roll out a formal Ethics, Diversity & Inclusion (ED&I) program and to establish a committee with the formal mandate to continue our ED&I initiatives.

Guiding principles:

- Ensure appropriate focus and oversight on ESG strategies and practices.
- Continually improve governance structure and processes.

ENVIRONMENT SOCIAL GOVERNANCE

CREDIT RATINGS

In a major step forward, Moody's Investor Services and Fitch Ratings assigned Masdar first-time credit ratings, which place us firmly in the investment grade category – a milestone for our company and one that heralds a new era of sustainable growth.

Moody's and Fitch, two of the leading agencies that evaluate the creditworthiness of commercial and sovereign entities, issued long-term ratings of A2 and A+ respectively, both with a stable outlook, following extensive due diligence in accordance with their global ratings standards.

Masdar's status as a Government Related Entity (GRE) of the Government of Abu Dhabi, itself rated Aa2 by Moody's and AA by Fitch, and the company's status as a subsidiary of Mubadala Investment Company and Mamoura Diversified Global Holding PJSC, were key drivers in determining the ratings.

The ratings will provide us with a solid platform to access capital markets should we want to, providing greater flexibility for financing of and investment in new projects at competitive rates as we accelerate our global expansion.

In setting the ratings, the agencies cited Masdar's extensive track record and sector expertise, in addition to our very low exposure and reliance on external debt, supported by strong backing from Mubadala and the Abu Dhabi Government.

With a portfolio of sustainable real estate and renewable energy assets, combined with the crucial role we are playing in the diversification of the Abu Dhabi economy, Masdar is now primed for accelerated growth worldwide.

The A2 and A+ ratings from Moody's and Fitch reflect Masdar's robust portfolio of renewable energy and sustainable real estate assets and its crucial role in the diversification of the Abu Dhabi economy.

The ratings demonstrate the strength of Masdar's position as a global player in the sustainable development sector and validate the futuristic ambitions that started more than 15 years ago when Mubadala first incubated Masdar as the UAE's renewable energy and sustainable urban development arm.



When assessing the company's main revenue drivers, the ratings agencies made the link between Masdar City, the company's flagship sustainable urban development project, and the increasing global appetite for sustainable real estate developments, with the added advantage of Masdar being a free zone located strategically between Europe and Asia.

They also analyzed Masdar's second primary revenue source – our investments in global clean-energy projects, with increasing demand for energy-transition investments and providing solid long-term growth opportunities for the company.

The award of these investment grade credit ratings marks a key milestone in Masdar's development journey.

The ratings are a strong endorsement of Masdar's financial stability and the creditworthiness of our core business model, and reflect confidence in Masdar's cash generation ability, unrestricted liquidity and future growth prospects as an Abu Dhabi-based company. As we progress on our global expansion journey, we recognize the importance of transparency and good governance, and our first-time ratings are testament to those values.





Yousef Ahmed Baselaib
Executive Director,
Strategy & Corporate
Development

At Masdar, we can't look at strategy – our roadmap to future growth and prosperity – without accounting for Environment, Social Governance (ESG) factors at every step.

After all, whether it's investing in clean energy here and abroad or building low carbon buildings and cities, sustainability is our business.

It's also built into our DNA. If we look back to 2006, when this company was launched by our wise leaders, sustainability wasn't a common word in boardrooms, and particularly not in the UAE. Fast forward to today, and we see how prescient the vision of the UAE leadership is – sustainability is the talk of the world.

That's exciting for Masdar as we plot our future. We have been playing our part, building up to this new sustainable world, for the past 15 years. Today, Masdar is invested in, or is committed to invest in, clean power projects with a capacity of 15 GW, in over 40 countries.

Looking to our future, it's important to understand what 'strategy' really means from a business perspective. Essentially, our strategy sets out a clear path for how we can continue to thrive and grow in what is becoming a very competitive market. Today, that means looking at the big international players in our space, and looking at how we compete with them.

That's why the announcement of new investment into Masdar, to support our Clean Energy and Hydrogen businesses, is so important from a strategic point of view.

With ADNOC and Taqa coming on board, Masdar will transform into a sustainability powerhouse, with 23 GW of clean energy

capacity from the starting blocks, and ambition to at least double that – maybe even triple – by 2030.

This is a huge step, and one that shows the trust put into Masdar by our leadership to be a flag carrier for sustainable UAE businesses abroad – we were already one of the fastest growing clean energy companies in the world. Now we want to be among the biggest. So we would like to, if I can say it, 'conquer the world' with our renewable energy initiatives.

Our strategic imperative is growth – but we must grow sustainably. That means ensuring our business adheres to the UAE's sustainability objectives and our projects are benefitting the societies in which we operate.

It means that, while we have a 'top down' corporate setup for sustainability, ensuring all the right processes and rules are in place, we must also encourage a 'grassroots' approach.

In the workplace, for example, we expect all our employees to play their part in trying to live more sustainably and educate those around them on how they, too, can play a part.

It means ensuring we have the programs in place, like ADSW, Zayed Sustainability Prize, WiSER and Y4S that help encourage sustainability in wider communities. And it means ensuring Masdar continues to be the benchmark and the inspiration for sustainable growth among the business community in the UAE, the region, and, eventually, the world.



PROJECT IN FOCUS

SHARJAH WASTE TO ENERGY PROJECT (SWTE)

Emirates Waste to Energy Company, a joint venture between BEEAH, the Middle East’s leading and award-winning environmental management company, and Masdar, is developing the Sharjah Waste to Energy plant, the first project of its kind in the UAE.

The partnership was signed and announced at Abu Dhabi Sustainability Week (ADSW) 2016, with the joint development agreement signed and announced during ADSW 2017. Financing agreements were signed in Q3 2018 with the lending banks and financial institutions.

In January this year, Masdar and BEEAH signed a Memorandum of Understanding (MoU) to explore adding carbon capture, utilization, and storage (CCUS) technology at the plant, located within BEEAH’s Waste Management Center in Sharjah.

Under the MoU, we will work together to explore ways to capture the carbon dioxide from the plant’s flue gas through an on-site carbon capture facility, with the trapped carbon dioxide sold to Masdar for use on future carbon-neutral fuel projects. Sourcing the carbon from a waste incineration plant enhances the sustainability

attribute of the produced carbon-neutral fuels as carbon dioxide emissions from waste treatment plants are widely regarded as unavoidable emissions. Masdar and BEEAH will also collaborate with a third-party to identify the appropriate carbon capture technology for the project, as well as to design, build and operate the facility.

When complete in 2022, the Sharjah waste-to-energy facility

will divert approximately 300,000 tons of solid non-recyclable waste from landfill each year, helping the emirate achieve its zero waste-to-landfill target. It will also generate up to 30 MW of power – enough to power 28,000 homes – which will be supplied directly to the Sharjah electricity grid. The facility will also displace almost 450,000 metric tons of carbon dioxide emissions per year – equivalent to removing 100,000 cars from the road.



PROJECT IN FOCUS

ZARAFSHAN WIND FARM

In June 2020, Masdar signed an agreement with the Ministry of Investments and Foreign Trade of the Republic of Uzbekistan and JSC National Electric Grid of Uzbekistan to design, finance, build and operate a 500-megawatt utility-scale wind farm project.

The Zarafshan Wind Farm will be located in the Navoi region. With a capacity of 500 MW, the project will provide enough electricity to power 500,000 homes. Once completed, the wind farm will displace 1.1 million tonnes of carbon dioxide per year.

Developed, built and operated by Masdar, the wind project is set to be the largest of its kind in Central Asia and the first to be constructed in Uzbekistan. Commercial operation is expected to be achieved in 2024, and the project will contribute to Uzbekistan’s target of generating 25 percent of its electricity from renewable sources by 2030.

In April 2021, we signed an Implementation Agreement with the Uzbekistan Government to extend the capacity of the project to up to 1.5 GW, to further help Uzbekistan achieve its objectives of adding up to 3 GW of wind energy and meeting 25 percent of its electricity needs from renewable sources by the end of the decade.

And in July of the same year, we announced the expansion of our Uzbekistan footprint, with the signing of agreements to develop three additional PV power projects in the country, following a competitive tender, for a combined capacity close to 900 MW.



A MESSAGE FROM OUR PARTNER

AT EDF, SUSTAINABILITY IS A WAY OF LIFE




Jean-Bernard Lévy
Chairman and CEO of EDF

At EDF, our CSR commitments are the direct translation of our “raison d’être” which has been included in our bylaws since May 2020. It relies on four pillars:



CARBON NEUTRALITY
AND CLIMATE



WELL-BEING AND
SOLIDARITY



PRESERVING THE
PLANET'S RESOURCES



RESPONSIBLE
DEVELOPMENT

These four pillars integrate what we believe are the biggest ESG challenges we need to address as an energy company in the coming decades.

We have chosen 16 KPIs to measure annually our CSR progress related to these pillars such as: carbon intensity in line with our trajectory validated by Science Based Target Initiative as being compatible with the Paris Agreement; our progress in favor of biodiversity; presence of women in all group steering committees; and our annual rate of procurement towards SMEs to measure the impact of our responsible purchasing policy.

We are committed to building a net zero energy future and are proud to be the world's largest producer of zero direct CO2 emissions with 452 TWh in 2020, thanks to nuclear and renewables.

For us, climate and biodiversity are definitely two sides of the same coin, and hold the same level of urgency. We have taken new commitments with ACT4nature which reflect our longstanding positive approach to biodiversity, which is not limited to

understanding and reducing the impacts of our activities, but also having a positive effect on biodiversity

Furthermore, we believe that the fight against climate change needs all talents and EDF is committed to reflect the society it exists to serve. For EDF, achieving gender equality is the essential condition to completing a “just transition”.

Therefore, in 2020, after exceeding our 2023 target three years ahead of plan, we set in 2021 a new target of 36% to 40% of women in the Group in all levels (employees, managers, management committees) by 2030.

Lastly, we are proud of our ESG performance that has been confirmed in 2021 in all the major non-financial rating agencies such as CDP, Sustainalytics and Vigeo.

Being among the best-scored companies in our sector is a testimony of our long-term transparency, accountability and global leadership in sustainable developments.

In order to address our CSR commitments, especially with the net zero goals, our partnership with Masdar is key in this region of the world. EDF required a partner with depth and breadth of expertise in renewable energy technologies, energy markets, policy and structuring.

Since 2017, a strong long-term partnership established between EDF and Masdar has jointly contributed to the Middle East's turning point in Energy transition

Our partnership with Masdar has already proven successful in the Middle East: in Saudi Arabia with Dumat Al Jandal, the largest wind project in the region, as well as the 300 MW Jeddah solar PV project; in Dubai with DEWA III, a 800 MW PV solar

power plant; and in Abu Dhabi with Al Dhafra, the largest PV project in the world.

Further alliances have been sealed between Masdar and EDF Renewables in continuing to build our strategic global partnership in several countries, including joining forces with Masdar in the Israeli market, where EDF Renewables Israel has built a leading position over the past 10 years, but also in the United States of America and in North Africa.



A MESSAGE FROM OUR PARTNER

RENEWABLES; THE FOUNDATION OF NET ZERO & SUSTAINABLE LIVING



Ibrahim Al Zu'bi
Chief Sustainability Officer,
Majid Al Futtaim

The year 2021 will be remembered as a groundbreaking one for worldwide climate pledges.

This persistent commitment to driving clean growth is dominant in the context of ongoing challenges from a global pandemic, which poses a stark warning of the potential catastrophic consequences that could increase in frequency and severity without turning national and organizational commitments into tangible action.

However, the need to do more is evident, most clearly reflected in the Glasgow Climate Pact of COP26, which commits almost 200 nations to reporting their progress toward more climate ambition at COP27 in 2022 in Egypt.

The United Nations Environment Programme (UNEP) Emissions Gap Report released in October 2021 warned that countries' latest action plans for decarbonizing, also known as Nationally Determined Contributions (NDCs), will only reduce predicted 2030 emissions by 7.5 percent.

Sadly, this is far short of the 55 percent reduction in emissions essential to meet the 1.5°C Paris Climate Agreement target. Based on currently agreed policies, the world is on track for a minimum of 2.7°C of warming.

If countries were to meet their most recent conditional and unconditional commitments,

as well as their net zero carbon pledges, this figure drops to approximately 2.2°C⁽¹⁾.

However, this falls significantly short of the 1.5°C target required to avert the severe impacts of climate change.

Renewable energy solutions and innovation are the foundation to the transition of nations and businesses to net zero.

With emissions reduction targets now at an unprecedented level, and the UAE announcing its own net zero by 2050 pledge – the first country in the Middle East and North Africa (MENA) region to do so – we can expect to see a significant ramp-up in innovative energy solutions and deployment.

For example, the International Energy Agency's (IEA) Renewables 2021 report ⁽²⁾ shows that additions of renewable power capacity are on track to achieve an annual record, with almost 290 GW's commissioned over the last year, largely driven by solar photovoltaics. This is extremely encouraging.

With 70 percent of the world's population estimated to be living in cities by 2050, best practice examples of sustainable living are becoming increasingly available across the Middle East. Masdar City is the prime example, where clean technologies, renewable energy, and a cleaner, greener, and healthier lifestyle, have been used to influence the city's design at the project outset.

At Majid Al Futtaim, we are proud to be partnering with a company which shares our passion and drive for a more sustainable tomorrow. My City Centre Masdar marks our first shopping mall in Abu Dhabi, delivering essential services, products, and experiences to the residents of Masdar City, and is a reflection of our commitment to redefine the experience for our customers and integrate leading environmental principles.

For example, the mall's 600 car parking bays are shaded by a roof which houses photovoltaic cells that generate electricity equivalent to a fifth of the mall's annual energy use.

Beyond renewables' impact on global emissions, their deployment can have a widespread impact on people's lives.

Our collaboration with Masdar on the UAE's 20by2020 initiative, providing sustainability solutions and technologies to last-mile and off-grid communities, led to 6,500 people in Jordan and Egypt gaining access to energy through solar-powered streetlights.

The streetlights offer both a secure, reliable, and cost-effective source of clean energy whilst providing light for critical infrastructure and safety to citizens walking the street at night. It can reduce traffic incidents and crime, support social gatherings, children's education and longer operating hours for businesses.

As a community developer, embedding clean energy opportunities at the project outset ensures we prioritize the growth of resilient and sustainable places where people can live.

Although substantial action is needed on the road to net zero and more sustainable living, companies like Masdar provide the much-needed innovation, optimism, skills, and ambition to drive forward a vision of a brighter future.

The benefits of urban development with renewables and clean technological solutions at their core are no longer disputable and are vital if we are to realize the vision set by the achievement of the United Nations' Sustainable Development Goals (SDGs).

With the technologies and solutions largely in existence, we need to mobilize support, accelerate action, and continue to foster the partnerships necessary for transforming the global energy system.

⁽¹⁾United Nations Environment Programme (UNEP) Emissions Gap Report (October, 2021)

⁽²⁾<https://iea.blob.core.windows.net/assets/5ae32253-7409-4f9a-a91d-1493ffb9777a/Renewables2021-Analysisandforecastto2026.pdf>



SUSTAINABLE FINANCE AND INNOVATION

A GREEN STANDARD FOR FINANCE



Niall Hannigan
Chief Financial Officer

At Masdar, we consistently approach finance from the view of enhancing sustainability. Whatever capital we raise is always deployed for a sustainable purpose, and in pursuit of an environmental, sustainability or governance (ESG) goal.

Sustainability is at the core of our business and how we finance it, and we're proud that this green finance approach helps us demonstrate that Masdar is an innovator and first-mover in renewable energy, clean technology and sustainability, as well as in accessing financial markets and implementing sustainable financial instruments and solutions.

Our green revolving credit facility (RCF), the first of its kind in the region, and the establishment of the Masdar Green REIT, the first REIT focused on investments in sustainable real estate assets in the region, are prime examples of this innovative approach to accessing financial markets.

This innovation is matched by an increasing appetite amongst financial institutions to participate in such sustainable financing opportunities. When we recently renewed our Green RCF, the appetite amongst local, regional and international financial institutions was exceptional and we were able to renew the facility on very favorable terms. The Masdar Green REIT has also recently secured its first debt financing facility on attractive terms.

Lenders not only recognize our financial strength and track record, but also the emphasis on sustainable development and investment and the quality and sustainability of our brand, which allows us to look at even more innovative ways of structuring financial solutions.

The market for green investment is already huge – and it's growing exponentially. Most international financial institutions, if not all, now have large pools of capital dedicated to the pursuit of sustainable investment, be it decarbonization or clean energy projects, or in funds and investments that support the UN SDGs.

While the corporate banking capital that is available to finance our projects is significant, the appetite amongst institutional investors to deploy capital towards sustainable initiatives is growing at an even faster pace. Whether it's pension funds, sovereign wealth funds, or family offices, all of us are looking for opportunities to deploy capital against sustainable investments and sustainable opportunities.

We are supported in this mission by our international partners, who can help us access the right projects in both developed and emerging markets. For instance, the International Finance Corporation, the private sector arm of the World Bank, has helped us access emerging markets via their Scaling Solar program.

This, along with the support we obtain from other development financial institutions (DFIs) such as European Bank for Reconstruction and Development and Asian Development Bank, has helped us and governments alike by cutting red tape, simplifying tendering and helping manage risk and facilitating credit. I expect that this area of international opportunity will only increase, as governments in developing markets continue to collaborate with the DFIs and developers such as us, to pursue ambitious renewable energy programs focused on enhancing energy security and delivering cost competitive clean energy to their citizens.

Another strength of Masdar is our transparency, meaning not only do we practice what we preach about sustainability, but we are also committed to sharing the outcome and impact of our initiatives. Our well-established annual sustainability report – which you're reading now – has, I believe, set the standard for the region and encouraged other organizations to follow our lead.

We have also taken the conscious decision to make public the outcome of our inaugural credit ratings exercise in 2021, to help the investment community better understand Masdar and our credit risk – and it certainly helped that the outcome of this exercise conducted with Moody's and Fitch placed us firmly in the investment grade space. We're also developing our sustainable finance framework, and that will be available on our website for all to see.

Finally, we are looking at enhancing what and how we report. For example, we recognize the increasing importance of impact reporting, i.e. not only reporting on how capital is deployed or what it is used for but also reporting on the real-world outcomes that we're getting from that capital investment in terms of advancing the global sustainability agenda.

This is an area where we are well advanced, especially in this part of the world, in terms of how and what we communicate with our key stakeholders. I look forward to many more innovations in how we approach financing, and how we tell our own story, in the years to come.

NEW DIRECTIONS IN GREEN FINANCE

Masdar continues to innovate in terms of sustainable financing, setting new standards for the region to follow.

The Masdar Green REIT, our flagship sustainable investment instrument, began 2021 with the news that Masdar was partnering with Emirates NBD Asset Management to administer the trust, and gained approval from the Abu Dhabi Global Market's Financial Services Regulatory Authority to begin operations.

The Masdar Green REIT's portfolio currently includes four commercial properties within Masdar City, the pioneering sustainable urban development project, and technology and innovation hub, in Abu Dhabi. All of the properties consume approximately 40 percent less electricity and water than comparable buildings in Abu Dhabi – giving them a rating of three Pearls or above on Abu Dhabi's Estidama Pearl Building Rating System, while one is also LEED Platinum certified.

In April, Masdar took a leading role in the consortium comprising EDF Renewables and Nesma which reached financial close on the 300 MW South Jeddah solar PV project, part of KSA's National Renewable Energy Program. And in August, in partnership with PT Pembangkitan Jawa Bali Investasi (PJBI), Masdar reached financial close on the 145 MW Cirata floating solar PV project in Indonesia, a project which is expected to become the largest of its kind in Southeast Asia and one of the largest in the world.

Last year also saw the inauguration of the 100-megawatt Nur Navoi Solar Plant in Uzbekistan, in August. This is an important project from a green financing point of view, as it was originally awarded to Masdar under the International Finance Corporation's Scaling Solar program. This initiative helps emerging markets to access the capital needed for renewable projects, while reducing investor risk.

While there is no shortage of capital to finance renewable energy projects, access to those funds is a challenge for many developing markets and Masdar is working with Abu Dhabi Fund for Development (ADFD), the Ministry of Foreign Affairs and International



Co-operation, and Etihad Credit Insurance (ECI) to establish funding mechanisms that can ensure the energy transition is available for all nations.

In September, Moody's Investor Services and Fitch Ratings assigned the company first-time credit ratings that place it firmly in the investment grade category. The ratings of A2 and A+ respectively highlighted Masdar's extensive track record and sector expertise, in addition to its very low exposure and reliance on external debt and its strong backing from Mubadala and the government of Abu Dhabi.

In a recent analysis conducted by Moody's Investors Services (MIS), only two unregulated utilities globally, among 100 tracked by MIS, achieved an ESG Credit Impact of 1 (CIS-1). The CIS-1 indicates that ESG characteristics have a positive impact on ratings. Those entities are Masdar and our partner, Abu Dhabi district cooling company Tabreed,.

Our green Revolving Credit Facility, the first facility of its type in the region to come under that 'green' label, was successfully renewed in December. The renewal saw tremendous appetite from financial institutions with 14 local, regional and international banks subscribing to the USD125 million facility.

SUSTAINABLE FINANCE AND INNOVATION GO HAND IN HAND AT MASDAR CITY



Abdulla Ahmed Balalaa
Executive Director,
Masdar City

The work we do at Masdar City is mission critical for both the UAE and the world. The City is a hub of activity and ingenuity where plans are drawn up to facilitate a sustainable future.

It's a challenge we took on at our inception more than 15 years ago, and it involves changing the mindset of what sustainable development should and can look like. One of the markers of the City's success to-date is that we are now home to the world's largest cluster of sustainable buildings and development is ongoing.

The number one thing the world can learn from Masdar City is that sustainable development makes sound business sense. Everything you see in Masdar City is commercially viable, and ultimately, we are a profitable company. An example of our innovative thinking in monetizing Masdar City is the Masdar Green REIT, where we took existing assets and leveraged them through sustainable financial products.

The Masdar Green REIT at Abu Dhabi Global Market (ADGM) is the first of its kind in the UAE to invest solely in sustainable real estate assets. The REIT offers an attractive opportunity for professional investors to invest in a unique portfolio of stable, income-generating, sustainable real estate assets located in Masdar City and the UAE.

We believe this is an especially powerful step. Given the appetite of responsible investors around the world for Masdar City and UAE developments, it showcases how we are walking the walk, not just talking the talk.

Masdar City has always been at the forefront of making and introducing new concepts and schemes, not only when it comes to green financing, but technology, renewable energy, and so much more. We are extremely dynamic and fully utilize our strategic location at the crossroads between east and west, north and south.

Over the past decade, the City has developed and hosted a number of R&D initiatives, and piloted projects across a range of fields covering health-tech, renewable energy,

Artificial Intelligence, mobility, transportation, and sustainable living. One excellent recent example of this is the Masdar, AQUOVUM, Khalifa University solar/thermal energy storage-powered project, which is the world's first initiative to produce commercial volumes of an uninterrupted water supply from a sustainable source. The project, which is carbon-free, was launched in Masdar City in August 2021.

To add to this, Masdar City is also home to a new R&D project, a partnership between Masdar, Azelio and Khalifa University, to pilot the Azelio Thermal Energy Storage-Power on Demand (TES.POD) system. The system enables renewable and cost-efficient electricity 24 hours a day, seven days a week, representing an important part of Abu Dhabi's renewable energy transition.

Through the Masdar Institute Solar Platform, we also have a globally recognized center of excellence in photovoltaics and solar thermal energy technologies.

At Masdar City, we have a network of technologically driven tenants spearheading innovations to realize greener, more sustainable urban living. They are each utilizing and cultivating a dynamic ecosystem of education, R&D, innovation and technology, and all within a strategic base where they can test new technologies and build their partnerships locally and globally.

Thinking big and embracing innovation go hand in hand at Masdar City – it truly is the perfect place for great minds to find the 'greenprint' for our sustainable future.



INNOVATION AT MASDAR CITY

THE CATALYST

The Catalyst is the region's first technology start-up accelerator focused on sustainability and clean technology, dedicated to support innovation and entrepreneurship through funding, training and mentorship. Based in Masdar City, the joint venture with BP provides selected applicants with funding and other benefits such as office space and access to a network of mentors and investors to streamline their acceleration program and unlock new opportunities for their global growth.

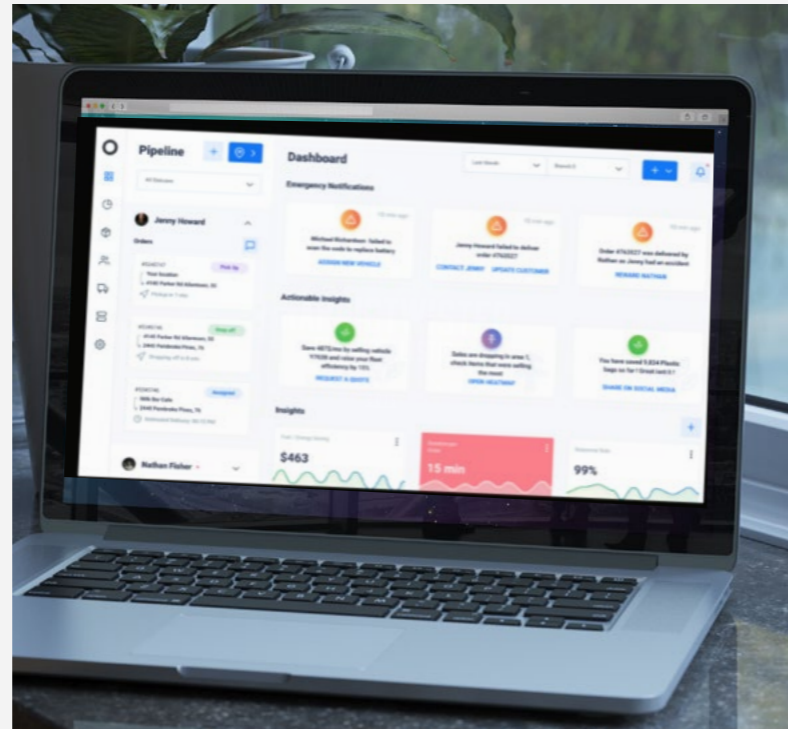
Start-ups supported by The Catalyst include:

DE L'ARTA

Is a R&D company that is creating a sustainable skincare range using native UAE flora. Using a science that dates back 10,000 years, the De L'Arta Outdoor Living Laboratory works to harness the sophistication, tenacity and resilience of our surrounding ecosystem and repurpose its value into future-ready products. De L'Arta seeks to regenerate, recover and up-cycle natural resources through the creation of a circular economy.

Under the Catalyst Programme, De L'Arta has developed its first collection (Tq) which includes facewash, face cream and face mask. It has also recently launched its e-commerce website, a comprehensive marketing campaign, and engaged partnerships with outlets such as Faces and Bedashing.

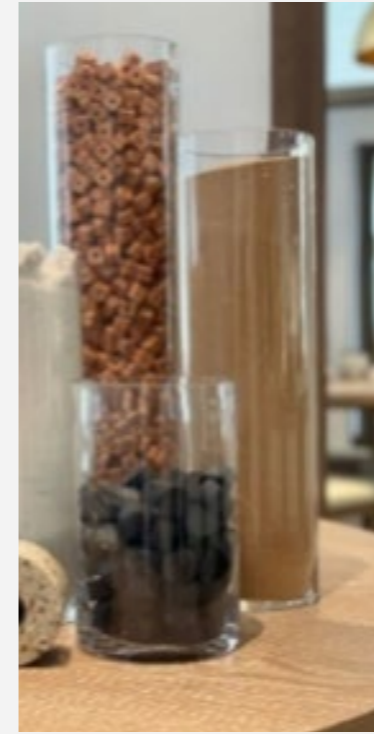
Additional products to the collection (Serum and Lip Balm), are currently under development and to be launched in early 2022.



SOLVA TECHNOLOGIES

Is an environmentally friendly transportation start-up, providing the world's first electric last-mile delivery platform by offering smart fleet management software through route, driver and vehicle optimization. Combined with data offerings, Solva adds value for their customers via financial savings, automation and sustainable solutions – all through logistic optimization.

Recently Solva successfully acquired two new customers to join the platform as a third-party delivery company. They are working on the product positioning strategy as part of the product launching plan and all algorithms are being tested using live data. Official launch of the platform is planned for early 2022.



SERAMIC MATERIALS

Is applying patented technology to upcycle industrial solid waste into sustainable high-value ceramic products, with a significant reduction in cost and carbon footprints, as compared to conventional ceramics. Born out of the Masdar Institute – now part of Khalifa University – the company is committed to the concept of circularity, cutting down on energy consumption, increasing the value of resources and length of product life cycles, and reducing waste. Construction materials include bricks, indoor and outdoor floorings, wall tiles and paving stones.

In addition, Ceramic Materials' 'Technical Ceramics' is the world's first commercial thermal energy storage material which is 100% recycled. Recently, the company sold a total of 29tons of Technical Ceramic to two end-users in the USA and Spain.

Currently, Ceramic Material products are on display in the Innovation section of the UAE Pavilion at Expo Dubai 2020.



VOLTS BATTERY STORAGE

Has developed a smart battery management system (Energy Storage) that could power an entire house from a renewable energy source. The company already has 15 units installed as part of pilot projects in its bid to encourage a smarter, more sustainable lifestyle. The scaling capacity structure of hardware allows VOLTS to be suited for different sizes of houses. VOLTS can charge both from the electrical grid and from solar panels, making it possible to create its own fully autonomous power supply system.

Volts has sold a number of units in two European markets and have signed their first delivery contract to Swedish partner SWERLUX AB, whilst their EV Charger Booster - Alfa version, conducted its first tests.





KEY TECHNOLOGIES

Is an engineering and consultancy company, designing, developing and producing monitoring systems and solutions tailored to each customer's specific needs. "Theia" provides for a sustainable, cost saving platform which may be applied by a variety of potential customers, including environmental agencies, oil companies, and even security agencies.





The world première for Theia, the next generation long-range surveillance system was showcased during the Milipol Show in Paris held in October, 2021.

QS MONITOR

Is a smart food safety and traceability solution that utilizes its online platform for the optimization of food import licensing and certifications. The platform eliminates paperwork, testing and inspection, streamlining the process to reduce import time by 13-23 days. QS Monitor is working to support the UAE's imported food supply by providing easy access to the UAE market for small producers and farmers around the world.

QS Monitor now have a total 356 members from 75 countries on their platform, with more than 350 laboratories and inspection companies. QS Monitor has also issued more than 6,200 certificates for food/water safety.

What can you achieve with us?

 60+ countries in operation	 100% chemical free water treatment	 90% of world food trade
 1,200+ locations	 70% water saved	 100% water recycling



HYDROARTPOD BY ALINE PATE

With COVID-19 still disrupting daily services, there is a massive focus on the food chain, even at the individual level. People want fresh chemical-free food grown locally to avoid transportation and packaging, but lack the time, space, knowledge or climate to grow it themselves. The HydroArtPod (HAP) device grows vegetables year-round indoors, using smartphone technology to do the work, with minimal time and effort required.

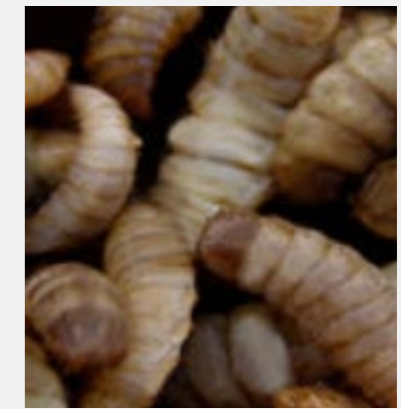
HydroArtPod is currently developing an improved version of the device and has commenced product advertising campaign to drive pre-launch signups.

CIRCA BIOTECH

With current global barriers present in food waste management and the challenges of a growing population, there will be expected shortages of protein sources for livestock and aquaculture farms to produce food for human consumption. Circa Biotech upcycles food waste into high-protein animal feed using industrial farming of an insect, the black soldier fly larvae (BSFL), with innovative industrial processing. Several tons of food waste will be collected from supermarkets and food processing operators and fed to BSFL under controlled conditions. The BSFL can eat food waste and metabolize it very efficiently into proteins and lipids as they grow. It is a highly sustainable protein production process requiring low amounts of fertile land, water and produces almost no greenhouse gases.

Circa Biotech initiated their first cycle of BSF colony and were set to run three successful full cycles by year end 2021.

Circa Biotech recently participated in the 'Level-Up' Competition held by the Khalifa Fund and clinched first place.



OTHER R&D AND INNOVATION INITIATIVES

ELECTRICAL THERMAL ENERGY STORAGE

In January 2022, Masdar, in partnership with Khalifa University and Azelio, launched an electrical thermal energy storage system technology that enables 24/7 clean energy utilization at Masdar City.

The cutting-edge distributed and scalable Thermal Energy Storage-Power on Demand (TES.POD) system will be run by Sweden's Azelio long duration energy storage company, Khalifa University of Science and Technology, and Masdar, as part of a three-party research and development agreement.

Now officially in operation, the Azelio storage system is used with solar photovoltaic (PV) panels and enables renewable and cost-efficient electricity 24 hours a day, seven days a week. The system will undergo extensive testing and demonstration at the Masdar Institute Solar Platform (MISP), in a desert environment that provides ideal solar conditions to generate full daily cycles of clean energy in combination with solar PV.



SOLAR THERMAL ENERGY

Last August, Masdar announced a partnership with AQUOVUM and Khalifa University to launch the world's first solar/thermal energy storage-powered project to extract water from air. Based at Masdar City, this carbon-free technology will extract clean water from the atmosphere in commercial volumes and operate 24/7 using a renewable energy source.

The project will evaluate the performance of AQUOVUM's large format Atmospheric Water Generation (AWG) technology in combination with a renewable energy source, and its ability to be included in current and/or future sustainable water projects.

The AWG technology will create access to clean water – a fundamental necessity in building a greener future – while contributing to the United Nations Sustainable Development Goal (UNSDG) 6 of ensuring the availability and sustainable management of water and sanitation for all.





ENVIRONMENTAL AND SOCIAL CONTRIBUTIONS

ENVIRONMENT AND SOCIAL CONTRIBUTION



Fawaz Hadi Salem Ali Al Muharrami
Acting Executive Director,
Clean Energy

At Masdar, we try to achieve development by ensuring the global energy business is sustainable – investing in ventures where we contribute to the environment in a better way compared with the conventional system. That means investing in and developing environmentally friendly and sustainable technologies.

In addition, Masdar’s mandate is alternative fuels which have a low or minimal impact to the environment and provide a sustainable – and economically sustainable – value to society across nations and communities.

Masdar started investing in and developing renewable energy tech far ahead of most other developers in the market – so we do have first-mover advantage. That makes us somewhat unique in already being a leader as we enter a new era in the clean energy market, and is something we want to maintain.

Crucially, we are managing to bring down the costs associated with investing in renewables. One thing that has helped is our strong relationships and partnerships in this region and internationally. For example, we have an excellent relationship with a number of different financial institutions, which helps us bring capital to these projects, and gives us a competitive edge compared to others.

We are also unique in the way that we address the entire value chain development of projects. We really develop the projects in which we are involved and understand their entire life cycle.

As our scope in projects across the globe continues to increase, it is imperative that

we continuously innovate. A lot of competitors are joining the market, so it is important for us that innovation enables us to be more competitive. In this respect, the integration of technologies is vital. We have learned from early integrations and really developed large-scale utility projects – and by doing so, we are stretching the boundaries of renewable energy deployment, while building a sizeable competitive edge.

A diverse geography has been a key part of that. In 2021, we managed to secure more than 2 GW of projects, mostly in the Central Asia region where we have 50 percent of that capacity, but also in various European countries where we have a gross capacity of more than 1.6 GW. This is where our success in partnerships truly comes to the fore – it’s an integral part of our business and objectives. In certain countries it is best to associate with the local partners in order to do a project – Asia-Pacific and the Southeast Asian market, for example – and this is something Masdar has done very well.

As we look to the future, one area that deserves specific mention is green hydrogen. We are engaged in a lot of efforts to develop green hydrogen projects, and last year contained serious discussions about its best implementation, as well as serious engagement across different stakeholders. For the near future, and mid-to-long term, hydrogen is going to be an integral part of our business in which we invest heavily as part of the clean energy transition. I envision hydrogen making a real social contribution to the world in which we live.



TECH JOURNAL SNAPSHOT 2020-2021

INTRODUCTION

The year 2021 was exceptionally busy in terms of the technical innovations and research and development projects we have been involved in. The year of the 50th, and the Principles of the 50, have made clear that we have a huge responsibility to innovate in energy to secure the future of our country and generations to come.

This snapshot summarizes the technologies and innovations we've been interested in during this past historic year, and an overview of the innovations in energy we expect to see across the world in the future.

E-FUELS: LOW-CARBON DROP-IN FUELS

Despite renewable energy's potential to displace fossil fuels in power and heating, direct electrification of heavy transportation remains a significant challenge.

E-fuels and synthetic fuels (synfuels) can help address this challenge by using renewable energy and feedstocks like water and carbon dioxide (CO₂) to produce drop-in fuel substitutes (drop-ins) for combustion engines and turbines.

E-fuels and synfuels could decarbonize the incumbent transportation infrastructure, while electrification and alternative fuels like hydrogen (H₂) gain market share and maturity. This technology is linked directly to Masdar's hydrogen demonstration plant, which is working towards the production of sustainable aviation fuels.



ELECTRIFICATION OF OIL AND GAS UPSTREAM OPERATIONS

As industries and regulators move towards achieving net-zero CO₂ emissions, hydrocarbons will continue to play a key role in the economy. In recent years, Masdar has been involved in collaborations with ADNOC across the oil and gas value chain. According to the International Energy Agency (IEA), natural gas alone accounted for almost one-third of the total energy demand growth over the past decade. The production of hydrocarbons, however, represents a significant proportion of the global energy demand and derived greenhouse gas (GHG) emissions. Today, the upstream oil and gas sector generates roughly 2.7 Gt CO₂e of emissions globally, with the UAE producing nearly 13 million tons CO₂e of emissions per year.

Most of these emissions come from fossil fuels burned to fuel offshore platforms and onshore fields. Thus, electrifying these upstream operations could significantly reduce emissions. This involves replacing fossil-fuel-fired equipment with electrical equipment, while using renewable electricity as power supply. Though this can virtually eliminate most carbon emissions from power generation in oil and gas upstream, the business case for electrifying operations is highly dependent on a platform's age, footprint, and its location.



HYDROGEN TRANSPORT AND DISTRIBUTION

Hydrogen is currently highly fashionable, being touted as a critical component of a future energy system that will incorporate an increasing proportion of low-carbon energy sources.

Recently, Masdar has been pleased to announce a number of hydrogen partnerships with international stakeholders such as BP and Engie, to develop the hydrogen economy here in the UAE.

With an energy density almost threefold that of gasoline per kilogram, hydrogen can serve multiple purposes, such as powering fuel cell electric vehicles (FCEVs), powering turbines, generating heat, serving as a chemical feedstock for industry, and most importantly, acting as a carrier for energy storage and transport.

Low-carbon hydrogen comes from natural gas reforming with carbon capture (blue hydrogen), or from electrolysis using low-cost renewable power (green hydrogen).

Thus, regions with abundant and cheap solar power, like the Middle East, are well-positioned to produce low-cost hydrogen.

A strong transportation and storage infrastructure will enable regions with excess production to export this cheap hydrogen to areas of high demand for clean energy – a vital link toward global decarbonization, yet hydrogen's very low volumetric density creates challenges for its storage.

Transportation and distribution can double or even quadruple the cost of hydrogen at its final point of use, making this a key challenge ahead for the hydrogen economy.

PREDICTIVE MAINTENANCE FOR RENEWABLE POWER ASSETS

By their very nature, wind and solar farms are not only subject to harsh conditions but also often located in remote or hard-to-reach locations.

Even relatively minor maintenance may require helicopters or expensive tall cranes and ships to repair – resulting in rapidly ballooning operating costs. Yet, because of the highly variable conditions in wind or solar farms, one element may have no defects at all, while another is on the verge of breakdown.

Many renewable power assets have been equipped with supervisory control and data acquisition (SCADA) systems, but these typically merely monitor individual components, with little system-level analysis. Today, system-level analysis is possible through digitalization using four key technologies: drone services, artificial intelligence (AI)-enabled software, balance of system components with improved capabilities, and sensor add-ons (known as the Internet of Things (IoT)).

Combined, these technologies enable predictive maintenance to monitor specific conditions faced by each individual asset, predict failure modes, and allow for more streamlined planning of maintenance operations. This can lead to significant cost savings, both from avoided work and more targeted task execution when maintenance crews are deployed.





GROUNDWATER DESALINATION IN THE UAE

There are more than 30,000 farms in the UAE, with many of them small-scale, family-owned operations. Almost a third of UAE farms also rely on saline groundwater with over 10,000 mg/L total dissolved solids – one quarter the salinity of seawater – to irrigate crops and sustain livestock.

Although farmers can purify water using small reverse osmosis units, brine discharge poses a financial and practical challenge to remote farms, which often lack appropriate means of disposal. Common disposal methods include reinjection to aquifers and surface discharge – both of which cause salinification of arable land and water sources.

Many farmers respond by increasing their share of salt-tolerant crops like date palm, leading to lower crop diversity while local groundwater salinity continues to rise. This poses a near-term threat to farmers' livelihood and a long-term threat to national food security.

Several solutions are emerging to deal with the challenges faced by UAE farmers, including renewable-energy powered evaporation ponds, collective brine disposal, and novel desalination processes.

Masdar has implemented a Renewable Energy Desalination Pilot Program in Ghantoot, Abu Dhabi. Five pilot projects were commissioned during the program, which successfully demonstrated novel and highly energy-efficient seawater desalination technologies.



CARBON MARKETS

In 2015, world leaders signed the Paris Agreement – aiming to pursue efforts to limit global warming to 1.5 degrees above pre-industrial levels. To achieve this target, the global community needs to embark on a zero-emission trajectory urgently.

The need for climate action, tools and policies to finance the transition to decarbonize entire economies grows more urgent by the day.

Carbon pricing policies, such as carbon trading schemes or carbon taxes, are becoming increasingly attractive ways of doing this. Masdar's Technology Team is managing carbon transactions involving the sale of upstream emission reduction credits from ADNOC-led projects.

Carbon trading schemes have emerged in recent years as a very promising tool allowing countries, companies and private entities to reduce greenhouse gas emissions in a cost-effective way. Targets are either driven by legal compliance or voluntary commitment.

Market mechanisms provide a flexibility for participants to buy carbon offsets from projects that may be technically viable, but do not have sufficient financial support to be implemented.



SELECT PROJECTS UNDER DEVELOPMENT

SOUTH JEDDAH SOLAR PV

In April 2021, a consortium led by Masdar, EDF Renewables, and Nesma Company, reached financial close on a 300 MW utility-scale photovoltaic (PV) solar power plant in Jeddah.

The Renewable Energy Project Development Office (REPDO) of Saudi Arabia's Ministry of Energy awarded the consortium the project after it had submitted the most cost-competitive bid of SAR60.9042 (US\$16.24) per megawatt hour.

A 25-year Power Purchase Agreement (PPA) has subsequently been signed with Saudi Power Procurement Company (SPPC). Under the terms of the PPA, the Masdar, EDF Renewables, and Nesma Company will design, finance, build and operate the plant, which will be located in Third Jeddah Industrial City, 50km south-east of Jeddah. The plant will begin operation in 2022.



AZERBAIJAN SOLAR PV

In April last year, Masdar signed agreements to develop a 230-megawatt solar photovoltaic (PV) plant in Azerbaijan, marking the country's first foreign investment-based independent solar project structured as a public-private partnership.

Masdar is leading the development, financing, construction, and operation of the plant, to be located 9km northwest of Azerbaijan's Alat settlement. The plant is expected to start commercial operations in 2023.

EAST ROCKINGHAM WASTE TO ENERGY

In January 2020, Masdar, in a joint venture with Tribe Infrastructure, made its first investment in Australia after acquiring a stake in the country's second utility-scale waste-to-energy (WTE) facility, the East Rockingham Waste to Energy, located 40km south of Perth, Western Australia.

When completed later this year, East Rockingham Waste to Energy will process 300,000 tonnes per year of non-recyclable municipal, commercial and industrial waste and up to 30,000 tonnes of biosolids per year. The facility will also recover approximately 70,000 tonnes per annum (TPA) of bottom ash, which will be processed for use in

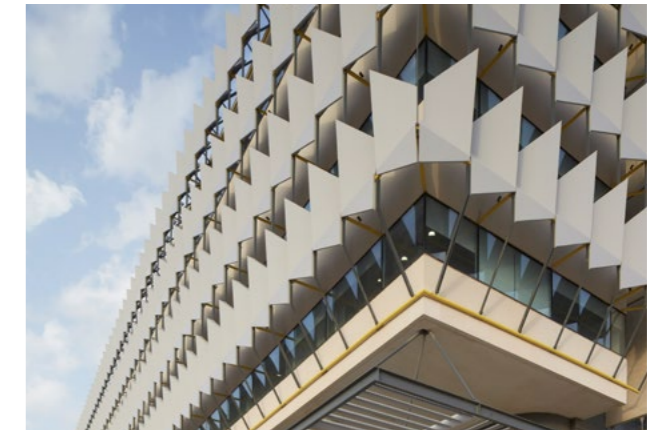
road bases and other construction materials. The WTE facility will generate 29 MW of baseload renewable energy, enough to power more than 36,000 homes, and displace more than 300,000 tonnes of CO2 emissions per year.

Equity investors in the project also include UK company John Laing, alongside Acciona Concesiones and Hitachi Zosen INOVA (HZI). Financing of the project was supported by an A\$18 million grant from the Australian Renewable Energy Agency (ARENA) and A\$57.5 million in subordinated debt from the Australian government's Clean Energy Finance Corporation (CEFC).

HYDROGEN DEMONSTRATOR

In January 2022, Masdar, Siemens Energy, and Total Energies signed a collaboration agreement to act as co-developers for a demonstrator plant at Masdar City, focused on green hydrogen to produce sustainable aviation fuel (SAF).

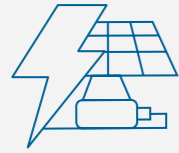
The initiative was first announced ahead of Abu Dhabi Sustainability Week (ADSW) 2021, as a collaboration between Masdar, Abu Dhabi Department of Energy, Etihad Airways, Lufthansa Group, Khalifa University of Science and Technology, Siemens Energy, and Marubeni. Having joined the initiative, Total Energies will offer its expertise in SAF production, offtake, and supply the partner airlines.



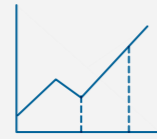
Since January 2021, the partners in the initiative have completed a range of evaluations on technology suppliers, feasibility studies and conceptual designs, while working closely with regulators on compliance issues. The aim is to proceed to the front-end engineering design (FEED) stage later in 2022.

By leveraging our respective areas of expertise across the energy spectrum, and our local and global market reach, Masdar, Siemens Energy and TotalEnergies believe that the demonstrator project can pave the way to commercial production of SAF, helping to reduce production costs and making it commercially viable.

ENVIRONMENT AND SOCIAL CONTRIBUTIONS



~15,000+
GWh generation from clean sources



40%
increase
Y-O-Y



~7.5m tons
CO2 abated by clean energy portfolio during reporting period ⁽¹⁾

⁽¹⁾ CO2 abatement calculated based on actual generation and using the yearly updated grid emission factors from our respective operating markets.

MASDAR CITY



WASTE RECYCLED AS % OF WASTE GENERATED

60%

Waste recycled

Waste recycled as a percentage of total waste generated in 2021

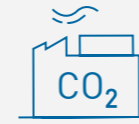


OPERATIONAL WASTE DIVERTED FROM LANDFILL

544 tons

Garden waste

92.6% Garden Waste 1.6% Plastic 0.1% Glass
5.5% Paper & Cardboard 0.2% Cans



CONSOLIDATED EMBODIED CARBON OF MASDAR CITY OWNED OPERATIONAL BUILDINGS

561 (kgCO2/m2)



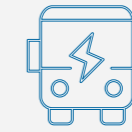
MASDAR CITY OPERATIONS

Electricity Consumption (MWh) / equivalent CO2 emissions

2020 ⁽¹⁾	58,055 / (17,262 tons)
2021	61,405 / (18,258 tons)

Water Consumption m3 / equivalent CO2 emissions

2020 ⁽¹⁾	519,768 / (6,416 tons)
2021	564,047 / (6,963 tons)



180,00+ trips*

in Masdar City using clean mobility solutions

*including club cars, electric shuttles and electric bus



Cooling Consumption (MWh) / equivalent CO2 emissions

2020 ⁽¹⁾	55,451 / (16,488 tons)
2021	46,244 / (13,750 tons)

⁽¹⁾ 2020 figures are restated to account for latest grid emission factors



Dr Lamya Nawaf Fawwaz
Executive Director,
Brand & Strategic Initiatives

There is a growing global consensus that we must act now to limit the effects of climate change. That will mean transforming how we live our lives: how we build our cities, how we travel, how we power our industries and how we conduct business.

Our nation has emerged as a leader in renewable energy deployment and climate change mitigation, setting the pace for the region through its early signing of the Paris Agreement and recently announced Net Zero by 2050 Strategic Initiative. This leadership has culminated in the UAE being selected to host COP28 in 2023.

At Masdar, we have been supporting the UAE's efforts to accelerate sustainable development for over 15 years. Through platforms and programs including Abu Dhabi Sustainability Week and the Zayed Sustainability Prize, we will continue to amplify our message of climate change awareness and directly support humanitarian efforts to assist those communities most at risk from the climate crisis.

Established in 2008, The Zayed Sustainability Prize is the UAE's pioneering global award program in sustainability, recognizing and rewarding impactful, innovative and inspiring sustainability solutions across five categories: health, food, energy, water and global high schools.

The Prize's 86 winners have positively impacted the lives of more than 352 million people around the world.

Through its flagship humanitarian initiative Beyond2020, the Prize is working with leading local and international organizations to deploy the solutions of winners and finalists in vulnerable communities across the world.

The initiative has reached 130,600 people in remote settings, transforming lives from Indonesian fishermen to Rohingya refugees. Through this vital work, The Zayed Sustainability Prize remains inspired by the enduring humanitarian and sustainability legacy of the UAE's founding father, the late Sheikh Zayed bin Sultan Al Nahyan.

It's an inspiration that very much extends to Masdar endeavors such as Women in Sustainability, Environment and Renewable Energy (WiSER), which is an immensely powerful platform for fostering inclusive climate action, and Youth 4 Sustainability (Y4S), which is helping to create the sustainability leaders of tomorrow.

Only through collective action focused on realizing all 17 of the United Nations Sustainable Development Goals can we ensure a sustainable future for all.

STRATEGIC PLATFORMS

WOMEN IN SUSTAINABILITY, ENVIRONMENT AND RENEWABLE ENERGY (WiSER)

The past year has seen significant achievements within our Women in Sustainability, Environment and Renewable Energy (WiSER) initiative. Over 30 hours of workshops were held during the year, covering topics ranging from urban sustainable development and gender equality, to ESG and sustainable finance.

These were supplemented by a series of webinars on topical discussions such as COP26 and female-led green enterprise.

We also launched our WiSER mentorship program, which gives WiSER Pioneers – women aged 25 to 35 enrolled on the WiSER program – access to senior figures from various industries and disciplines. One-to-one sessions are held which are geared towards set goals to help them progress in their careers.



105
hours of one-to-one mentorship for WiSER Pioneers



23
women enrolled on WiSER Pioneers Program



3
WiSER Wisdom Series including event at Women's Pavilion Majlis at EXPO 2020 Dubai



30
hours of workshops



9
panel discussions organized/attended



YOUTH 4 SUSTAINABILITY (Y4S)

Our popular Youth 4 Sustainability (Y4S) initiative, which enables young people to become the sustainability leaders of tomorrow, saw more than 10,000 participants this year, and the virtual Y4S Forum garnered more than 89,000 YouTube views.

The initiative is aligned with the UAE's Principles of the 50, the UAE Net Zero by 2050 Strategic Initiative and United Nations Sustainable Development Goals, in mitigating climate change through building youth capacity and adaptability. It also equips today's youth for the jobs of tomorrow, and promotes social entrepreneurship and innovation.



10,444
young people engaged through youth programs



10
projects ideated and prototyped through Y4S Innovation Lab



150
young people participated in inaugural Y4S Summer Camp



53
workshops and activations organized



117
young people enrolled on Future Sustainability Leaders and Sustainability Ambassadors programs



3
internship opportunities secured

ZAYED SUSTAINABILITY PRIZE

The Zayed Sustainability Prize grew in momentum during 2021. The Prize's 86 winners supported 53 million homes powered by renewable energy, reached 2.3 million people with nutritious food, and provided more than 11 million people with access to clean and affordable water.

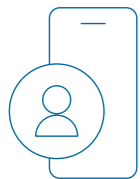
The Prize's initiatives also facilitated access to affordable healthcare for more than 442,000 people, and directly helped save more than 100 billion litres of water.

Furthermore, the winning initiatives helped optimize the efficiency and output of more than 1,012,000 acres of agriculture land through sustainable water and food efficiency solutions.

At a high school level, the initiatives of the Prize's 41 winners helped generate 7 million kWh of electricity, established a capacity of 500 kW in solar energy, and saved 5,500 tons of CO₂.

Overall, the Prize's initiatives impacted 425,170 people in communities across the region.

PLATFORM ENGAGEMENTS



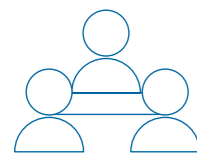
1m+

social media followers: Masdar, Masdar City, ZSP, WiSER and Y4S



86

Y4S/WiSER activations



729

stakeholder meetings, engagements and delegations





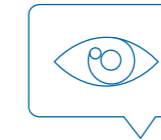
ABU DHABI SUSTAINABILITY WEEK 2021 (ADSW)

Abu Dhabi Sustainability Week, the global platform for sustainable development hosted by Masdar, has evolved into one of the world's leading sustainability gatherings, becoming a global catalyst for climate action.

From January 18 to 21 2021, ADSW took place in a reimagined virtual setting and attracted more than 100,000 views across its online platforms from 175 countries, reiterating its importance as the annual global sustainability event that sets the agenda for the year.

ADSW comprised high-level virtual events: ADSW Summit; IRENA's 11th Assembly; Abu Dhabi Sustainable Finance Forum; Atlantic Council Global Energy Forum; Youth 4 Sustainability Virtual Forum; and World Future Energy Summit Back to Business Webinar Series.

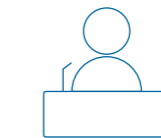
The ADSW speaker program featured more than 500 global leaders and decision-makers from policy, industry and technology.



100,000
online viewers



175
participating countries



500+
speakers



RIGHT MIX



OUR CULTURE & PEOPLE



Ahmed Baghoum
Executive Director,
Human Capital & Services

At Masdar, it's vital that we have 'the right mix' in our people and culture. That means a diverse and inclusive work environment – a gender mix, a demographic mix and a background mix representing the full nature of our outreach and the immense landscape of our projects across almost 40 countries.

Masdar has a considerable talent pool, and Masdar's people are our biggest asset in achieving the company's vision and fulfilling the 'Principles of the 50' – one of which, of course, is a focus on human capital. That Principle, one of the cornerstones of the UAE's jubilee celebrations, states that the main future driver for growth is our people.

At Masdar, we fully agree. Developing the educational system, attracting talent, retaining specialists, and continuously building skills are what will keep the UAE at the top – and continually progressing. This is especially important for our industry, which is futuristic in scope and outlook, with 'the right mix' imperative when it comes to sustainability and renewable energy

True talent is scarce, so we make sure that we attract the best people. But we also must ensure that we retain and grow the talent we already have. This is an area in which we have been very successful in the past 15 years, creating a workplace where those who joined as graduates or early-year professionals now hold senior roles in the upper echelons of Masdar.

It's the fruits of a very open, very close and very candid culture which helps our employees to excel.

Within our considerable talent pool is a raft of homegrown, Emirati employees that accentuate the strength of Masdar and its enormous potential for continual growth.

Masdar has embraced Emiratization, making the attraction, retention and the continuous development of UAE nationals a key priority. A fully-fledged strategy has been developed for young and experienced UAE talent reflected in the creation of exciting work opportunities across the diverse areas of operations. Attractive packages for UAE nationals are in place for all levels, incentivizing them to achieve and propel ever further. High attention is given to the development of individual career development programs for UAE nationals to enable them to be the key players in the organization's success.

Our Emiratization initiatives are greatly admired, with our policies and success helping to make us a true sustainability leader.

Indeed, surveys that we have conducted over several years consistently rate us as No.1 or No.2 when it comes to being an employer of choice for certain graduates. This in itself is a testament to, not only a proven track record in people and culture, but also something which is embedded in the fabric of our organization.

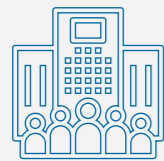
But regardless of nationality, we place immense emphasis on our talent acquisition and our talent retention. Quite simply, it is in our DNA to grow and retain talent in a thriving Masdar culture – and that's proving to be exactly 'the right mix'.

CULTURE AND EMPLOYEE ENGAGEMENT

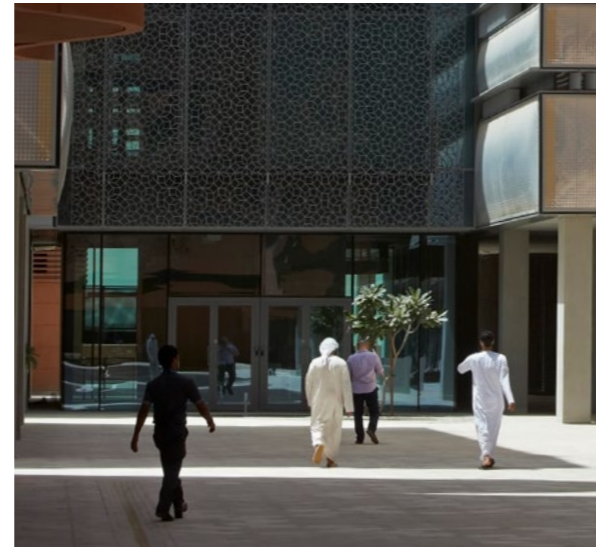
Since the pandemic began, Masdar's Human Capital team has been committed to ensuring the health and wellbeing of our people. After all, looking after our colleagues and helping them grow, develop and flourish is essential to the ongoing success of Masdar.

While 2020 saw all Masdar employees adapt to change in their work and personal lives, rising to the challenge of the pandemic, 2021 saw the company adopt a pro-active approach to ensure any continued disruption could be kept to a minimum, while safeguarding the wellbeing of all employees, and keeping productivity on track.

We are exceptionally proud of the culture we have fostered at Masdar and will continue to strive to create the best working practices, that are tailored to supporting our employees' needs. Masdar aims not just to recruit and retain the best talent, but also recognise the value each employee brings to the company through their unique set of skills and experience, which only adds to our collective strength as Masdarians



98.5%
employee retention rate



OUR AWARDS

Masdar was recognized by the business community and the media on numerous occasions throughout 2021, with our major award wins including:

- S&P Global Platts, 23rd Global Energy Awards 2021, won Award of Excellence Power
- Gulf Business Awards, Energy Company of the Year – won
- International Finance Awards, Best Sustainable Project Developer Masdar City – UAE and Best Green Initiative – Masdar Green REIT, Masdar City – UAE
- PCRA MENA Digital Awards 2021 – Best Use of Video
- Global Brands Award 2021 – Best Renewable Energy and Urban Development Brand, Most Innovative Renewable Energy Company and Best Sustainable Development awards
- Rethinking the Future Awards – Built Urban Design
- Middle East Solar Industry Association – Utility Scale Project of the Year for Al Dhafra Solar IPP

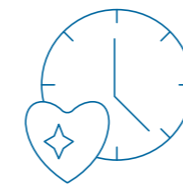
- IJ Global Awards:
 - MENA Renewables Solar deal of the Year – Al Dhafra Solar PV
 - APAC Renewables Solar - Frontier market deal of the year
 - Navoi Region Solar PV Plant (100MW) IPP
 - Europe Refinancing Renewables Offshore Wind deal of the year – London Array
- CSR Arabia Awards – Energy Sector winner

LEARNING AND DEVELOPMENT

Developing the talents and skills of our colleagues is also at the heart of our business, and this year saw a range of development initiatives totaling more than 4,700 learning hours for the benefit of over 300 colleagues, to help them realize their potential. Among the development initiatives, we had 40 training modules, delivered both in-house and externally, covering core competencies focused on both technical and soft skills. All six of our divisions were represented in these training modules, recording an average 4.4 out of 5 evaluation score, testament to the quality of our in-house and external learning partners.

In addition to the training modules, we also had three leadership focused programs running throughout the year; Leadership Bursts, Emerging Leaders, and Mentorship Program, which are all designed to help colleagues demonstrate and apply best practice leadership in their daily work.

Masdar also offered all employees the chance to learn the local language through two seasons of Arabic courses throughout the year.



1,860 TRAINING HOURS ON wellness





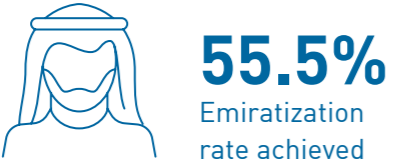
ETHICS, DIVERSITY AND INCLUSION

Diversity within any organization is important, not simply because it's part of our responsibility to society, but because having a diverse workforce, made up of individuals with different experiences and expertise, improves our effectiveness and performance as a business. This year saw almost one in four supervisory roles held by females, and our workforce comprised of 45 different nationalities.

Our responsibility to the UAE and Abu Dhabi remains clear, however, and testament to this, Masdar hit a 55.5 percent Emiratisation rate within the total workforce.

Turnover rates of personnel in 2021 were also minimal, with the company achieving a 98.5 percent employee retention rate.

EMIRATIZATION



BUSINESS CONTINUITY — ADAPTING TO CHANGE

The past year has, of course, been all about business continuity and learning to adapt to new ways of working, as we seek to continue our work whilst mitigating the impact of the global pandemic. One of the first steps we took was to roll out 24/7 PCR testing for all colleagues, as well as ensuring clear accessibility to COVID-19 vaccines, at our facilities at Masdar City.

In line with Government guidelines, we instituted a gradual return to the office for our Abu Dhabi colleagues during the course of the year, whilst adopting strict precautionary measures in the workplace to keep all of us safe, alongside an effective contact tracing operation.

We also experienced high rates of vaccine and booster shot uptakes by employees.

WORKPLACE SAFETY



At Masdar, the health and safety of our stakeholders is of utmost priority. Providing safe and healthy working conditions is enshrined in our core policies. Across all operations and project sites, Masdar has robust policies in place to mitigate occupational hazards, and engages all employees and contractors in this effort.

WORK LIFE BALANCE

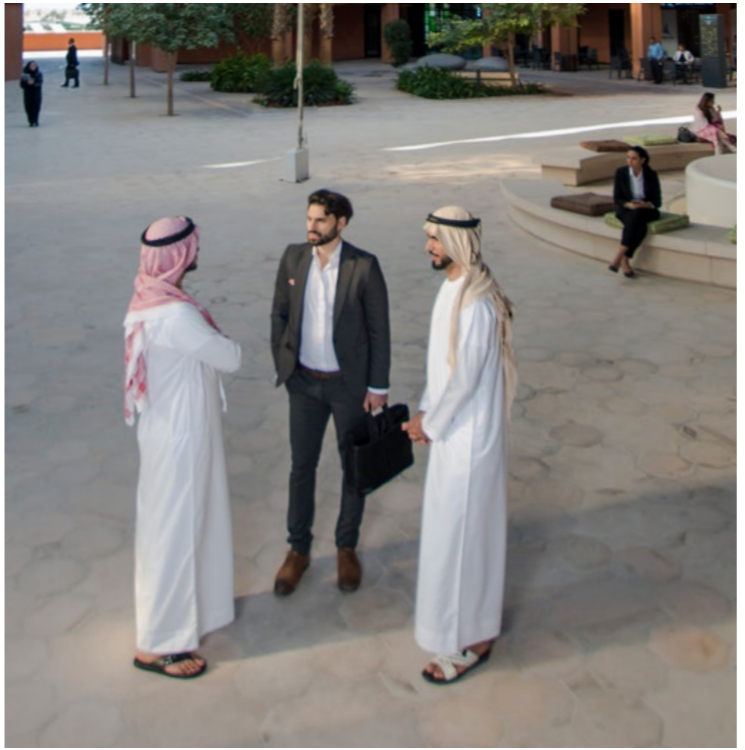
In 2021, we had over 1,800 attendees join more than 30 wellness sessions covering a relevant and forward-looking range of topics focusing on mental and physical health such as boosting immunity, sustainable happiness, sitting is the new smoking, sleep hygiene, breast cancer awareness, and managing stress. Employees reported a 97 percent satisfaction rate, highlighting the impact of the efforts of the Human Capital Team. Masdar also hosted more than 10 events and team building sessions across all the divisions, while our Employee Assistance Program – an employee support program that offers a wide range of advisory services such as financial, legal, emotional and psychological – saw a 185 percent increase in utilization from Q1 to Q4, with over 30 services provided.

MANAGEMENT CHANGES

This year saw Masdar welcome two new faces to the Executive Management team, as Jonathan Evans, who had previously worked with us, joined as General Counsel, replacing Nadia Bardawil, while Fawaz Al Muhrrami took up the position of Acting Executive Director of Clean Energy, replacing Yousef Al Ali.



[1] QHSE team - e.g., zero incidents in the workplace



GOVERNANCE



GOVERNANCE GROUNDED IN VALUES



Jonathan Evans
General Counsel,
Legal

Our values are where Masdar's governance originates, and our values are the foundation of our business. They shape and inform both the softer aspects – behavior and corporate culture – and the more formal black letter requirements in the policies and procedures that set out our governance standards.

I worked at Masdar for my first six years in the UAE, between 2008 and 2013. When I returned in January 2021 what I noticed most was how the corporate culture has matured and the role that governance standards play in shaping the culture has grown.

Every Masdarian I work with is here because of their skills, and one of those skills is a clear understanding about the importance of applying good governance in our day-to-day business.

No plan is perfect, and things don't always go to plan, but the collegiate approach that Masdarians have taken in these situations ensures that appropriate measures are taken, and solutions are identified.

The credit ratings we received in September 2021, among other things, corroborates the importance that Masdar gives governance in its business. Whilst ESG standards are continuing to evolve, the assessment by the ratings agencies reflects the robust base that Masdar has created for itself since 2007.

Finally, best practices have a role to play in meeting and demonstrating good governance. But they are not a substitute or proxy for it.

Furthermore, the additional costs of implementing best practices in a meaningful way always need to be weighed against any real substantive improvement that doing so delivers.



BALANCED GOVERNANCE

INTERNAL AUDIT PROCEDURES

The Internal Audit department assists the company in its objectives by bringing a systematic and disciplined approach to evaluate risks. It ensures that risk management is appropriately identified and managed,



and employees' actions are in compliance with policies, standards, procedures, the code of ethics, and applicable laws and regulations. The program also ensures compliance with any significant legislative and regulatory issues impacting Masdar.

EMBEDDING ETHICAL PRACTICE

At Masdar, good ethics are the foundation upon which our business is built. We are committed to embedding ethical practices throughout the organization, and seek to build mutual trust with our customers, suppliers and communities by working honestly and ethically.

Masdar implements a robust ethics and compliance program, reflecting the specific challenges encountered in the countries and industries in which we operate. We apply the same standards across all areas and geographies and continue to look for ways to improve how we detect, prevent and respond to compliance issues.

At Masdar, everyone is responsible for compliance and fostering a culture built on ethics, an idea which is heavily promoted in the organization, through frequent trainings and refresher courses.

RESPONSIBLE SOURCING & CORRUPTION

An effective supply chain is essential to the competitiveness of our business. We are committed to responsible sourcing, which directly references the requirement for Masdar suppliers to adhere to Masdar's values. Masdar takes anti-bribery and anti-corruption compliance seriously. We work to ensure that compliance with Masdar's anti-bribery and anti-corruption standards is understood by both employees and suppliers alike.



To register as a qualified supplier, we ask all companies to adhere to five core principles:

1. The supplier must comply with all relevant local and national laws and regulations with regard to employment practices, benefits, health and safety, and anti-discrimination.
2. The supplier must not use child, forced or involuntary labor in any form.
3. The supplier must comply with all relevant local and national laws and regulations with regard to occupational health and safety, and the provision of health-related benefits to employees.
4. The supplier must comply with all relevant local and national laws and regulations with regard to land and water management, waste and recycling, the handling and disposal of toxic substances, discharges and emissions, noise, transportation of products, and waste.
5. The supplier must strictly comply with all laws and regulations on bribery, corruption and prohibited business practices.



MUBADALA'S CORPORATE GOVERNANCE

Masdar is wholly owned by Mubadala Investment Company, an established international investor which manages long-term investments that deliver strong financial returns and genuine social benefits for Abu Dhabi.



The principles that guide Mubadala's business strategy differentiate the company from other investment organisations. Partnerships with world-class industry leaders underpin those principles, bringing the knowledge, expertise and technical skills that the UAE needs to build a balanced and sustainable economy.

Mubadala provides corporate governance oversight of Masdar's operations to ensure that the highest governance standards and delegation of authority are met.

Mubadala is represented on the Masdar Board of Directors, with a number of Mubadala leaders sitting on the board, who provide advice and guidance on the leadership and governance of our organization:



Musabbeh Al Kaabi

Chief Executive Officer of Mubadala's UAE Investments platform



Khaled Abdulla Al Qubaisi

Chief Executive Officer, Real Estate & Infrastructure Investments at Mubadala



Dr. Bakheet Al Katheeri

Executive Director of UAE Industries unit within Mubadala's UAE Investments platform



Ahmed Saeed Al Calily

Chief Strategy & Risk Officer at Mubadala Investment Company

We ensure that there is full alignment with Mubadala's rigorous governance procedures. It is critical for us to have the right governance and leadership structure in place to deliver our mission and strategy. Governance is a continuing focus at the company, starting with the board and extending to management and all employees.

There are multiple layers of oversight in place, as well as advisory forums that ensure risks are managed quickly and at the appropriate level. The board also regularly reviews the company's policies and business strategies, and advises and counsels the CEO and the Executive Management team.

The UAE Investments platform, which Masdar is part of, is Mubadala's vehicle to accelerate the transformation of the UAE's economy by building homegrown, world class champions, fostering vibrant industrial and commercial clusters, and engaging with global partners.

The platform incorporates UAE-led assets in multiple sectors including energy, metals, aerospace, technology, healthcare, real estate and infrastructure.

Masdar leverages synergies across Mubadala's diverse business portfolio to accelerate the deployment of renewable energy in local and international markets.

BOARD OF DIRECTORS & MASDAR EXECUTIVE COMMITTEE

BOARD OF DIRECTORS

The main role of Masdar's Board of Directors is to oversee how management serves the interests of shareowners and other stakeholders. Masdar's parent company, Mubadala, is represented on the board in the form of a number of Mubadala leaders.



H.E. Dr Sultan Al Jaber
Chairman



Musabbeh Al Kaabi
Vice Chairman

Board Members



Khaled Abdulla Al Qubaisi



Dr. Bakheet Al Katheeri



H.E. Dr Ahmad Belhoul



H.E. Razan Khalifa Al Mubarak



Ahmed Saeed Al Calily



Mohamed Jameel Al Ramahi

MASDAR EXECUTIVE COMMITTEE

The primary role of the Executive Committee is the operational management and leadership of Masdar. The Committee reports to the Board of Directors.



Mohamed Jameel Al Ramahi
Chief Executive Officer



Niall Hannigan
Chief Financial Officer



Jonathan Evans
General Counsel, Legal

Executive Director,
Strategy & Corporate
Development



Yousef Ahmed Baselaib

Executive Director,
Human Capital &
Services



Ahmed Baghoum

Acting
Executive Director,
Clean Energy



Fawaz Hadi Salem Ali Al Muharrami

Executive
Director,
Masdar City



Abdulla Ahmed Balalaa

Executive Director,
Brand & Strategic
Initiatives



Dr Lamya Nawaf Fawwaz

THE EXECUTIVE COMMITTEE

Members:

- CEO (Committee Chair)
- CFO
- General Counsel
- Executive Directors

The Executive Committee's (ExCom) role is to highlight and analyze key operational and financial developments and issues for the company, and review proposals by members of the committee for decisions or guidance by the company's CEO.

INVESTMENT COMMITTEE

Members:

- Masdar CEO (Committee Chair)
- Executive Director, Mubadala UAE Industries (Vice Chairman)
- Masdar CFO
- CFO, Mubadala UAE Industries
- Senior Legal Counsel, Mubadala UAE Industries
- Director, Mubadala UAE Industries
- Head of Investments & M&A, Mubadala UAE Industries

The Investment Committee's role is to ensure that the overall investment process and guidelines of the Company remain fit for purpose, and that the Company's funds are invested in accordance with the approved process, guidelines, policies and procedures, and strategy. This Committee includes Masdar, as well as Mubadala, personnel.



OPERATING COMMITTEE

The Operating Committee's role is to ensure that key operational and financial developments and issues for matters that fall under the oversight of the Company's CFO and the Company's Executive Directors are highlighted, and that responsibilities and actions are highlighted to direct CFO and Executive Directors reporting lines for matters that fall outside or deviate from the approved business plans for each of the reporting lines.

TENDER COMMITTEE

The Tender Committee's role is to establish and exercise control over the procurement process and to ensure that contractual risks are managed, and that fair and transparent policies and procedures are followed and that best practices are observed.

SOCIAL ACTIVITIES AND INCLUSION COMMITTEE

The Social Activities and Inclusion Committee's (SAIC) role is to oversee social activities, inclusion activities and procedures, and to ensure that all SAIC decisions are made in accordance with the existing SAIC charter, which is approved by management.

MASDAR SUSTAINABILITY COMMITTEE

The Masdar Sustainability Committee (MSC) was established earlier this year, as a new employee-led body focused on identifying and implementing sustainable practices wherever we work. The Committee is tasked with integrating sustainability into Masdar's day-to-day operations, initiatives and practices.

The aim is to increase sustainability awareness across the company, strengthen our leadership in environmental best practice, and reduce our environmental impact in the workplace. The Committee focuses on five pillars of action:

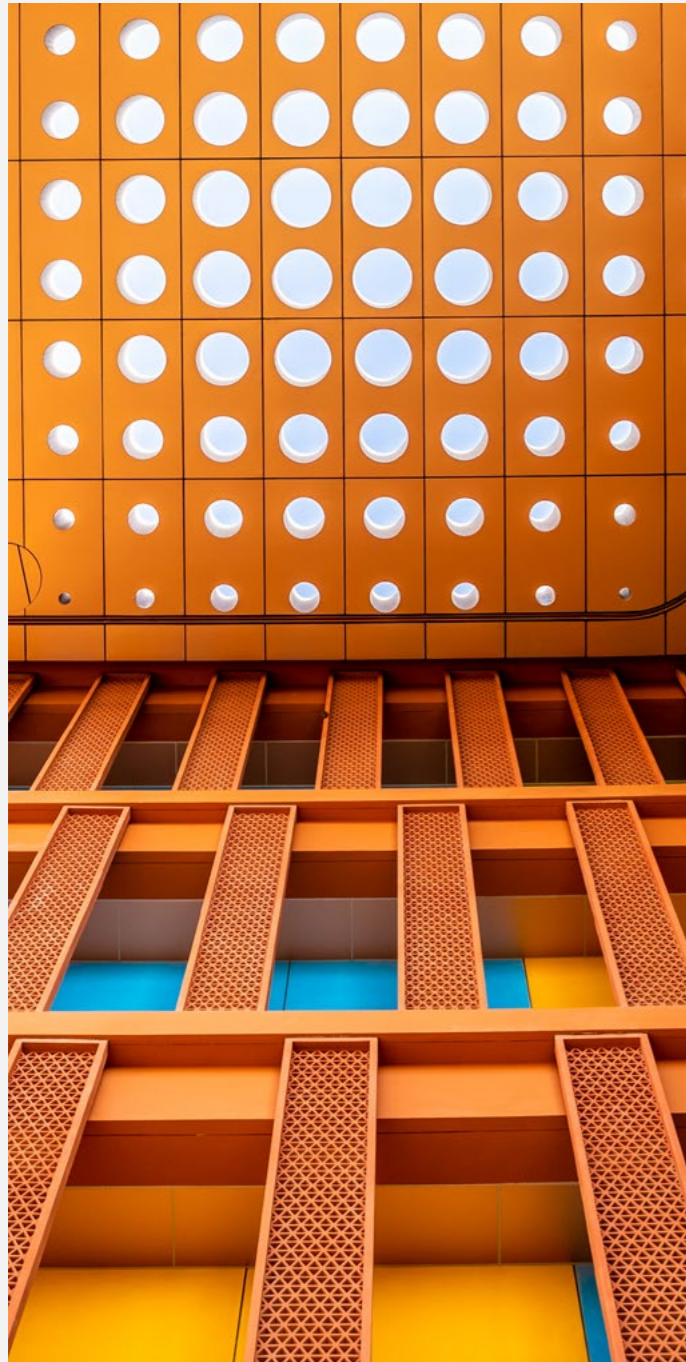


Dr Lamya Fawwaz, Executive Director of Brand & Strategic Initiatives, is the Senior Management Representative and key liaison between the Committee and Masdar's executive team.



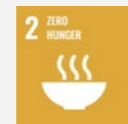
DISCLOSURE





2021 ALIGNMENT WITH UN SDGs

Our role as a global leader in renewable energy and sustainable urban development makes it incumbent on us to use our scale and innovation to help make progress toward the UN SDGs. Each year we conduct an analysis of all the SDGs as they relate to our business and resources and identify the goals where Masdar is making a significant impact.



2

ZERO HUNGER

ZERO HUNGER

- The Zayed Sustainability Prize recognizes organizations that demonstrate innovative, impactful and inspirational sustainability solutions
- Masdar City and UAE-based agri-tech startup Madar Farms have installed the Leafy Green Machine container at Masdar Park, a small-scale and vertical hydroponic farm that grows more than 30 variants of herbs and lettuce for sale throughout the year. Through this collaboration with Madar Farms, Masdar City is supporting efforts to promote food security and more sustainable agriculture
- QS Monitor, part of The Catalyst program, is an online platform for the optimization of food import licensing and timelines



3

GOOD HEALTH AND WELL-BEING

GOOD HEALTH AND WELL-BEING

- Employees receive life insurance, healthcare, compassionate leave, maternity and paternity leave and medical insurance that covers the employee and their immediate family members



4

QUALITY EDUCATION

QUALITY EDUCATION

- The Human Capital team launched “Introduction to Mental Health” sessions to help employees cope with mental struggles working from home
- In 2021, over 1,800 of employees attended more than 30 wellness sessions
- We support a culture of good health and well-being through various fitness programs
- Masdar’s Employee Assistance Program saw a 185 percent increase from quarter one to quarter four, with over 30 services provided and no ‘red flag’ cases reported
- Masdar is taking all necessary precautions to protect all employees during the

- Through a wide range of training programs for our employees each year, we invest in employee development for on-the-job learning, mentoring, in-person and virtual training that consider current and future requirements, as well as our people’s career roadmaps
- In 2021, there were 40 professional training modules at Masdar, delivered by both in-house and external tutors, totaling more than 3,100 hours for the benefit of over 250 colleagues
- All six of our divisions were represented in these development programs, recording an average 4.5 out of 5 evaluation score
- Masdar also offered all employees two seasons of Arabic courses throughout the year
- Masdar’s ‘Pioneers of Success’ program, delivered in partnership with Harvard Corporate Learning, takes place every 18 months and prepares select Masdar middle management personnel for future leadership positions
- Masdar City is home to the Mohamed bin Zayed University of Artificial Intelligence, a graduate-level, research-based academic institution that offers specialized degree programs for local and international students in the field of AI



5

GENDER EQUALITY

GENDER EQUALITY

- Through strategic initiatives such as WiSER, we reiterate our focus on empowering women – and particularly Emirati women – to join the renewable energy sector
- Females in supervisory roles stood at 23% percent during 2021
- A business incentive package was launched by Masdar City Free Zone for women entrepreneurs to further support the growth of women-led companies in the UAE



6

CLEAN WATER AND SANITATION

CLEAN WATER & SANITATION

- Masdar is taking steps to commercialize renewable-powered desalination through projects such as the Ghantoot Desalination Pilot Plant
- The water demand of Masdar City buildings is approximately 40 percent lower than that of the average building in Abu Dhabi





AFFORDABLE & CLEAN ENERGY

- Masdar is developing climate-resilient renewable energy projects in 16 Caribbean Island nations
- Masdar announced 15 new utility-scale clean energy projects in 2021 across eight different countries
- 15,000+ GWh generation from clean energy sources in 2021



INDUSTRY, INNOVATION AND INFRASTRUCTURE

- Masdar City is a pioneer in sustainability and a hub for research and development, and host to The Catalyst, a sustainability start-up accelerator. The City is also home to Abu Dhabi's only planned and approved R&D cluster
- Masdar City hosts a varied number of organizations committed to advancing the sustainability agenda and spearheading the innovations to realize greener, more sustainable urban living. This includes, among others, IRENA, the UAE Space Agency, and companies like Siemens, Honeywell and Saint-Gobain
- The City has developed and hosted a number of R&D initiatives. It has also piloted projects across a range of innovation topics covering mobility, transportation, renewable energy and sustainable living, such as the Electric Energy Storage Solutions Hub
- Masdar City is home to integrated innovative smart mobility solutions such as the world's first personal rapid transport (PRT) system, the Navya – the Middle East and North Africa's (MENA) first autonomous shuttle, and the first electric Eco-bus in the region
- The year 2021 saw the launch of the world's first solar/thermal energy storage-powered project to extract water from air by AQUOVUM, Khalifa University and Masdar, as well as the Azelio electrical thermal energy storage system technology that enables 24/7 clean energy utilization. Both projects are based at Masdar City's Masdar Institute Solar Platform
- Masdar City also launched 'Innovate', a global initiative to identify and nurture the next generation of sustainable technologies which will focus on the areas of urban mobility, clean energy, agritech and food security, water, energy storage, and artificial intelligence



SUSTAINABLE CITIES AND COMMUNITIES

- Masdar City is home to a business free zone, as well as a residential neighborhood with restaurants, shops, and public green spaces, and is spearheading innovations to help realize greener and more sustainable urban living
- Masdar City buildings are designed to consume 40 percent less water and electricity than the Abu Dhabi average
- Masdar's projects are making a sustainable impact on countries around the world
- Masdar City has one of the world's largest clusters of Leadership in Energy and Environmental Design (LEED) Platinum-certified buildings



CLIMATE ACTION

- Masdar's projects have a direct and tangible impact in the fight against climate change around the world
- By the end of 2021, Masdar commitment to delivering a generating capacity of 14GW around the world was an increase of 4GW from 2020
- The amount of CO2 Masdar's operational projects abated increased to 7.5m tonnes in 2021 from an adjusted 5.4m tonnes in 2020, representing an increase of 38 percent in CO2 abated



PARTNERSHIPS FOR THE GOALS

- In 2021, a far-reaching and forward-thinking initiative was announced that will see ADNOC and TAQA joining Mubadala to transform Masdar into a global clean energy powerhouse. The partnership will have a combined current, committed, and exclusive capacity of over 23 GW of renewable energy, with the expectation of reaching well over 100 GW
- We collaborate with intergovernmental organizations such as IRENA and multinational corporations like EDF and Siemens to advance the development and adoption of commercially viable solutions in renewable energy and sustainable real estate around the world
- In 2021, Masdar signed agreements with ENGIE and BP to explore the viability of green hydrogen as a fuel of the future
- Masdar-hosted ADSW, the largest sustainability gathering in the Middle East, is a platform to share knowledge, attract investment and stimulate business partnerships that can help achieve SDGs



GRI REFERENCING

The GRI Content index is a navigation tool that specifies which GRI Standards are used, which disclosures have been made and where these disclosures can be found in the report.

GRI Standard	Disclosure Number	Disclosure Name	Page Reference/ Direct Response
GRI 102: General Disclosures	102-1	Name of Organization	Abu Dhabi Future Energy Company - MASDAR
	102-2	Activities, brands, products, and services	28,29,36,37,42,43,54,55,64,65,66,69
	102-3	Location of Headquarters	Masdar City, Abu Dhabi, PO Box 54115, UAE
	102-4	Location of Operations	10,11,49
	102-5	Ownership and Legal Form	State Owned Enterprise (Subsidiary)
	102-6	Markets served	8,12,13
	102-7	Scale of organization	8,9,12,13,62,63,86,87,88,89
	102-8	Information on employees and other workers	74,75,76,77
	102-9	Supply chain	82
	102-12	External Initiatives	64,65,66,67
	102-13	Membership of associations	36,37,65,69
	102-14	Statement from senior decision-maker	5,6,7
	102-15	Key impacts, risks, and opportunities	5,6,8,9,27
	102-16	Values, principles, standards and norms of behavior	20,21,80,82
	102-18	Governance Structure	80,82,83,84,85,86,87,88,89
	102-19	Delegating authority	85,86,87,88,89
	102-20	Executive-level responsibility for economic, environmental, and social topics	86,87,88,89
	102-21	Consulting stakeholders on economic, environmental, and social topics	24,25,64,65,69
	102-22	Composition of the highest governance body and its committees	85,86,87
	102-23	Chair of the highest governance body	86
	102-24	Nominating and selecting the highest governance body	Masdar is part of Mubadala Investment Company (MIC), which manages long-term investments that deliver strong financial returns and genuine social benefits for Abu Dhabi. As part of its responsibility, MIC is responsible for all board appointments.
	102-25	Conflicts of interest	Masdar has multiple layers of oversight in place, as well as a number of committees and discussion forums that ensure risks are managed quickly. The board also regularly reviews the company's policies and business strategies, and advises and counsels the CEO and the Executive Management team on governance matters.
	102-26	Role of highest governance body in setting purpose, values, and strategy	86,87

GRI Standard	Disclosure Number	Disclosure Name	Page Reference/ Direct Response
GRI 102: General Disclosures	102-27	Collective knowledge of highest governance body	86,87
	102-28	Evaluating the highest governance body's performance	86,87,88
	102-29	Identifying and managing economic, environmental, and social	21,89
	102-30	Effectiveness of risk management processes	88,89
	102-31	Review of economic, environmental, and social topics	21,89
	102-32	Highest governance body's role in sustainability reporting	86,87
	102-33	Communicating critical concerns	88,89
	102-34	Nature and total number of critical concerns	Not yet disclosed
	102-35	Remuneration policies	92
	102-36	Process for determining remuneration	Masdar uses a remuneration structure which allows a specific minimum and maximum for each grade, depending on experience level and relevance to the specific role.
	102-37	Stakeholders' involvement in remuneration	Masdar's Human Capital policies, including remuneration, are periodically reviewed and approved by the Mubadala Investment Company.
	102-38	Annual total compensation ratio	Not yet disclosed
	102-39	Percentage increase in annual total compensation ratio	Not yet disclosed
	102-40	List of Stakeholder groups	24,25,49,50,51,52,53,64,65,66,69,86
	102-41	Collective bargaining agreements	Not yet disclosed
	102-42	Identifying and selecting stakeholders	23
	102-43	Approach to stakeholder engagement	27,64,65,66,69
	102-44	Key topics and concerns raised	Masdar is currently conducting a comprehensive stakeholder engagement process aimed at updating the material topics to be included in future editions of this report.
	102-45	Entities included in the consolidated financial statements	Not Applicable
	102-46	Defining report content and topic Boundaries	22,23
	102-47	List of material topics	22,23
	102-48	Restatements of information	6,63
	102-49	Changes in reporting	Not Applicable
	102-50	Reporting period	Year of 2021
	102-51	Date of most recent report	2020
102-52	Reporting cycle	Annual	
102-53	Contact point for questions regarding the report	sustainabilityreport@masdar.ae	
102-54	Claims of reporting in accordance with the GRI Standards	Referencing	
102-55	GRI Content Index	96	

GRI Standard	Disclosure Number	Disclosure Name	Page Reference/ Direct Response
GRI 103: Management approach - Community	103-1	Explanation of the material topic and its Boundary	22,23
	103-2	The management approach and its components	Annual
	103-3	Evaluation of the management approach	N/A
GRI 201: Economic Performance	201-1	Direct Economic Value generated and distributed	Not yet disclosed
	201-2	Financial implications and other risks and opportunities due to climate change	39
	201-3	Defined benefit plan obligations and other retirement plans	Not yet disclosed
	201-4	Financial assistance received from government	N/A
GRI 202: Market Presence	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	There is no minimum salary stipulated in the UAE Labour Law.
	202-2	Proportion of senior management hired from the local community	76
GRI 203: Indirect Economic Impacts	203-1	Infrastructure investments and services supported	12,13,28,29,39,40,41,42,43,54,55
	203-2	Significant indirect economic impacts	43,49,50,51,52,53,54,55
GRI 204: Procurement Practices	204-1	Proportion of spending on local suppliers	Not yet disclosed
GRI 205: Anti-corruption	205-1	Operations assessed for risks related to corruption	Masdar follows Mubadala's rigorous governance procedures to address any risks relating to corruption. This extends to all of Masdar's operations.
	205-2	Communication and training about anti-corruption policies and procedures	76,77,82
	205-3	Confirmed incidents of corruption and actions taken	No cases of corruption-related incidents were detected / observed in 2021.
GRI 206: Anti-competitive Behaviour	206-1	Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	Nothing to report in 2021
GRI 301: Materials	301-1	Materials used by weight or volume	Not Applicable
	301-2	Recycled input materials used	Not Applicable
	301-3	Reclaimed products and their packaging materials	Not Applicable
GRI 302: Energy	302-1	Energy consumption within the organization	63
	302-2	Energy consumption outside of the organization	Not yet disclosed
	302-3	Energy intensity	Masdar buildings are operating well below the Abu Dhabi building energy intensity baseline - approximately ~200 kwh/m2/year.
	302-4	Reduction of energy consumption	63
	302-5	Reductions in energy requirements of products and services	Not yet disclosed
GRI 303: Water	303-1	Interactions with water as a shared resource	Not Applicable
	303-2	Management of water discharge-related impacts	Not Applicable

GRI Standard	Disclosure Number	Disclosure Name	Page Reference/ Direct Response
	303-3	Water withdrawal	Not Applicable
	303-4	Water discharge	Not Applicable
	303-5	Water consumption	63
GRI 304: Biodiversity	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Not yet disclosed
	304-2	Significant impacts of activities, products, and services on biodiversity	Masdar takes steps to monitor and mitigate all impacts to biodiversity.
	304-3	Habitats protected or restored	Not yet disclosed
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	Not yet disclosed
GRI 103: Management approach - Environment	305-1	Direct (Scope 1) GHG emissions	Not yet disclosed
	305-2	Energy indirect (Scope 2) GHG Emissions	63
	305-3	Other indirect (Scope 3) GHG emissions	63
	305-4	GHG emissions intensity	Not yet disclosed
	305-5	Reduction of GHG emissions	Not yet disclosed
	305-6	Emissions of ozone-depleting substances (ODS)	Not Applicable
	305-7	Nitrogen oxides (NOX), sulphur oxides (SOX), and other significant air emissions	Not Applicable
GRI 306: Effluents and Waste	306-1	Water discharge by quality and destination	Not Applicable
	306-2	Waste by type and disposal method	62
	306-3	Significant spills	Not Applicable
	306-4	Transport of hazardous waste	Not Applicable
	306-5	Water bodies affected by water discharges and/or runoff	Not Applicable
GRI 307: Environmental Compliance	307-1	Non-compliance with environmental laws and regulations	Masdar did not receive any penalties for noncompliance with respect to environmental laws and regulations in 2021.
GRI 308: Supplier Environmental Assessment	308-1	New suppliers that were screened using environmental criteria	54
	308-2	Negative environmental impacts in the supply chain and actions taken	No known incidents in 2021
GRI 401: Employment	401-1	New employee hires and employee turnover	17 new hires, 10 departures.
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	76,77
	401-3	Parental leave	92
GRI 402: Labour/ Management Relations	402-1	Minimum notice periods regarding operational changes	Per local law

GRI Standard	Disclosure Number	Disclosure Name	Page Reference/ Direct Response
GRI 403: Occupational Health and Safety	403-1	Occupational health and safety management system	Masdar has in place a QHSE Policy statement and OHS Policy statement approved by the CEO, communicated to all employees during induction, and displayed across all sites of operation. We are also certified for ISO 45001:2018 Management system all Policies and Procedures are in line with this.
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	76
	403-3	Occupational health services	76
	403-4	Worker participation, consultation, and communication on health and safety	We have an Inspections and Audits program in place that focuses on identification of hazards and risks. We ensure all findings are closed out and complied without compromising on QHSE.
	403-5	Worker training on occupational health and safety	We have formed QHSE Champions, which includes top management representation and employee representation for all departments and divisions of Masdar. We also conduct meetings where QHSE performance, Management Review, QHSE Key findings, key focus areas etc are discussed. The Meeting frequency is Quarterly and/ or as and when required (should any urgent need arise).
	403-6	Promotion of worker health	76
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	We provide awareness training e.g. Emergency Preparedness and Evacuation Procedures, and periodically issue digital awareness alerts based on situational needs.
	403-8	Workers covered by an occupational health and safety management system	Email communications are sent to all our employees based on findings during office inspections e.g. Wearing mask at work.
	403-9	Work-related injuries	No cases of work-related injury occurred during the reporting period.
	403-10	Work-related ill health	No cases of work-related ill health occurred during the reporting period.
GRI 404: Training and Education	404-1	Average hours of training per year per employee	76,77
	404-2	Programs for upgrading employee skills and transition assistance programs	76,77
	404-3	Percentage of employees receiving regular performance and career development reviews	100%

GRI Standard	Disclosure Number	Disclosure Name	Page Reference/ Direct Response
GRI 405: Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	86,87,88,89
	405-2	Ratio of basic salary and remuneration of female to men	Masdar has a compensation structure which allows a specific minimum and maximum of pay for each grade, therefore the variance in pay. Additionally, the difference would also be affected by salary negotiation during recruitment phase, progression of staff within the company over a long period of time.
GRI 406: Non-discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	Masdar did not face any legal action or any recorded incident in relation to discrimination within the organization in 2021.
GRI 407: Freedom of Association and Collective Bargaining	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Nothing to report in 2021
GRI 408: Child Labour	408-1	Operations and suppliers at significant risk for incidents of child labour	Masdar's internal policies and strict supplier selection procedures alleviate risks relating to any compulsory or child labor.
GRI 409: Forced or Compulsory Labour	409-1	Operations and suppliers at significant risk for incidents of forced and compulsory labor	Masdar's internal policies and strict supplier selection procedures alleviate risks relating to any compulsory or child labor.
GRI 410: Security Practices	410-1	Security personnel trained in human rights policies or procedures	All Masdar security personnel are trained in human rights policies and procedures, in accordance with MIC policy.
GRI 411: Rights of Indigenous Peoples	411-1	Incidents of violations involving rights of indigenous peoples	Nothing to report in 2021
GRI 412: Human Rights Assessment	412-1	Operations that have been subject to human rights reviews or impact assessments	Nothing to report in 2021
	412-2	Employee training on human rights policies or procedures	Masdar implements a robust company-wide human rights training program, reflecting the specific challenges encountered in the countries and industries in which we operate. These standards are in accordance with Mubadala policy.
	412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	Not yet disclosed
GRI 413: Local Communities	413-1	Operations with local community engagement, impact assessments, and development programmes	62,63,66
	413-2	Operations with significant actual and potential negative impacts on local communities	No known incidents in 2021

GRI Standard	Disclosure Number	Disclosure Name	Page Reference/ Direct Response
GRI 414: Supplier Social Assessment	414-1	New suppliers that were screened using social criteria	82
	414-2	Negative social impacts in the supply chain and actions taken	No known incidents in 2021
GRI 415: Public Policy	415-1	Political contributions	69
GRI 416: Customer Health and Safety	416-1	Assessment of the health and safety impacts of product and service categories	Not yet disclosed
	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	No known incidents in 2021
GRI 417: Marketing and Labelling	417-1	Requirements for product and service information and labelling	Not applicable
	417-2	Incidents of non-compliance concerning product and service information and labelling	No known incidents in 2021
	417-3	Incidents of non-compliance concerning marketing communications	No known incidents in 2021
GRI 418: Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	No complaints received regarding this matter in 2021
	419-1	Non-compliance with laws and regulations in the social and economic area	Masdar did not suffer any legal action or fine for non-compliance with social and economic laws or regulations in 2021.