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ADNOC

ADVANCING TOWARDS
NET ZERO
Delivering Progress

July 2023

FOREWORD

Our “Advancing Towards Net Zero” publication charts our net zero journey and details our plans to make crucial contributions to the energy transition. Here we present our approach to integrating climate action and responsible practice within our operations and provide greater transparency on our performance, marking a new chapter in our transformational journey to a lower carbon future.

In this rapidly changing and increasingly complex energy landscape, the destination is clear: a net-zero-emissions future. At ADNOC, we are excited about this journey and the positive impact we can have on ensuring an inclusive and orderly energy transition, as we steadfastly hold back emissions, not progress.

Understanding that there is no one-size-fits-all solution in this journey, we are making strides on multiple fronts, investing in lower-carbon solutions and pushing the boundaries of innovation and technology, with an open invitation to build and strengthen global partnerships to accelerate decarbonization solutions.

We are in the top tier of the lowest carbon intensity oil and gas producers in the world, and we continue to invest in reducing the carbon footprint of each unit of energy we produce. We are decarbonizing our operations, investing in renewables, building a global hydrogen value chain, deploying innovative climate technology solutions, and advancing nature-based solutions - such as planting 10 million mangroves in the UAE by 2030.

We support the UAE’s Net Zero by 2050 Strategic Initiative. To this end, we are proud of our accelerated advancement towards zero methane emissions by 2030 and ensuring net-zero operations by 2045, continuing our legacy as a responsible global energy pioneer. We have achieved a series of significant milestones over the decades, driven by the dedication and ingenuity of our talented workforce, and have our sights set on doing more. We remain committed to being the partner of choice for navigating through the global energy transition.

ADNOC Executive Management Team

Al Jubail Mangroves, UAE

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01

OUR ENERGY TRANSITION FRAMEWORK

ADNOC Research and Innovation Center, UAE

Our Energy Transition Framework

As a responsible energy provider, we are accelerating our plans to make today's energy cleaner while investing in the new energies of tomorrow. We have brought forward our net zero ambition by five years, placing us in a leading position amongst our peers.

Together with partners across the value chain, we are advancing practical, sustainable and innovative solutions to accelerate the energy transition.

Our strategy is anchored on four pillars to support our transition plans and meet our ambition to achieve net zero operational emissions by 2045.

These pillars are supported by an initial $15 billion investment in landmark low carbon solutions including electrification, carbon capture and hydrogen in addition to investments through Masdar to grow renewables.

Our continued success depends on having a talented and diverse workforce to drive and sustain our long-term business performance and leadership in the energy transition. We will deliver an agile operating model by securing the critical skills and creating a pipeline of talent that will ensure our differentiated position in a changing energy landscape. We are also investing in equipping the future workforce with the essential skills in science, technology, engineering and mathematics, which we will deliver through our partnerships with government authorities as well as national and international academia and research centers.

Pillar 1

Decarbonizing Our Operations

We are committed to reducing our carbon intensity by 25% by 2030 and achieving net zero by 2045 through actions including energy efficiency, the deployment of carbon capture, removal and storage technology and the electrification of our operations.

Pillar 2

Growing Our Lower-Carbon Solutions

We are growing new market opportunities and investing in new energy solutions and lower-carbon technologies, including renewables, hydrogen, and low-carbon ammonia to support our customers toward their net zero emissions ambitions.

Pillar 3

Leveraging Technology and Partnerships

We are leveraging our track record of global cross-industry and cross-border partnerships, operational capabilities and technology applications to develop and commercialize the technical solutions required for an inclusive energy transition.

Pillar 4

Promoting Biodiversity and Nature-Based Solutions

We are working with local and global partners to create a sustainable future for biodiversity and apply nature-based solutions to minimize the adverse impacts of climate change.

Our Emissions Performance and Targets

As a responsible energy provider, we are committed to accelerating the decarbonization of our oil and gas operations, while growing our portfolio of low-carbon ammonia, as well as investing in green hydrogen and renewables through our shareholding in Masdar.

Our Lower-Carbon Ambitions

1 MILLION TONNES/YR
low-carbon ammonia production by 2025

1 MILLION TONNES/YR
green hydrogen production by 2030 through Masdar

100GW
global renewable energy capacity by 2030 through Masdar

2022

7 $kgCO_2e/boe$[1]
upstream GHG intensity amongst lowest in the industry

24 $mtCO_2e$[2,3]
upstream GHG emissions

5.4 million tCO_2e reduction[3]
of scope 1 and 2 emissions through imported power from nuclear and solar sources and energy efficiency

$15bn
initial investment
over the next five years towards decarbonization and low carbon solutions

2025

<0.15%
upstream methane intensity[4]
lower than Oil and Gas Methane Partnership 2.0 ambition of 0.2%

2030

Zero Methane
from our operated oil and gas assets

25%
GHG intensity reduction
in scope 1 and 2 emissions relative to 2019 baseline

5
million tonnes/yr
of carbon capture capacity

2045

Net Zero Ambition
in scope 1 and 2 emissions

1. Upstream GHG intensity excludes onshore gas processing activities.
2. Upstream GHG emissions reporting in line with the International Association of Oil and Gas Producers (IOGP), which includes oil and gas production and processing.
3. Data has undergone external limited assurance in accordance with ISAE 3000.
4. Methane emissions have undergone external limited assurance in accordance with ISAE 3000. Methane intensity methodology is aligned with the Oil and Gas Methane Partnership (OGMP) reporting framework.

Our downstream joint ventures Borouge and ADNOC Distribution report their GHG emissions through their annual sustainability reports.

02

TRANSFORMING
THE GLOBAL ENERGY SYSTEM

Dudgeon Offshore Wind Farm, UK [Masdar]

Transforming the Global Energy System

The energy transition is a global challenge that will require collaborative and inclusive action from governments, industry and society. Transforming today's fossil-fuel-based energy system into one built on lower-carbon sources, while ensuring secure access to affordable energy, will require all levers at our disposal to be addressed.

We recognize that global energy systems must transform and that the transition towards a lower-carbon future is complex and will take time. However, while progress has been made, particularly in scaling up renewable sources, the world is not on track to sufficiently reduce global greenhouse gas emissions to keep us aligned with the goals of the Paris Agreement.

We believe there are six key enablers for the transformation of the global energy system to help achieve our shared climate goals.

Masdar City, UAE [Masdar]

Efficiency

Increasing energy efficiency provides the most cost-effective CO_2 mitigation option while meeting energy security and affordability goals. It will require adoption of energy-efficient technologies and behavioral change to mitigate the impact of increasing global energy demand.

Renewables

As a low-cost option for power generation, renewables must be scaled up as fast as possible. Significant progress has already been made, with the share of renewables in the power mix having increased by 10 percentage points since 2010, from 19% to 29% in 2022[1]. Achieving net zero will require accelerated deployment to increase the share of renewables in power generation to around 60% by 2030[2].

Electrification

Expanding electrification to sectors traditionally reliant on hydrocarbon combustion will support the decarbonization of the energy system. Net zero outlooks suggest electrification rates must increase to around 50% by 2050, from just 20% today. Increased utilization of renewables, nuclear or thermal hydrocarbon power with CCS can help to achieve a net zero power supply.

Lower-carbon fuels

The impact of those fuels that cannot easily be substituted through electrification must be minimized. The carbon intensity of these fuels can be reduced by adopting low-carbon sources such as biofuels or zero carbon fuels, including hydrogen and ammonia.

Carbon capture, utilization and storage

Uptake of Carbon Capture, Utilization and Storage (CCUS) is a key enabler, given the amplified benefits of frontloading.

Innovative technology solutions and low-carbon supply chains

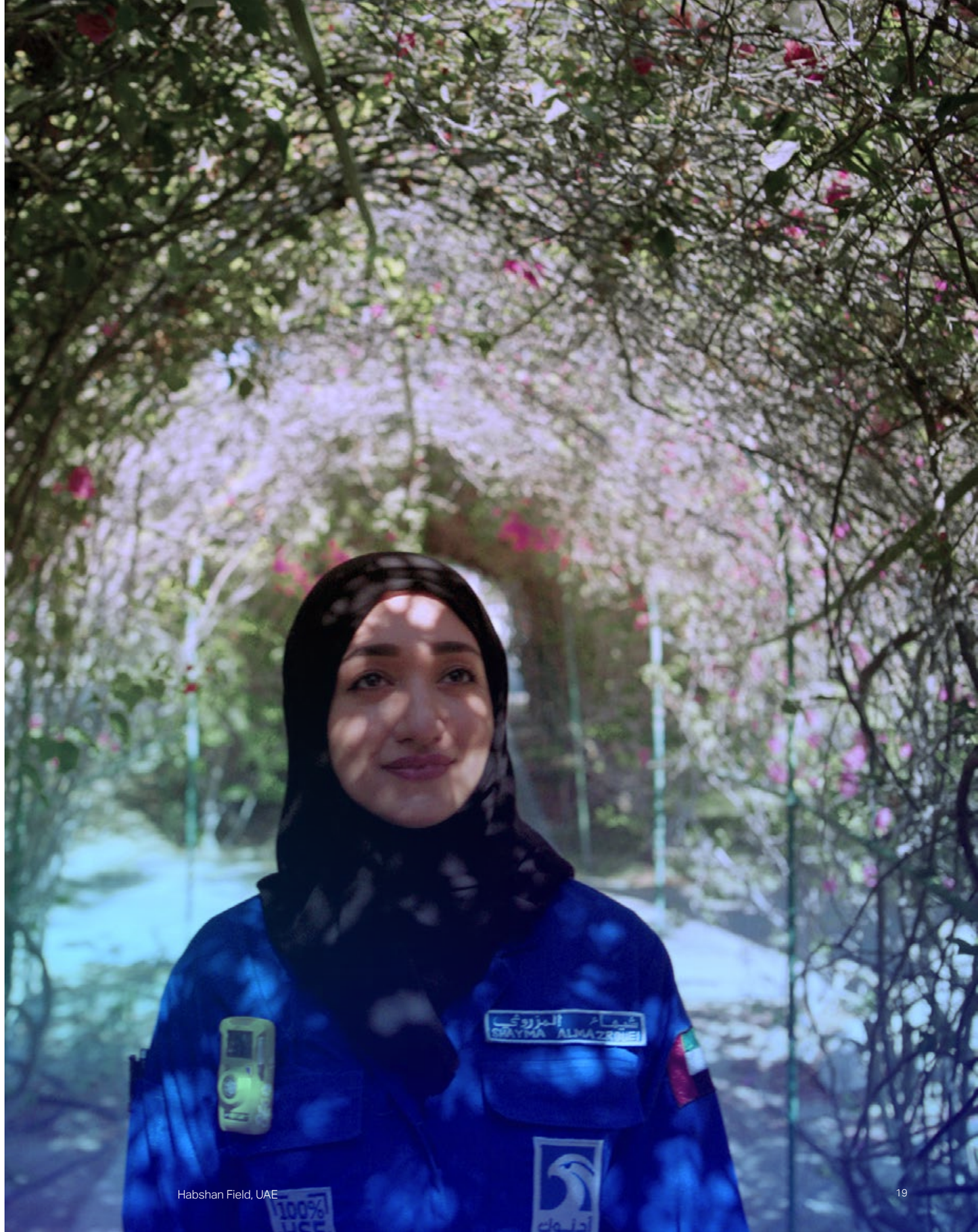
Ensuring we meet our climate goals requires the timely implementation of system-ready and proven technologies. An early uptake of CCUS is a key enabler, given the amplified benefits of frontloading reductions. Scaling up the required supply chains is critical - as is investment in the commercialization and deployment of new technologies such as direct air capture, green hydrogen, long-duration battery storage, nuclear small module reactors and even fusion.

1. Source: Energy Institute Statistical Review of World Energy; 2. Source: IEA World Energy Outlook 2022

03

THE UAE

NET ZERO PATHWAY



Habshan Field, UAE

The UAE Net Zero Pathway

The United Arab Emirates (UAE) has taken bold steps to mitigate climate change, demonstrating a strong commitment to a more sustainable and resilient future. The UAE was the first country in the region to launch a Net Zero strategy to achieve net zero emissions by 2050. ADNOC is an integral part of this vision and the nation's broader sustainability strategy.

The UAE's Net Zero by 2050 Strategic Initiative is a comprehensive roadmap that involves a multifaceted approach and integrates economic, environmental, and social dimensions, underscoring the UAE's commitment to sustainable development. The strategy encompasses carbon capture and storage, increased renewable energy capacity, improved energy efficiency, and an emphasis on green industries and related jobs. The UAE Energy Strategy 2050 targets an energy mix that will enable the UAE's sustainable economic growth and path to carbon neutrality by 2050.

Investment in renewable energy, both locally and globally, reflects the UAE's commitment to promoting clean energy. The UAE has invested billions of dollars in renewable energy projects at home, emerging as a regional leader in solar and wind power. It has been the host nation of the International Renewable Energy Agency (IRENA) since 2011. Beyond its borders, the UAE has been a significant investor in renewable energy. Masdar, the Abu Dhabi Future Energy Company (in which ADNOC is a major shareholder), has invested in renewable energy projects in more than 40 countries around the world. These investments reflect the UAE's commitment to sustainable energy development on a global scale, helping to expand access to clean energy in developing countries.

ADNOC is a key enabler of the UAE's energy strategy and new hydrogen strategy. It will continue to pioneer its clean hydrogen and low-carbon ammonia production, bolstering the UAE's goal to be a world leader in the hydrogen market and help our industrial customers around the world on their own decarbonization journeys.

Today, we produce over 300,000 tonnes of hydrogen and by 2030 we plan to produce more than one million tonnes per year of low-carbon ammonia from a new world-scale facility at TA'ZIZ.

Further supporting the UAE's energy diversification ambitions, ADNOC will continue its ongoing investments in Masdar and build on other partnerships to further diversify and decarbonize the UAE's energy mix.

National Energy Strategy 2050

3X contribution

from renewables by 2030

30% share

of clean energy in the energy mix by 2031

Up to $50bn investment

by 2030 to meet energy demand

National Hydrogen Strategy

1.4 million tonnes

annual production by 2031

15 million tonnes

annual production by 2050

Nationally Determined Contribution

19% decrease in

GHG emissions by 2030 relative to 2019 baseline

40% reduction in GHG emissions

compared to the 2030 business-as-usual scenario

UNITED ARAB EMIRATES
MINISTRY OF CLIMATE CHANGE & ENVIRONMENT

HE Mariam Al Muhairi

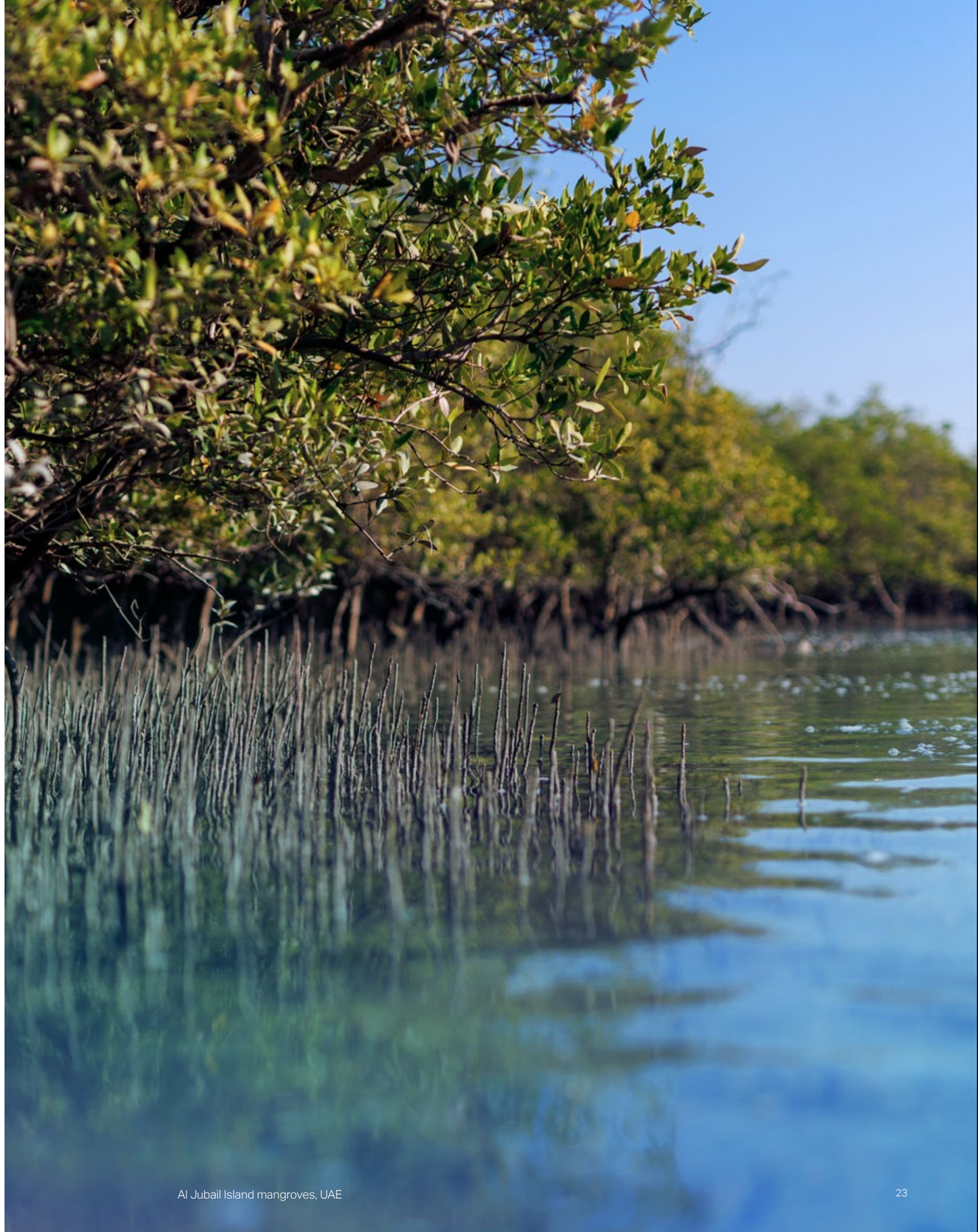
UAE Minister of Climate Change and Environment

"The UAE, under the leadership of our President His Highness Sheikh Mohammed Bin Zayed Al Nahyan, views climate action not only as a strategic imperative for the environment and our future generations, but also as an opportunity for sustainable economic growth and socially inclusive prosperity."

"We have progressively raised our ambition in less than three years, highlighted by the commitment to reduce emissions by 23.5 per cent in our Second NDC; decreased this further to 31 per cent in our Second Updated NDC; and pushed our efforts even further to reach a reduction of 40 per cent in our Third Update of our Second NDC compared to business as usual."

04

OUR JOURNEY
TO NET ZERO



Al Jubail Island mangroves, UAE

Our Journey to Net Zero

We are committed to transitioning to a lower carbon global energy system. Our commitment is driven by the role we play as a leading national champion for promoting economic development, energy security, and environmental sustainability. We will continue to play a proactive role in the transformation of the energy system by leveraging our world-class resources and technological expertise to drive meaningful change.

Our approach to the energy transition is guided by our four strategic pillars: decarbonizing our operations, growing our lower-carbon solutions, leveraging technology and partnerships and promoting biodiversity and nature-based solutions.

We have been at the forefront of adopting climate-friendly technologies in the oil and gas industry. This includes investments in carbon capture and storage technologies, energy efficiency measures, and lower-carbon solutions. We are committed to driving innovation in climate technologies, not only to reduce our emissions but also to enhance operational efficiency and unlock new business opportunities.

Our commitment to sustainability is ingrained in our history and culture. We embarked on our sustainability journey in 1971, when ADNOC was founded. Since then, our approach has evolved in response to emerging challenges, new technologies, and leading global best practices. We have consistently sought to minimize our environmental footprint, maximize the value of our resources, and contribute positively to our community.

Our value system is rooted in the vision of a future characterized by equitable and sustainable development, clean energy, and net zero carbon emissions. We see an era marked by advances in mitigation and adaptation solutions, and we are committed to being at the forefront of these innovations.

Musabbeh Al Kaabi

Executive Director,
Low Carbon Solutions &
International Growth

"We have maintained one of the lowest carbon emissions intensities in the world and will further reduce the intensity of our GHG emissions by 25% by 2030.

We support the goals of the Paris Agreement and value international collaboration in addressing climate change and its effects within the context of sustainable development and the energy transition. Our role as an energy company is crucial to achieving this balance, and we have the scale and expertise to and help accelerate the energy transition.

Our investment in developing and deploying the technologies of tomorrow will enable us to drive efficiency and performance while ensuring that we maintain our advantage as a low cost and low carbon energy supplier.

We are leading by example, bringing together energy, technology and finance leaders to create practical energy transition solutions that limit emissions, not progress."

We deliver energy to drive economic growth, and we ensure this energy is produced responsibly.

Hydrogen fuel cell vehicle, UAE

1971

ADNOC established to ensure responsible stewardship of Abu Dhabi's oil and gas resources and drive the UAE's economic development.

1977

First LNG cargo shipped, making ADNOC LNG a pioneer of the gas liquefaction industry in the region.

1978

ADNOC Gas Processing established, capturing gas to supply our power generation needs and minimize environmental impacts associated with flaring.

2000s

Zero routine flaring policy established, a major milestone on our path to eliminate flaring and reduction of methane emissions.

2016

Al Reyadah established, the region's first commercial-scale carbon capture and storage facility with up to 800,000 tonnes per year of CO_2 capture capacity.

2018

$600 million Ruwais Waste Heat Recovery project launched to produce 230MW of electricity per day.

2020

2030 sustainability strategy established with commitments on reducing the carbon intensity from ADNOC operations by 25%, increasing carbon capture capacity by six-fold and planting 10 million mangroves by 2030.

ADNOC signs up to the Oil & Gas Methane Partnership 2.0 (OGMP 2.0).

2021

ADNOC signs international partnership agreements for a world-scale, one million tonnes per year low-carbon ammonia production facility.

2022

Net Zero by 2050 ambition announced.

ADNOC invests in renewables through its Masdar shareholding.

Partnership to source 100% of ADNOC's imported grid power from nuclear and solar energy sources.

New upstream methane intensity target of 0.15% by 2025 set.

Achieved 90% reduction in flaring volume since company's founding.

Dedicated directorate established to drive investments in decarbonization and lower-carbon energy solutions.

Deployed drone technology to plant 2.5 million mangrove seeds.

2023

Allocated initial $15 billion investment by 2027 for landmark decarbonization projects and lower-carbon solutions.

ADNOC brings forward net zero ambition by five years to 2045.

ADNOC commits to zero methane by 2030.

Pillar 01

Decarbonizing Our Operations

We will continue to create long-term value for our stakeholders by delivering energy with progressively lower emissions. We will do this through an integrated strategy, at the core of which is our focus on reducing our carbon intensity by 25% by 2030 as an interim goal towards our net zero ambition.

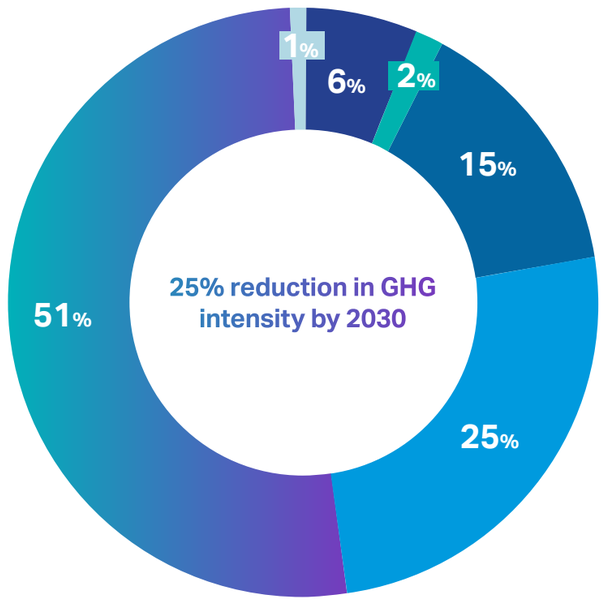
In 2022, we have made significant progress towards our emissions reduction goals across our key decarbonization levers: energy efficiency, flaring reduction, methane management, CCS and electrification. We will continue to mature our abatement projects to ensure tangible and measurable progress, integration into our business plan and the strategic allocation of capital expenditure.

We maintain one of the lowest carbon intensities for oil and gas production globally. This is driven by decades of investing in operational excellence, energy efficiency and flaring reduction. In 2022 we implemented over 40 projects, in addition to our grid-imported power, that collectively resulted in an emissions reduction of 5.4 million tCO_2e across our operations.

100%
grid-imported power from solar and nuclear sources

Decarbonization opportunities to achieve 2030 target

- Energy Efficiency
- Electrification
- Grid Power
- Flare Reduction
- CCS
- Fuel Change



ADNOC Panorama Digital Command Center, UAE

Electrification, energy efficiency, methane emissions abatement, and carbon capture and storage are the key decarbonization levers toward achieving 25 percent intensity reduction by 2030.

Electrification

Since January 2022, we have sourced 100% of our grid power from nuclear and solar, making ADNOC one of the first major oil and gas enterprises to decarbonize its electricity supply at scale.

We are electrifying our liquefied natural gas (LNG) production. Our low carbon intensity LNG growth project will play a key role in the energy transition and will provide some of the world's lowest-carbon LNG once completed.

Energy Efficiency

We are focused on energy efficiency through the implementation of Group-wide ISO 50001 certification in energy management. In 2020 we achieved a 15% improvement in our energy efficiency compared to a 2014 baseline, resulting in more than 100 million gigajoules (GJ) of cumulative energy savings as we progress our efforts towards a 5% energy improvement target by 2025.

Our $600 million waste heat recovery project is revolutionizing power and water generation at our general utilities plant providing electricity and water to the entire Al Ruwais Industrial City. By using heat generated at the site to drive two steam-powered turbines, we can produce an additional 62,400 cubic meters of distillate water per day and 230 megawatts of power. Upon completion, the project will increase the thermal efficiency of the site by nearly 30% and reduce dependence on the national grid.

Carbon Capture and Storage

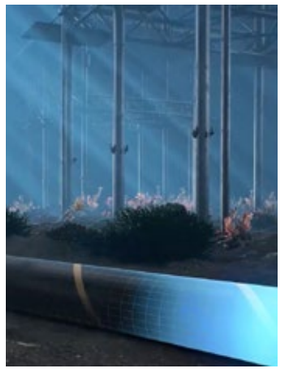
We completed the Al Reyadah CCS facility in 2016, the region's first commercial-scale carbon capture facility, with a CO_2 capture capacity of up to 800,000 tonnes per year. The facility processes CO_2 captured from Emirates Steel Industries, which is then safely injected into our onshore oilfields.

We are also piloting carbon removal and storage technology to permanently mineralize CO_2 within rock formations and have commenced work on the world's first fully sequestered CO_2 injection well in a carbonate saline aquifer.

Das Island, UAE

CASE STUDY

Electrifying our Offshore Operations



Currently under construction, we are building a $3.8 billion, first-of-its-kind in the region, sub-sea transmission network to connect our offshore operations to onshore grid power from nuclear and solar energy.

Upon completion, the project will potentially reduce the carbon footprint of our offshore operations by up to 50%, replacing existing offshore gas turbine generators with power from the grid. Our collaborative approach will also drive operational efficiencies and improve the reliability of the energy supply system, while offering the potential for power supply cost optimization.

Pillar 01- Decarbonizing Our Operations

Methane Emissions

Methane abatement is critical to mitigating the adverse affects of climate change, given its higher contribution towards global warming, when compared with carbon dioxide. ADNOC is prioritizing the deployment of advanced technology to identify and eliminate methane emissions.

We have made great strides towards eliminating the flaring of natural gas across our operations. Our zero routine flaring policy, established in the 2000s, was a major milestone on our path to eliminate flaring and reduce methane emissions. The World Bank Global Gas Flaring Tracker Report annually lists the UAE as having one of the lowest flare volumes and flaring intensities among oil and gas producing countries.

Our 2022 methane emissions were 6% lower than in 2021, achieved by a reduction in flaring through the effective use of flare recovery compressor systems during turn-rounds in gas processing plants; operational enhancements of rotating equipment for better energy efficiency; performing leak detection and repair (LDAR) surveys and repair interventions; and enhancing the accuracy levels of methane emission factors based on actual measurements.

Our zero methane emissions ambition will support the UAE's commitment to the Global Methane Pledge, a collective effort by 150 countries to ensure global methane emissions in 2030 are 30% below 2020 levels.

CASE STUDY

Oil and Gas Methane Partnership (OGMP) 2.0 Gold Standard Pathway

ADNOC is a signatory to the Oil and Gas Methane Partnership 2.0, a multi-stakeholder initiative launched by the United Nations Environment Program (UNEP) and the Climate and Clean Air Coalition, to improve industry standards for reporting and reducing methane emissions.

We are piloting the latest leak detection technologies such as satellite imaging, aerial drones and robotic inspectors equipped with advanced imaging sensors and laser dispersion spectroscopy. The deployment of such technological solutions across our operations is an essential part of our roadmap to move towards reducing methane emissions through continuous measurement and rapid intervention.

Our efforts were recognized in 2022 with the award of the OGMP 2.0 Gold Standard Pathway for having submitted high quality data and a robust plan to measure methane emissions in line with the Partnership's reporting framework.

EDGE drone, UAE Climate Tech, UAE

Pillar 02

Growing our Lower-Carbon Solutions

Through our newly established Low Carbon Solutions & International Growth directorate, we are investing in new energy solutions and lower-carbon technologies, establishing impactful partnerships to support the global energy transition and further reducing our carbon footprint to mitigate the impacts of climate change.

In 2022 we signed an agreement with TAQA and Mubadala, to combine their renewables and green hydrogen operations into Masdar (where ADNOC is a major shareholder), with plans to boost renewable energy capacity to more than 100 GW by 2030. Since its inception in 2006, Masdar has been a pioneer in clean energy. Today it is active in more than 40 countries, having invested or committed to invest in projects with a total value of over $30 billion. With over 20GW of combined capacity, these projects are serving to abate more than 30 million tonnes of carbon dioxide emissions each year.

We have delivered demonstration cargoes of low-carbon ammonia to customers in Europe and Asia to support their journeys to lower emissions. We are also building a world-scale one million tonne per annum low-carbon ammonia production facility at the new TA'ZIZ Industrial Chemicals Zone in Abu Dhabi.

We are pursuing opportunities to produce low-carbon hydrogen and ammonia by leveraging the UAE's gas reserves, world-scale infrastructure, growing carbon capture and storage capabilities and global partnerships to build upon the 300,000 tonnes of hydrogen we currently produce each year.

We are developing other hydrogen vectors such as liquid hydrogen and liquid organic hydrogen carriers (LOHCs). We anticipate that our adoption of low-carbon hydrogen will help strengthen overall demand at scale and support the long-term commercialization of green hydrogen.

We have partnered with Abu Dhabi National Energy Company (TAQA) to establish E2GO, to build and operate electric vehicle (EV) infrastructure in Abu Dhabi and the wider UAE.

ADNOC is a steering member of The Hydrogen Council, a CEO-led organization that believes hydrogen has a key role in energy diversification and decarbonization. The Council promotes collaboration across governments, industries and investors to provide guidance on accelerating the deployment of hydrogen solutions globally.

CASE STUDY

Decarbonizing the Value Chain

We have delivered demonstration cargos of low-carbon ammonia, an efficient carrier of hydrogen, to customers in Europe and Asia; a critical step to enable our partners to test new applications for ammonia and hydrogen.

We are developing a world-scale one million tonnes per annum low-carbon ammonia production facility at the TA'ZIZ industrial and chemicals hub, which is scheduled to start up in 2025.

Through our shareholding in Masdar, we are taking the lead in scaling up green hydrogen production. Masdar is working to produce up to one million tonnes of green hydrogen per year by 2030, equivalent to saving more than six million tonnes of CO_2 emissions. We will also increase production of blue hydrogen, which will be enabled by the expansion of our carbon capture, utilization and storage capabilities.

"Advancing the global mission to net zero will require commitment and cooperation from all industries and sections of society. As the UAE's flagship renewable energy company, Masdar is proud to have clean energy projects across 40 countries with a total capacity of over 20GW.

Our work is made possible through the unwavering support and expertise of our valued shareholder, ADNOC. Together, we will continue to work hard to reach Masdar's goal of achieving at least 100GW of total renewable energy capacity and one million tonnes of green hydrogen production per year by 2030."

Mohamed Jameel Al Ramahi

Chief Executive Officer, Masdar

Pillar 03

Leveraging Technology and Partnerships

Engaging with external stakeholders is critical to our energy transition journey. Our track record of global partnerships, operational capabilities, and technology application positions us well for the opportunities presented by the energy transition.

Technology will be a key enabler to deliver on our net zero ambition. We are exploring and deploying technologies to enhance our emissions monitoring and making targeted interventions to reduce the carbon footprint of our operations. In addition, we are accelerating our efforts to strengthen value chains for lower-carbon fuels to support industrial decarbonization.

Almost 80% of our new technology and development activity is focused on sustainable growth projects, such as the harnessing of geothermal energy to power residential and industrial activities and the development of clean fuels such as green and blue hydrogen.

We have invested in a state-of-the-art ADNOC Research and Innovation Center (ADRIC). This 26,000m^2 facility is designed to develop and deploy innovations that will transform, decarbonize, and future proof our operations. Researchers at the facility work closely with other scientists from Khalifa University and the Non-Metallic Innovation Center in Cambridge, United Kingdom. We also help to nurture technological innovation at other academic institutions, including the Mohammed Bin Zayed University for Artificial Intelligence, UAE University, and the University of Manchester.

We continue to partner with innovators, pioneers, and industry leaders to advance our net zero ambition.

We are working with LanzaTech, a US-based biotechnology company that is pioneering the use of bacteria to convert CO_2 into fuels and chemicals, to explore ways of converting waste gases from our downstream facilities into chemicals and sustainable aviation fuels.

We are also partnering with Baker Hughes and two of its portfolio companies, Levidian and Nemesys, to produce graphene and green and low-carbon hydrogen.

With 44.01, we are deploying their Earthshot Prize winning technology to help permanently mineralize CO_2 within peridotite rock formations in Fujairah.

We are working with German e-mobility company, Power I.D., to decarbonize operations in remote areas by developing battery energy storage systems made from re-used electric vehicle batteries.

We are harnessing geothermal energy to diversify the UAE's energy mix. In partnership with the National Central Cooling Company (Tabreed), we are recycling subsurface heat to sustainably run the systems used to cool urban spaces.

In the digital domain, we are collaborating with Siemens Energy to implement blockchain technology to record and certify the carbon footprint of products, such as low-carbon ammonia.

CASE STUDY

Decarbonization Technology Challenge

ADNOC recognizes the tremendous potential offered by emerging technology start-ups in decarbonizing the energy sector and heavy industries at large.

In 2023, we launched the Decarbonization Technology Challenge in partnership with Amazon Web Services, bp, Hub71 and the Net Zero Technology Centre (NZTC). The competition invites emerging companies pioneering decarbonization technologies to submit their innovations for a chance to win a $1 million piloting opportunity with ADNOC.

We are also patrons of the TechX Clean Energy Accelerator program, which is run in partnership with Accenture, bp, Equinor, and NZTC. Together, we hold an annual competition to find innovative start-ups pioneering energy transition technologies, such as direct air capture devices, or batteries made from agricultural waste. Winning companies are provided with funding and expertise to help realize the potential of their technologies.

Pillar 04

Biodiversity and Nature-Based Solutions

Our commitment to sustainability extends beyond reducing carbon emissions. We recognize that climate and nature considerations need to be addressed in parallel. This is anchored in our operating framework and practices.

We focus on the importance of preserving biodiversity and natural ecosystems, which are integral to the intergenerational wellbeing of our planet and its people. We are investing in initiatives to protect and restore nature, including habitat preservation efforts, marine conservation projects, and programs to protect endangered species. These initiatives underscore our belief that a healthy environment is essential for a sustainable future. Building on decades of effective management, we continue to enhance our biodiversity management approach through capacity building, conducting research with experts in the field, ensuring biodiversity project delivery milestones, and applying technology solutions.

Over the last decade we have embraced the concept of nature-based solutions by planting mangroves across Abu Dhabi, helping these natural carbon sinks to thrive. Mangroves are critical in preventing coastal erosion and are home to a diverse range of marine life, as well as representing an ecosystem valuable for their CO_2 sequestration potential. They are an important nature-based climate solution contributing towards mitigating climate change.

We are committed to planting 10 million mangroves by 2030 and will be accelerating our efforts using drone technology to plant the mangrove seeds.

In 2022, we planted 200,000 mangrove seeds using drone technology. The germination and growth of the mangroves is being monitored for the next year and we will aerially plant a total of 2.5 million mangrove seeds over three years. Our efforts support the UAE's aim to plant 100 million mangroves by 2030, as well as the United Nations conventions on conserving biodiversity.

Hawksbill Turtle, UAE

CASE STUDY

Working in Sensitive Areas

Our commitment to protecting the marine environment is exemplified in our approach to the development of the Ghasha mega-project, the world's largest offshore sour gas development and a critical element in meeting the UAE's gas self-sufficiency objective.

The project lies within a UNESCO designated area, the Marawah Marine Biosphere Reserve, known for its rich coastal and marine ecosystems, including turtles, coral reefs, seagrass beds and mangroves.

In close partnership with the Environment Agency - Abu Dhabi, the project included the largest marine environmental baseline surveys undertaken in Abu Dhabi. The findings have been integrated into a robust biodiversity monitoring program to help preserve the marine ecosystem in the area.

As part of the program, we have implemented a zero discharge policy within the Marawah Marine Biosphere Reserve and, as part of the design of our facilities, have: installed artificial fish habitats to repopulate the area; developed a rescue and rehabilitation program for endangered sea turtles; and installed Osprey nesting platforms in different offshore and onshore locations to increase their population. We implement regular monitoring programs in collaboration with the Environment Agency-Abu Dhabi to ensure timely and aligned biodiversity preservation activities.

"The Environment Agency - Abu Dhabi has a strong and proud legacy of collaboration with ADNOC, which continues to propel Abu Dhabi's long-term sustainability agenda, and at its core ensures we preserve and protect our natural heritage for generations to come.

In the UAE's Year of Sustainability (2023), this relationship - which shares a strong ambition to leverage the best of innovation and science - exemplifies our shared commitment to achieve the vision of our leadership and further strengthen Abu Dhabi's position as a global leader in protecting the environment and achieving sustainable development."

HE Dr. Shaikha Salem Al Dhaheri

Secretary General,
Environment Agency – Abu Dhabi

05

WHO
WE ARE

Who We Are

Founded in 1971, ADNOC is an integrated energy company wholly owned by the Government of the Emirate of Abu Dhabi. Our fully integrated business operates across the energy value chain, helping us to responsibly meet the demands of an ever-changing energy market.

Our mission is to produce the industry's lowest carbon intensive barrels while working to accelerate the decarbonization of our entire value chain and deliver on our climate ambitions. We support the UAE's climate and sustainability goals, including its Net Zero by 2050 Strategic Initiative and ambitious global methane target. Our environment, social and governance performance enables us to contribute to the prosperity of the nation and the preservation of its precious natural environment.

At the same time, we recognize the key role we play in the UAE's economic and social development. We view our contributions to the UAE as multifaceted and complementary. First and foremost, our business is to provide the energy the UAE needs for further economic development, and to generate revenue for the national government.

Our Low Carbon Solutions & International Growth directorate, together with our shareholding in Masdar, the Abu Dhabi Future Energy Company, drives our investments in renewables and the new energies of the future. The directorate is also investing in the UAE's hydrogen value chain, expanding our carbon capture and storage capacity, as well as our growing our international portfolio in gas, liquefied natural gas (LNG) and chemicals.

ADNOC's upstream business covers conventional and unconventional oil and natural gas exploration, development, and production. Today, we have the capacity to produce approximately 4.5 million barrels of oil per day and around 11.5 billion standard cubic feet of gas per day.

The UAE's emphasis on the responsible development of its hydrocarbon resources has underpinned ADNOC's disciplined approach to the management of Abu Dhabi's oil and gas reservoirs. This places ADNOC in the top tier of lowest carbon intensity oil and gas producers in the world[1].

ADNOC manages its reservoirs using best-in-class engineering practices, to sustain production through the maintenance of natural reservoir pressure, control of associated water production, and therefore reducing energy intensity throughout the field development cycle. This strategy, adopted in the 1970s, along with other initiatives, has reduced the carbon intensity over the lifecycle of ADNOC's reservoirs, and is likely to result in amongst the highest ultimate recovery rates seen in the industry.

Our downstream business maximizes the value from our oil and gas resources at our integrated refining and petrochemicals complex in Al Ruwais Industrial City, producing a full range of high value products.

1. Independently assured by DNV

We operate a shipping and maritime logistics arm, which is a crucial link in our supply chain, delivering oil, gas, and petroleum products to customers throughout the world. We are the UAE's leading retail fuel service provider, with a network of over 500 retail fuel service stations, and market and distribute fuels to commercial and government customers throughout the nation. Our expansion into trading allows for greater flexibility, enabling us to be more responsive to customer demand and to capture greater value from every barrel that we produce, refine, and sell.

"We are accelerating our path towards net zero by 2045 through the integration of robust sustainability practices across our operations.

Our performance is a result of the talented people who work for ADNOC, their commitment, ingenuity and drive to progress the impact areas where we can make the biggest difference.

We look forward to sharing our continued progress as we advance our net zero journey together."

Ibrahim Al Zu'bi
Chief Sustainability Officer

ADIPEC 2022, UAE

Assurance and Cautionary Statement

Assurance

DNV has provided a limited assurance of our greenhouse gas emissions, methane and flaring data in accordance with the International Standard on Assurance Engagements 3000 (ISAE 3000).

Cautionary Statement

This report contains certain “forward-looking statements” (statements related to the future and not to past events with respect to businesses of the ADNOC Group and certain of its plans and objectives with respect to these items). Such statements can be identified by the use of forward-looking terminology such as “targets”, “aims”, “plans”, “believes”, or similar wording or variation of it that refers to future actions, events, results or outcomes. These forward-looking statements are to be read as qualified statements as they refer to or involve risks and uncertainties related to future expectations or future impact beyond the control of the ADNOC Group. Actual events, results or outcomes may differ materially from how they are stated or implied in these forward-looking statements. Any references to “material” are used to describe matters that the ADNOC Group considers of high or medium importance in terms of stakeholder interest and potential business impact.