JULY
2021
ISSUE 197

Society & Environment

creating green communities for a better tomorrow

A monthly publication issued by Zayed International Foundation for the Environment

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Chairman's Message

With less than 100 days to go for Expo 2020, Dubai has already demonstrated its advanced state of readiness to host an exceptional international event especially in the context of an ongoing pandemic.

Seeking to deliver real-life solutions in the post-pandemic era, Expo 2020 will be a key meeting point for the global community to share innovations and make progress on issues of international importance like the global economy, sustainable development, and improved quality of life for the world's population.

As an inclusive and cosmopolitan nation that has been inspiring action to global challenges of the future, the UAE aims to connect people and new ideas with enduring benefits for future generations at home and around the world, under the theme "Connecting Minds, Creating the Future."

Each expo is a catalyst for economic, cultural and social transformation, generating important legacies for the host, and the 2020 edition also promises to spearhead innovation and unleash new ideas to reinvent our world based on its key themes of

Prof. Mohammed bin Fahad
Executive Editor

Opportunity, Mobility, and Sustainability. Expo 2020 is a glorious celebration of the UAE Vision 2021 and serves as a catalyst for stimulating the development of innovative businesses in the UAE as it also cements the country's status as a foremost international destination conducive for doing business.

Expo 2020 Dubai marks an important milestone for the UAE as it coincides with the country's 50th anniversary this year. Throughout its six-month duration, the international event will inspire collective and meaningful action to address the world's most critical challenges and opportunities.

As Expo 2020 gets ready to unlock the potential of individuals and communities to shape the future and deliver real-life solutions to real-life challenges, it will also inspire the next generation to spark innovations that will underline the next 50 years of human progress.

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Upcoming events

World Population Day

Date: July 11
As a day dedicated to focusing on the importance of population issues,World Population Day assumes greater significance at the time of the pandemic which has compromised health care systems particularly in the area of sexual and reproductive health. It has also exposed and exacerbated gender-based inequities: gender-based violence increased under lockdown, as did the risk of child marriage and female genital mutilation as programmes to abolish the harmful practices were disrupted.

Against this backdrop, many countries are expressing growing concern over changing fertility rates. UNFPA advises against reactionary policy responses, which can be extremely harmful if they violate rights, health and choices. The agency emphasizes that women must be empowered educationally, economically and politically to exercise choice over their bodies and fertility.

International Day for the Conservation of the Mangrove Ecosystem

Date: July 26
Mangroves are rare, spectacular and prolific ecosystems on the boundary between land and sea. These extraordinary ecosystems support a rich biodiversity and provide a valuable nursery habitat for fish and crustaceans. Their soils are highly effective carbon sinks, sequestering vast amounts of carbon.

Yet mangroves are disappearing three to five times faster than overall global forest losses, with serious ecological and socio-economic impacts.

The International Day for the Conservation of the Mangrove Ecosystem, aims to raise awareness of the importance of mangrove ecosystems as “a unique, special and vulnerable ecosystem" and to promote solutions for their sustainable management, conservation and uses.

World Tiger Day

Date: July 29
The beautiful awe-inspiring tiger is one of the most iconic animals on earth. But here’s the shocking truth; wild tiger numbers dropped by more than 95 percent since the beginning of the 20th century.

World Tiger Day raises awareness about this magnificent but endangered big cat. The day was founded in 2010, when the 13 tiger range countries came together to create Tx2 – the global goal to double the number of wild tigers by the year 2022.

HH Sheikh Mohammed Bin Rashid Announces 100-Day Countdown For Expo 2020 Dubai

His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, has announced the countdown for Expo 2020 Dubai, the world's largest cultural event to convene the global community towards creating solutions for a better future.

The 100-day countdown was held on June 23.

"The biggest global event to usher in a new phase of recovery post-pandemic"
- Ruler of Dubai

The UAE will be the first country in the Middle East, Africa and South Asia (MEASA) region to host a World Expo in the largest global gathering since the outset of the COVID-19 pandemic. Expo 2020 Dubai, set to begin on 1st October, is expected to attract more than 25 million visitors from all over the world to discover life-changing innovations. The mega event aims to drive collaboration and innovation to develop real-life solutions as the world heads into a post-pandemic economic recovery.

Sheikh Mohammed bin Rashid Al Maktoum tweeted, "100 days to go for Expo 2020 Dubai, the world's largest cultural event. 100 days to go for the gathering of 192 nations in Dubai in the biggest global event since the outset of the pandemic to usher in a new phase of recovery."

"50,000 employees have set up 192 pavilions

Expo 2020 Dubai, set to begin on October 1, is expected to attract more than 25 million visitors from all over the world to discover life-changing innovations

and 30,000 volunteers are ready to welcome the world at Expo 2020 Dubai."

Sheikh Mohammed bin Rashid added, "Expo 2020 Dubai will provide the space for the largest and most inclusive cultural and knowledge exchange in the world. Expo 2020 Dubai will pave the roadmap for key economic, development and cultural trends of the post-COVID-19 era."

"Our success in hosting the world's largest cultural event reflects the power of human solidarity in overcoming the pandemic."

He added, "The global community is preparing for a new stage of collaboration by harnessing science and technology to combat the pandemic. Expo 2020 Dubai provides the platform for sharing knowledge and innovations."

"Through Expo 2020 Dubai, the UAE is bridging cultures and galvanizing efforts and aspirations towards creating a better future for everyone."

"People from every corner of the globe are welcome to join the once-in-a-lifetime inspiring and enlightening experience that pays testament to human creativity. We will meet at Expo 2020 Dubai," His Highness stated.

Expo 2020 Dubai sets multiple milestones as the first World Expo to be held in the MEASA region in the 170-year history of the mega-events. It will also be the first global event since the advent of the coronavirus outbreak.

In another first, every participating nation will have its pavilion. Countries will be clustered not by their geography, but under Expo 2020's three subthemes of Opportunity, Mobility and Sustainability – areas seen as essential to building a better future for humanity.

More than 200 nations, multilateral organisations, businesses and educational establishments will come together to develop innovative solutions to pressing challenges facing the world. The diversity of participating nations and organisations makes Expo 2020 Dubai the most inclusive and international World Expo ever to be organised.

The UAE will host the mega event with tight COVID-19 precautionary measures and a safe environment where about 90 percent of the population have been vaccinated against COVID-19, positioning the country among the top five nations in the vaccine distribution rate.

Expo 2020 Dubai coincides with the UAE's Golden Jubilee, presenting an excellent opportunity to share the UAE's successful experience and inspiring story with the world.

Over its six-month duration, Expo 2020 Dubai will showcase the latest innovations in a variety of fields that will have a meaningful and positive impact on people's lives.

Connecting Minds, Creating the Future

Expo 2020 Dubai will run from October 1, 2021 to March 31, 2022 under the slogan "Connecting Minds, Creating the Future." The mega event gains exceptional significance amid the Covid-19 outbreak as the call for collaboration and knowledge exchange has never been more urgent to drive action and develop practical solutions to pressing challenges. It will galvanise the global community under the vision that true prosperity for people stems from collaboration.

The Expo 2020 theme, "Connecting Minds, Creating the Future", is based on the belief that innovation and progress are the result of people

Expo 2020 Dubai will pave the roadmap for key economic development and cultural trends of the post-COVID-19 era

and ideas coming together in inspiring new ways. The three subthemes are areas considered essential to building a better world for everyone:

Opportunity: Unlocking the potential for individuals and communities to shape the future

Mobility: Creating more efficient and effective movement of people, goods and ideas, both physically and virtually

Sustainability: Respecting and living in balance with the world we inhabit to ensure a cleaner, safer, healthier future for all

Something for everyone

Expo 2020 is for explorers and adventurers; for foodies and culture enthusiasts; for children and grandparents; for entrepreneurs, thought-leaders, businesses and governments; for the casual tourist, and for the curious who want to experience the future – now.

The Expo site will come alive with the sounds, rhythms and sights of a global cast of performers across its dynamic, diverse and ever-changing entertainment programme, from music, dance and art to inspiring poetry and insightful talks. With up to 60 live events each day, all day, it will be a 182-day feast for the senses, featuring an array of internationally celebrated names.

The inspiring arts and culture programme includes a series of substantial public artworks, a showcase of contemporary Emirati design and craft commissions, performances by the Firdaus Orchestra, and Al Wasl, an Emirati opera.

An exceptional site

Expo 2020 is one of the world's most

technologically connected sites, a city of the future powered by state-of-the-art innovations that will link every aspect of the event to ensure visitors have an unparalleled experience.

Expo 2020 aims to be one of the most sustainable World Expos ever – an example of innovation in action from its cutting-edge sustainable architecture to sensors that monitor energy efficiency.

The Thematic Districts include performance spaces, innovation galleries, art installations, parks and outdoor gardens. Each is anchored by its own Thematic Pavilion.

Al Wasl dome and Burj Khalifa light up to celebrate 100-day countdown

Marking 100 days to go until the whole world gathers in one place, Expo 2020 Dubai has used its cutting-edge projection and display technology to light up Al Wasl dome.

With excitement building for the first World Expo to take place in the Middle East, Africa and South Asia (MEASA) region, more than 250 laser projectors lit up the world's largest 360-degree projection surface to stunning effect.

The celebrations continued on June 23rd evening when Expo 2020's Official Hotel and Hospitality Partner, Emaar Hospitality Group, lit up the Burj Khalifa at 20:20 and 22:20 GST.

Running from 1 October 2021 to 31 March 2022, Expo 2020 is inviting visitors from across the planet to join the making of a new world during a six-month celebration of human ingenuity, innovation, progress and culture.

UAE Marks World Food Safety Day

The Ministry of Climate Change and Environment (MoCCAE) celebrated World Food Safety Day on June 7, 2021, under the theme "Safe food today for a healthy tomorrow".

MoCCAE revealed that it has taken multiple measures to improve food safety in the UAE, including the introduction of new procedures and stringent criteria for accrediting

slaughterhouses abroad, in line with international best practices.

Saif Al Shara, Assistant Under-Secretary for the Sustainable Communities Sector at MoCCAE, said, "Food safety and security and uninterrupted food supply chains are strategic priorities for MoCCAE. To safeguard public health and keep food-borne diseases at bay, the ministry has implemented an integrated approach that applies strict food safety standards to local as well as imported products. This entails ensuring that local products that make it to the market are of the highest quality to boost consumer trust as well as the global competitiveness of the products. We also pay the utmost attention to the quality of imported food products, whether for local consumption or re-export, as we seek to build the reputation of the UAE as a leading food trade and re-export hub."

To streamline international food trade and diversify food import sources, MoCCAE has rolled out multiple initiatives.

These include implementing a system for inspecting food-trading establishments and their products, promoting entrepreneurship in the import and re-export of agricultural products, adopting joint health protocols with countries that import food products to the UAE, establishing livestock quarantine facilities in exporting countries in compliance with the standards and regulations set by the ministry, and collaborating with internationally accredited laboratories to ensure the safety of inbound consignments.

In addition, the ministry has launched ZAD, the official online platform for the registration of foodstuffs produced in or imported to the UAE.

Zayed Foundation hosts webinar titled, 'Innovation in Waste-to-Clean Energy'

Waste-to-energy (WTE) technology that can treat organic biomass and produce renewable energy in the form of gas, electricity, and/or heat through anaerobic fermentation technology, microbial fuel cells, microbial electrolysis cells, and organic waste pyrolysis, was the focus of a webinar hosted by the Zayed International Foundation for the Environment earlier this year.

Webinar, hosted by Zayed International Foundation for the Environment, discussed the potential of innovative waste-to-energy (WTE) technology in providing clean fuel sources

At the webinar session titled, 'Innovation in Waste-to-Clean Energy', Dr. Amro Hassanein, Assistant Research Scientist at the Department of Environmental Science and Technology, University of Maryland, USA, highlighted the use of nanotechnology application in energy production and its effects on wastewater while also drawing attention to the challenges that confronts the conversion of waste to energy.

"Without appropriate treatment, organic wastes can cause substantial environmental problems such as increased methane emissions from animal wastes, while burning the organic material could lead to an increase in carbon dioxide emissions, which negatively impacts both climate change and public health," said Dr. Hassanein during his presentation. "Therefore, there is a demand for new or innovative techniques to improve the efficacy of existing

In a first-of-its-kind study, Dr. Amro Hassanein explored the effect of using nanoparticles on energy production (Biogas) from organic waste

WTE technology and reduce the disposal cost, providing sustainable waste treatment options for a better future."

Biochemical conversion and thermal conversion are potential solutions for treating organic biomass while also producing renewable energy, he explained. "Anaerobic digestion is a biochemical conversion technology that can be used to transform organic material into renewable energy in the form of biogas. During anaerobic digestion, a series of microbial processes occur, which break down organic material in an oxygen-free environment to produce renewable energy in the form of biogas. Anaerobic digestion systems capture odours and gas released from organic degradation, thereby decreasing odours and methane emissions from organic material storage, which is a potent greenhouse gas."

Biogas can be produced from a wide range of organic materials such as animal manure, food waste, crop waste, or sewage sludge, he said, adding that it could be used directly for heat and electricity production or be upgraded to renewable natural gas after removing unwanted gases such as CO2 and H2S.

However, anaerobic digestion is a relatively slow microbial-based process that needs to be integrated with another technology to increase waste-to-energy conversion efficiency, pointed out Dr. Hassanein, whose research addresses waste and wastewater treatment challenges, resource recovery and reutilization, and maximizing the production of renewable energy.

Dr. Hassanein offered an insight into his research which focuses on using Microbial electrolysis cells (MEC) to improve energy production (hydrogen) from organic waste. "Microbial

electrolysis cell is a bio-electrochemical technology that uses concepts from microbial fuel cell (MFC) research," he explained. "While MFCs use microbial decomposition of organic compounds to produce an electric current, in MEC, an electric current is applied to reverse the reaction to convert organic material to hydrogen (H2) and/or methane (CH4)."

The integration of this novel electrochemical system in an anaerobic digestion reactor to treat food waste, results in over 400 percent more energy output than energy input, he said.

Dr. Amro Hassanein has also implemented the same design to treat dairy manure. Here, he pointed out that his research showed increased organic matter removal and increased energy production. "The electrochemical process combined with anaerobic digestion treatment produced 137.9 percent more energy production from dairy manure compared to the anaerobic digestion-only treatment. Furthermore, the efficiency of electrical energy recovery for electrochemical systems reached a maximum of 324 percent."

Nanotechnology is one of the potential technologies that could help anaerobic digestion and increase the energy production from organic material, he said. "Research results have proven that with the inclusion of nanoparticles in anaerobic digestion systems, energy production not only increases but also that the digester effluent showed higher concentrations of nanoparticles compared with the anaerobic digestion effluent that was not subject to such treatment."

We are honored to extend our congratulations to

His Highness
SHEIKH KHALIFA BIN ZAYED AL NAHYAN
President of the United Arab Emirates

His Highness
SHEIKH MOHAMMED BIN RASHID AL MAKTOUM
Vice President and Prime Minister of the United Arab Emirates
and Ruler of Dubai

AND THEIR HIGHNESS MEMBERS OF THE SUPREME COUNCIL,
RULERS OF THE EMIRATES
AND THE PEOPLE OF UNITED ARAB EMIRATES

On the occasion of

EID AL ADHA

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The role of standards in modern **solar power**

The seventh of the United Nations' Sustainable Development Goals (SDGs) is 'to substantially increase the share of renewable energy in the global energy mix'. It's easy to see why alternative energy sources command their own SDG – from fighting global warming to boosting economic development to improving public health, everyone benefits from the transition to renewable energy.

Due to its flexibility and affordability, solar power has fast become the most popular form of renewable power. According to the World Economic Forum, over 115 gigawatts (GW) of solar will be installed across the world in 2020, more than all other generation technologies put together.

What's more, the coronavirus pandemic has led to a deeper understanding of the ties that bind us all on a global scale. Experts predict that both consumers and organizations will now prioritize renewable energy sources even further.

Solar power is broadly considered to come in two guises: solar thermal and solar photovoltaic (PV) technology. In basic terms, solar thermal energy harnesses heat, whereas solar PV converts sunlight to energy. There are two different types of installations used – individual systems for homes and small communities, or larger concentrated solar power plants that feed into power grids.

Given renewable energy's increasing prominence, the solar power industry understandably relies heavily on standardization. Standards play an essential part in testing, energy conversion, reflectance or materials properties, fabricating arrays, integrating into the smart grid and assuring workplace safety.

More broadly, standards also have a role to play in helping potential solar users recognize how to integrate solar power into their own energy mix as part of an ongoing environmental and energy management strategy. This, in turn helps the solar industry.

For example, ISO 50001 provides a framework for organizations keen to integrate energy efficiency into their daily operations – reducing energy costs and carbon emissions. A natural progression from ISO 50001 is ISO 14001, which provide guidance on environmental management. It helps businesses evaluate their operations to make them more sustainable.

When it comes to more industry-specific solar standards, the International Electrotechnical Commission (IEC) provides useful leadership and guidance for both manufacturers and installers of solar power units. IEC's international standards are established through a consensus process involving 20,000 international experts from industry, government and leading testing laboratories, including BSI.

> Solar power's prominence in the world's energy matrix is set to grow over the coming years, and standards will play an increasingly important role in shaping the sector.

For example, for solar PV modules, the IEC 61215 series of standards covers core elements for testing both thin-film amorphous silicon based photovoltaic and Cadmium Telluride (CdTe) based photovoltaic (PV) modules. Companies should also consider IEC 61730 on requirements for testing and construction and IEC 62108, which specifies the minimum requirements for assessing the product's capacity for long-term operation in general open-air climates.

In addition, IEC 62947 addresses quality systems for manufacturing PV modules. This recently published standard outlines best practice for product design, manufacturing processes, and the selection and control of materials used in the manufacture of PV modules that have met the requirements of all of the above.

Meanwhile, the BS EN 12977 series of standards focuses on requirements for custom-built solar systems and components, and BS EN 12976-1 provides them for factory-made systems. BS EN 12975 encompasses general requirements for durability, reliability and safety for solar thermal collectors.

Furthermore, BS EN ISO 9806 specifies methods for both laboratory and in situ testing to assess durability, reliability, safety and thermal performance. This standard can be applied to all types of fluid heating solar collectors.

Finally, on both counts, compliance is required when it comes to unit weather-proofing and durability.

The BS EN 60068 series of standards for environmental testing of electrical equipment assesses ability to perform and survive under a variety of conditions, including extreme cold and heat.

Solar power's prominence in the world's energy matrix is set to grow over the coming years, and standards will play an increasingly important role in shaping the sector
Certification is already an important way to inspire consumer and stakeholder confidence, as we transition to a more sustainable future.

Driving change in the way we address our economic, social and environmental challenges is high on everyone's agenda; from achieving net zero, pollution reduction, climate change and environmental regeneration.

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In Celebration Of Sheikh Zayed's Green Legacy

The Falaj Water Channel at the Founder's Memorial is a remarkable symbol of the UAE's efforts to showcase and preserve the country's extensive cultural heritage.

This contemporary water feature pays rich tribute to the impressive green legacy of the Founding Father, the late Sheikh Zayed bin Sultan Al Nahyan, and chimes with the timeless values that drive the country's progress since its formation.

The Falaj Water Channel at Founder's Memorial in the UAE capital celebrates the late Sheikh Zayed bin Sultan Al Nahyan's impactful green legacy

The Founder's Memorial introduces visitors to the illustrious life of the Founding Father through narrating his inspiring journey, his deep appreciation of history and the UAE's authentic cultural heritage. It also signifies his persistence in spearheading the country's comprehensive development to provide a decent livelihood for his people.

The Falaj Water Channel is located in front of the Constellation at the Founder's Memorial. Its unique design tells the history of the ancestors, their persistence to overcome the challenging environment and creativity in securing water for their agricultural lands using simple techniques.

Falaj was an innovative irrigation system that

Falaj is an innovative irrigation system used by people in the Arabian Peninsula to bring water from its source, which mostly originated in the foothills of mountains

was used by people in the Arabian Peninsula to bring water from its source, which mostly originated in the foothills of mountains. They used this system to irrigate their farms from the water flowed through a water channel based on the force of gravity, which indicates an ingenious engineering.

Offering a glimpse into the country's rich cultural heritage, the Falaj Water Channel is a testimony to the Founding Father's grand vision and efforts to preserve the legacy of ancestors. During his rule of Al Ain city in 1946, he ordered the provision of water to citizens for free since its cost was too high for farmers. He also launched special programmes to maintain water resources, especially the Falaj channels.

The Water Channel's location next to the Heritage Garden symbolises the Founding Father's passion for nature and his role in protecting the UAE's natural resources thanks to his wise vision.

The late Sheikh Zayed developed plans to protect the environment and its sustainability and to inculcate environmental awareness in people's minds. This was evident through his efforts to turn the desert into green fields and more hospitable to human life. As a result, farming areas were expanded, millions of trees were planted in the desert, and endangered species were saved.

His role in achieving the sustainability of natural resources articulates his vision that made the UAE a global model in protecting natural resources and one of the most influential countries in dealing with environmental challenges.

UAE, US Climate Envoys Meet To Build Momentum On Climate Action Ahead Of COP 26

The UAE and US Special Envoys for Climate met for talks on June 14 in Abu Dhabi and focused on leveraging climate action as an opportunity for regional and global economic growth.

The United States Special Presidential Envoy for Climate, John Kerry, returned to the UAE capital on his first visit following the Leaders

UAE is strong contender to host COP 28 in 2023, says John Kerry

Summit on Climate in Washington in April to rally progress ahead of COP 26 that will be held in Glasgow in November.

Sec. Kerry was greeted on his arrival by Dr. Sultan Al Jaber, the UAE's Special Envoy for Climate Change and Minister of Industry and Advanced Technology. The visit is John Kerry's second trip to Abu Dhabi since he attended the UAE Regional Climate Dialogue in April, underlining their common approach placing climate progress at the heart of domestic and foreign policies.

During their meeting, the envoys reaffirmed their countries' commitment to achieve the goals of the Paris Agreement, aimed at limiting global warming through assertive climate action. They noted that a comprehensive approach - including investments in renewable energy, carbon

The UAE, US envoys reaffirmed their countries' commitment to achieve the goals of the Paris Agreement, aimed at limiting global warming through assertive climate action

capture technologies, nature-based solutions, climate-smart agriculture, and other low-carbon solutions is not only essential but can also act as powerful drivers for sustainable economic growth and job creation.

The two envoys discussed progress on the Agriculture Innovation Mission for Climate Initiative (AIM for Climate) that the UAE announced alongside the US at the Leaders Summit on Climate in Washington in April.

The US Envoy was also briefed on the latest developments in the UAE's strategy to develop hydrogen as a zero carbon fuel. In May, the UAE launched the first industrial scale green hydrogen project in the region that will use solar power from the Mohammad bin Rashid Al Maktoum Solar Park to produce hydrogen at a commercial scale. In May, a 1000 kilotonne/year blue ammonia project that will be located in Abu Dhabi's chemicals and derivatives hub in Ruwais was announced.

'UAE is strong contender to host COP 28 in 2023'

During his visit, Sec. Kerry welcomed the UAE's offer to host the 28th UN Climate Change Conference of the Parties (COP28) to the United Nations Framework Convention on Climate Change (UNFCCC) in 2023.

"I think it is very important that an oil and gas producing nation is smart enough to see that investing in alternative and renewable energy does not detract from economic prosperity or from income. I think the leadership of the UAE is well aware that the planet has very serious problems, and the UAE is very busy looking at ways to abate and reduce and capture emissions."

Abu Dhabi Launches 'Wastewater Monitoring Lab'

The Abu Dhabi Department of Energy (DoE) launched the construction of a Wastewater Monitoring Lab in Abu Dhabi that will analyse wastewater samples and issue early warnings to prevent the spread of infectious diseases or harmful substances, as well as curb any adverse effects on the environment.

The Lab, to be completed in 12 months, is being developed in collaboration with G42 Healthcare, a leading health-tech company based in Abu Dhabi.

The lab will analyse wastewater samples and issue early warnings to prevent the spread of infectious diseases or harmful substances

Abu Dhabi's Department of Health and Environment Agency, among other entities, will be the main beneficiaries as the facility will be capable of testing for chemical, physical, and biological hazards, including infectious diseases (viruses/bacteria), parasites, pathogenic yeast and fungi, pharmaceutical compounds, and other lifestyle-related items – all with automated sampling and Artificial-Intelligence-powered data analysis.

The DoE has made significant efforts to guarantee the quality of treated water and ensure it is free of any harmful substances, particularly during the pandemic, where wastewater was examined for any traces of SARS-CoV-2 – the virus that causes COVID-19.

Awaidha Murshed Al Marar, Chairman of the DoE, said, "The Wastewater Monitoring Lab can provide an early warning for potential contaminants and threats to public health and the environment," she explained. "But it can also be a powerful tool allowing us to detect other pathogens, harmful chemicals, or even banned substances. This, in turn, creates a solid foundation for decisions and programmes to be developed to combat any emerging threat."

Ashish Koshy, CEO of G42 Healthcare, stated that the wastewater analysis laboratory in Abu Dhabi will be the first of its kind in the MENA region, positioning Abu Dhabi and the UAE as a pioneer in this space and establishing a benchmark for future projects.

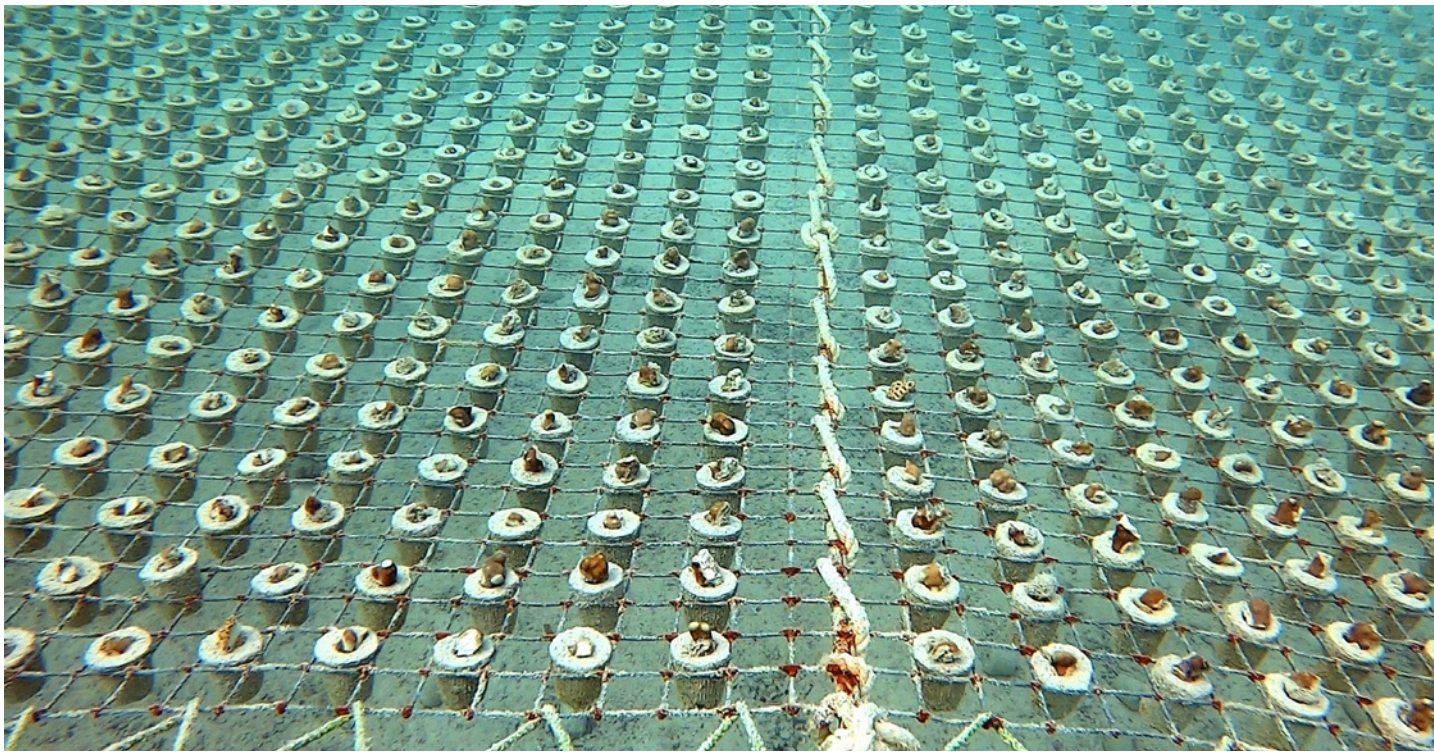
"Leveraging cutting-edge technologies to analyse wastewater samples for infectious agents and harmful chemicals, application of Artificial Intelligence in this lab will enable an early warning system that will determine with high accuracy the origin of the outbreak or pollutant behaviour, detect the virus in locations with limited monitoring, and track the spread of a disease during an infectious outbreak," Koshy added.

The Wastewater Monitoring Lab project has outlined a list of objectives to be accomplished, including handling and processing emergency wastewater samples suspected of contamination with a harmful substance, as well as analysing samples suspected of contamination with a known or unknown substance. The lab can then confirm or rule out the presence of contaminants, check for additional contaminants that may be of concern in the future, and report accurate results to inform potential intervention decisions.

Largest Coral Reef Rehabilitation Project In The Region Launched

His Highness Sheikh Hamdan bin Zayed Al Nahyan, the Ruler's Representative in Al Dhafra Region and Chairman of the Board of Directors of the Environment Agency - Abu Dhabi (EAD), has launched the largest coral reef rehabilitation project in the region.

The project includes more than one million colonies of coral reef through a replanting programme, with the aim of increasing the emirate's total coral reef area.



Abu Dhabi to rehabilitate more than a million colonies of coral reef through a replanting programme

The launch coincided with the World Oceans Day on June 8 and comes within the framework of a comprehensive plan developed by the Agency to preserve this important ecosystem and ensure its sustainability.

Productive Marine Habitat

His Highness Sheikh Hamdan stressed the importance of this project in supporting efforts made by the Agency to preserve coral reefs, which are considered one of the most important and productive marine habitats. The reefs support biological diversity in the emirate of Abu Dhabi and provides a natural habitat for many types of fish and marine life, in addition to their role in protecting beaches from erosion, as well as supporting fisheries and many

In 2017, Abu Dhabi lost 73% of its coral reefs due to massive bleaching of corals as a result of rising water temperature

recreational and tourism activities in Abu Dhabi.

His Highness said: "Despite the harsh environmental conditions for coral reefs here in the Arabian Gulf, they are able to adapt and provide habitats for a variety of marine species in the region. They are highly resilient, which enabled them to adapt to the highest temperatures in the world in an unusual way, distinguishing it from other types of coral reefs."

His Excellency Mohamed Ahmed Al Bowardi, Minister of State for Defense Affairs and Vice Chairman of the Board of Directors of the Environment Agency added: "The emirate of Abu Dhabi contains 34 different types of hard corals spread in several locations, including Ras Ghanada, Butinah, Saadiyat and Alnouf. Through this programme, nurseries for coral will be developed to reduce the negative impact of the natural pressures to which coral reefs are subjected due to climate change and high temperatures on the sea floor. As a result, the project will also increase the total coral area and rehabilitate affected areas to preserve the great heritage, economic and scientific value of the coral reefs."

Magnitude of Coral Bleaching

H.E. Razan Khalifa Al Mubarak, Managing Director of EAD said: "The most important challenge facing coral reefs is the increase in water temperatures, which compounds thermal stress and results in coral bleaching."

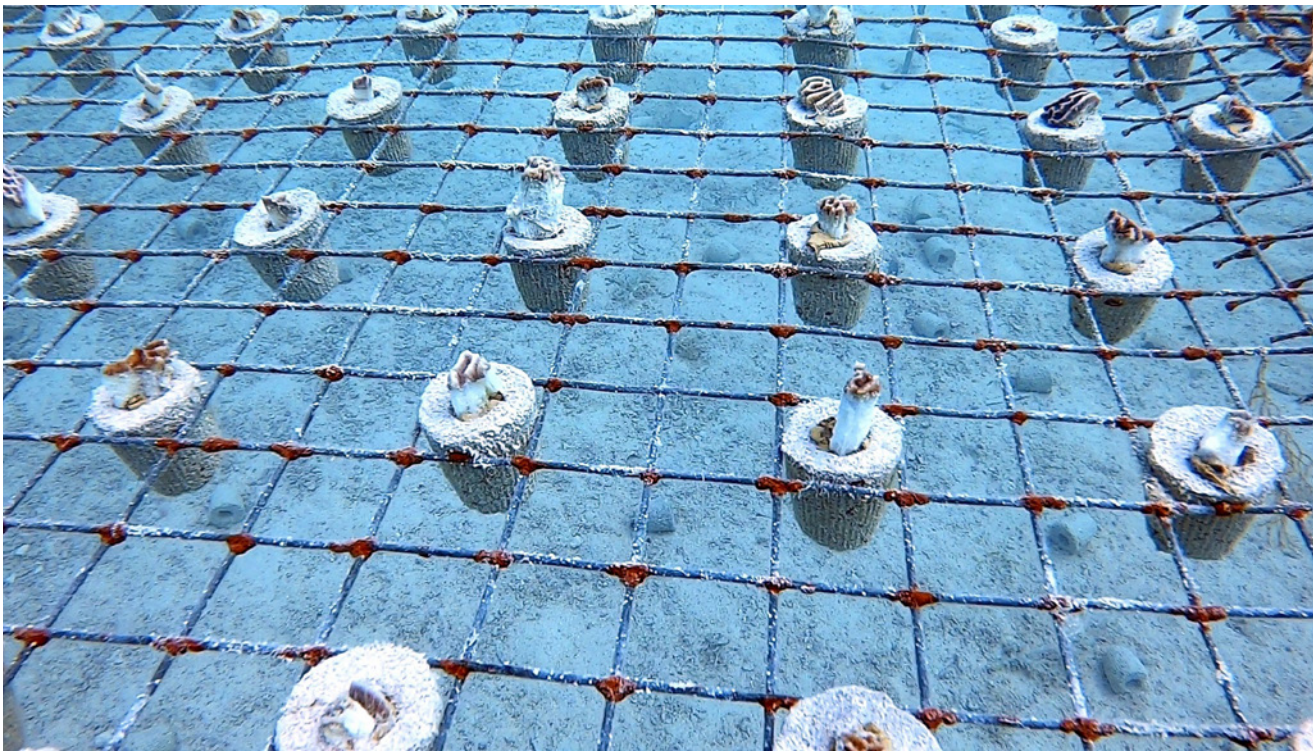
In 2017, the emirate of Abu Dhabi lost more than 73% of its reefs due to mass coral bleaching. The world has lost a large percentage of coral reefs, including the Great Barrier Reef in Australia, which has lost 50% of its living coral area.

She added: "Through surveys conducted by EAD, an improvement of 10% to 18% in coral reef conditions has been monitored over the past year indicating the ability of coral reefs to recover if not exposed to climate change risks.

Researching Coral Reef Ecosystems

"Since 2005, EAD has implemented a programme to monitor and control the state of coral reefs through seasonal surveys, using data from 10 separate stations located across the emirate of Abu Dhabi. The Agency has also developed a plan for managing and preserving the emirate's coral reefs in coordination with all partners at the emirate level to understand and research coral reef ecosystems, reduce negative impacts and restore degraded reefs.

In addition, EAD is cooperating with academic institutions on coral reef research; for example, with New York University Abu Dhabi on coral reef monitoring, Nawah Company and Zayed University on laboratory propagation and



replanting of coral reefs," Her Excellency Shaikha Salem Al Dhaheri, Secretary General of EAD said.

"Through the implementation of the programme, nurseries for corals will be developed to increase the total area of coral reefs and rehabilitate affected areas. This will be achieved by harvesting small fragments of the various coral reef species in the emirate's waters, relocating them to the nursery and nurturing their growth until they can be re-transferred back to the degraded reefs for establishment," Her Excellency explained.

"The project aims to reduce the negative impact of climate change on coral reefs, and increase the coral reef total area in the emirate's waters, help to rehabilitate areas affected by climate change and human activities, and conduct research and studies to find out the best and most adaptable coral species," Her Excellency added.

Three-year phase project

The first three-year phase of the project includes selecting nursery sites to ensure a protected environment for growth, evaluating coral source and nursery areas according to water quality standards, depths, and temperatures, and establishing a number of underwater nurseries in which to nurture and grow coral fragments. The total production capacity is estimated to exceed 1 million coral colonies.

The programme's second phase includes the harvesting of coral nursery stocks, their transportation to rehabilitation sites and the cultivation of affected sites to restore the integrated coral system. The third phase will include the completion of nursery stock harvesting and the restoration of degraded areas with new coral growth.

UAE Kicks Off Bio-Digital Survey Of Marine Habitats

As part of its celebration of World Oceans Day on June 8 under the theme, 'The Ocean: Life and Livelihoods', the Ministry of Climate Change and Environment (MOCCAE) announced the launch of a bio-digital survey of marine habitats in the UAE.

For the first time in the region, the 17-week pilot study will integrate aerial and underwater data,

collected using drones and an underwater remotely operated vehicle (ROV) – a mobile robot designed for aquatic work environments, to generate multidimensional digital maps of marine habitats and their biodiversity, and evaluate the impacts of climate change on them.

Sultan Alwan, Acting Undersecretary at MOCCAE, said: "MOCCAE is keen to leverage innovative technologies in its sustainability drive. The study aligns with the Ministry's commitment to assessing the impacts of climate change on marine ecosystems with the aim of informing its efforts to protect them and safeguard aquatic life. It will also advance research in this area."

The pilot phase will take place in the coastal area of Umm Al Qaiwain, given its widely diverse terrain and marine habitats, such as coral reefs, seagrass meadows, and natural creeks.

Preserving and restoring the marine environment and protecting its inhabitants has long been a priority for MOCCAE. Given the importance of coral reefs as key components of the underwater world, the Ministry, in partnership with the concerned stakeholders, developed a legislative framework for coral conservation, advanced R&D in coral cultivation, and rolled out multiple relevant initiatives.

These include the drive to rehabilitate coastal areas nationwide through planting coral reefs and deploying artificial reefs, the experimental cultivation of 24 heat- and climate-resilient coral species, mapping the geographical distribution of coral reef sites along the UAE's coastline, and building the world's largest coral nursery, spanning 300,000 square metres, that will be home to 1.5 million corals.

Cadillac LYRIQ Heralds An All-Electric Future

Powered by General Motors' Ultium Platform, the recently unveiled Cadillac LYRIQ not only signals the dawn of a new electric vehicle era for the brand – it also represents a fundamental transformation of GM's global product development process.

Boasting a combination of the latest automotive technology, premium craftsmanship and a meticulous level of intricacy throughout its design, the LYRIQ sets a new standard for the luxury EV landscape and plays a pivotal role in GM's vision of zero crashes, zero emissions and zero congestion.

Cadillac's introduction of LYRIQ represents the brand's uncompromising first steps into an all-electric future

Its accelerated path was the result of an ongoing commitment to evolve GM's global product development processes through the innovative use of cutting-edge virtual engineering tools.

As demonstrated by LYRIQ, the process of virtual design, development and validation has a profound impact on the overall efficiency of GM vehicle programs. Implementing the tools early in the development process allows teams to optimize a vehicle's design, quality and performance within the confines of a digital environment, enabling GM to rapidly accelerate product development cycles while reducing

The LYRIQ sets a new standard for the luxury EV landscape and plays a pivotal role in GM's vision of zero crashes, zero emissions and zero congestion

engineering costs by $1.5 billion per year.

Several elements of the LYRIQ program were enhanced as a direct result of extensive virtual development and validation, including:

- Cabin comfort for all passengers in cold and hot environments
- Advanced aerodynamics to help maximize range and on-road performance
- Aeroacoustics and active road noise cancellation for a more enjoyable ride
- Driver assistance and active safety features for peace of mind
- Protection of the Ultium battery in a wide variety of collision scenarios

High-performance luxury experience

"Throughout the next decade, Cadillac will define the future of luxury transportation through a series of exciting new electric vehicles, and it all begins with LYRIQ," said Rory Harvey, vice president, Global Cadillac. "The 2023 Cadillac LYRIQ's stunning design and artfully integrated technology combined with GM's Ultium Platform will deliver a high-performance luxury experience unlike anything that has come before it, setting a new standard for Cadillac."

Scheduled to go into production in the first quarter of 2022, LYRIQ will be available with premier technologies and stirring performance capabilities enabled by the vehicle's dedicated electric architecture. A 12-module, 100 kilowatt-hour battery pack and a rear-wheel-drive Ultium Platform deliver a Cadillac-estimated 340 horsepower and 440 Nm of torque — and a Cadillac-estimated over 300 miles of range with a full charge.

"Thanks to the modular and highly flexible Ultium

Platform that powers LYRIQ, along with advanced virtual development tools, Cadillac has been able to accelerate development and put more real-world miles on prototypes sooner than expected," said Jamie Brewer, LYRIQ chief engineer.

LYRIQ also offers high-speed DC fast charging for public stations at 190 kW, enabling customers to add an estimated 76 miles of range in about 10 minutes of charging time. For home charging, LYRIQ offers a segment-leading 19.2 kW charging module, which can add up to 52 miles of range per hour of charge.

To help customers take full control of their electric driving experience, LYRIQ will feature next-generation variable Regen on Demand technology, along with the convenience of One-Pedal Driving. With Cadillac's new variable Regen on Demand, drivers can control how quickly LYRIQ slows down or comes to a complete stop using a pressure-sensitive paddle located on the steering wheel. Both technologies make use of regenerative braking to help maximize electric driving efficiency.

Additional 2023 LYRIQ highlights include:

- Available Super Cruise, the industry's first true hands-free driver-assistance technology for compatible roads
- A stunning 33-inch-diagonal advanced LED display with the ability to emit over 1 billion colors
- Cadillac's next-generation Active Noise Cancellation system
- Slim-line LED headlamps with choreographed lighting sequence
- AKG Studio 19-speaker audio system with headrest speakers
- Digital Key digital vehicle access

The production debut of the 2023 Cadillac LYRIQ marks the culmination of a century of innovation and the beginning of a great new era

- Dual level charge cord
- Standard 20-inch split six-spoke alloy wheels or optional 22-inch dynamic split-spoke Reverse Rim alloy wheels

Customers will be able to select from Satin Steel Metallic or Stellar Black Metallic exterior colors, and Sky Cool Gray or Noir for the interior.

Setting the standard for the future

"LYRIQ represents a clean-sheet design that sets the standard for the future of Cadillac," said Andrew Smith, executive director of Cadillac Design. "The objective I gave my team was to design the LYRIQ with the level of detail that they would a show car. The customer should feel like they're driving in the future."

The interior is clean and simple with a focus on secondary and tertiary design elements, including intricate laser etched patterns through wood over metal decor, which has never been done before.

The large, curved LED screen is the centerpiece and all the components are incorporated artfully, blurring the lines of separation among technology, lighting and decor.

Perhaps the most striking example of Cadillac's next iteration of brand styling is its distinctive black crystal grille.

"We wanted to give the vehicle a face, making sure it looks distinctly Cadillac," said Smith. The signature vertical lighting is emphasized through lighting choreography.

The exterior lighting is a major technological breakthrough, allowing Cadillac to deliver on the promise of truly vertical lamps, an industry first.

Surge In Arabian Oryx Population At UAE Nature Reserve

The aerial survey for the Arabian Oryx Protected Area, carried out by the Environment Agency – Abu Dhabi (EAD) last November, has revealed a 22% increase in the number of Oryx in the Protected Area, in comparison to previous studies.

This confirms the success of the Sheikh Mohamed bin Zayed Arabian Oryx

Environment Agency – Abu Dhabi records a 22% increase in the number of Arabian Oryx in the reserve in Al Dhafra Region

Reintroduction Programme which was launched in 2007 with a goal to relocate the Arabian Oryx. Initially there was a herd of no more than 160, and today, the herd has successfully reached 946 heads.

A specialist team from EAD conducted an aerial survey study to count the number of Arabian Oryx, Sand Gazelle and other species within the borders of the largest natural reserve in the UAE, which spans an area of 6,000 square kilometers. The survey conducted is part of EAD's commitment to preserving biological diversity in Abu Dhabi and protecting species in their natural habitat. This project marks the second comprehensive aerial survey for the Arabian Oryx Protected Area, with the first one taking place in March 2017.

The survey also aims to increase the available

The oryx population in the Al Dhafra reserve now stands at 946, a 22 per cent increase on four years ago

information on the age and sex composition of the Arabian Oryx herd. The data collected has helped EAD establish a set of technical recommendations, with the aim of improving the management of the reserves and the re-introduction programmes for the Arabian Oryx as well as other species.

Dr. Shaikha Salem Al Dhaheri, Secretary-General of EAD, said: "This survey is a major part of our efforts to preserve the Arabian Oryx, under the hugely successful Sheikh Mohamed Bin Zayed Arabian Oryx Reintroduction Programme. Our leadership support to establish protected areas across the emirate has been fundamental to protecting species and biodiversity, which were once on the verge of extinction. Arabian Oryx is an iconic species of the desert landscape and a symbol of our cultural heritage and was almost hunted to extinction in the wild in the early seventies and only survived in captivity."

"Thanks to extensive captive breeding of the species undertaken by the late Sheikh Zayed bin Sultan Al Nahyan, the species was saved. With this insight, he successfully launched a programme to help preserve the Arabian Oryx, increase their numbers, and relocate them for protection. His attention to the topic, continuous support, and his farsightedness are the real reasons behind the recovery of the Arabian Oryx into the wild. This project has become an example to be followed across the world and represents great success for protection and captive-breeding programmes."

Khaldoun Al Omari, Section Manager-TPA Management and Infrastructure and Maintenance in EAD, explained: "The method of aerial surveys has been adopted to count the Arabian Oryx within the reserve to ensure the largest possible coverage of the Arabian Oryx Protected Area, within the shortest time possible, and to ensure that the results are accurate."

Talking about the characteristics of the Arabian Oryx herd, Al-Omari said: "A total of 83 young Arabian Oryx calves have been recorded, which accounts for 8.8 per cent of the total size of the herd. Females formed the largest percentage of the herd size, with a total of 76.5 per cent."

Based on the survey, the study concluded with a series of recommendations, the most important of which was to update the zoning plan of the protected area in proportion to the distribution of the Arabian Oryx herds.

A recommendation for a ground survey of the reserve aimed at confirming the results of the aerial survey was also proposed. It was also recommended that the study should be carried out once every three years.

New Partnership To Study Sustainable Planting In Arid Landscapes

The United Arab Emirates University (UAEU) signed a partnership MoU with CAFU on June 21st 2021, a leading company in technology services, to conduct in-depth research on the successful cultivation and plantation of Ghaf tree seeds in harsh climatic areas such as the desert environment in the UAE.

This research is the first-of-its-kind to be conducted and represents the second phase of the CAFU Ghaf tree seeds cultivation programme, which aims to plant one million seeds to help confront climate change.

The United Arab Emirates University signs MoU with Dubai-based CAFU, to conduct in-depth research on cultivation and plantation of Ghaf tree seeds amid sand dunes

The study will build on existing research and development that has already been implemented to help improve and create a self-sustaining seed capable of sustaining nature in hot summer temperatures, in addition to increasing the viability of seeds for growth, plantation, and water retention.

The results of the research will also strengthen the country's knowledge bank on promoting desert cultivation across a range of desert plant species.

The MoU was signed by Dr. Bhanu Chowdhury, Dean of the College of Food and Agriculture at

The MoU will allow cooperation in the academic research, transfer of available technology and modern agricultural techniques to build capacity for companies

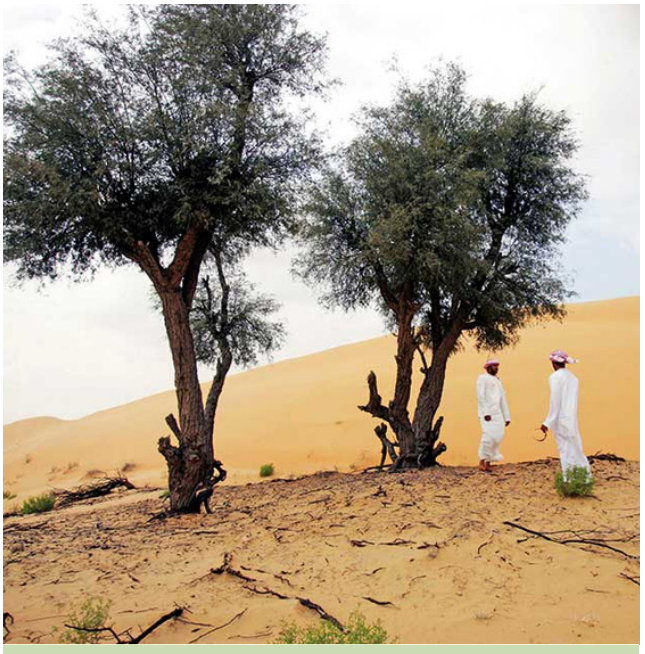
the university, and Rashid Al Ghurair, founder and CEO of CAFU.

The MoU will allow cooperation in the academic research, transfer of available technology and modern agricultural techniques to build capacity for companies, in addition to contributing to the development of the next generation of agricultural technology that achieves sustainability and enhance students' practical skills and training.

Dr. Al Yafei said, "The Ghaf Tree Project is an ambitious initiative to revive arid ecosystems by planting millions of such trees, which are an indigenous species that grow here. Ghaf is the national tree of the UAE. It is a strong drought-tolerant tree that improves the quality of the soil in which it is grown and the air around it. The roots grow up to 80 metres, and each tree absorbs up to 34.65 kg of harmful carbon dioxide daily, to be released later in the form of oxygen. It also provides an important habitat and food source for a variety of animals and birds, including desert owls and long-legged goshawks."

Al Ghurair, in turn, said that Ghaf tree cultivation is a labour-intensive process, especially in the desert climate of the UAE, where summer temperatures often reach 45 Celsius, given the intensity of cultivation required to make a difference in the environment. "With the use of state-of-the-art guided aircraft technology that relies on artificial intelligence, and to provide a solution through the "Made in UAE" initiative, through which up to one million Ghaf trees will be planted," he added.

The signing ceremony was also witnessed by Dr. Mohammed Abdul Mohsen Al Yafei, Vice Dean of the College, and Nabra Al Boosaidi, Director of Sustainability and Society Department at CAFU and the research team Dr. Shyam Corp, Dr. Zainab Ahmed, and several faculty members.



Dugong and Seagrass Toolkit Amongst Top 25 UAE Government Innovations

Environment Agency – Abu Dhabi (EAD) has announced that an online toolkit to support dugong and seagrass conservation has been selected as one of the 25 most noteworthy innovations in the UAE's Government sector by the Mohammed Bin Rashid Centre for Government Innovation, in collaboration with Sia Partners. The selection was determined after a rigorous screening and assessment process

The toolkit is one of the key resources available to the 46 countries that have dugongs in their coastal waters and helps focus research into priority areas

where several contenders showcased their projects over a period of one year.

The Dugong and Seagrass Research Toolkit is an initiative by EAD, the energy company Total and the Dugong Memorandum of Understanding of the United Nations' Convention on Migratory Species (CMS Dugong MoU) based in Abu Dhabi. It provides an easily accessible online decision-making tool to guide the selection of specific dugong and seagrass research recommendations which can be adopted in specific circumstances.

The toolkit is available worldwide to members of universities, research institutes, and governmental and non-governmental organizations with mandates for coastal and marine research and conservation. It supports researchers in the process of setting and refining their objectives, while considering overall

The toolkit has improved global understanding of the overall status of dugongs and seagrass ecosystems across the Indo-Pacific region

conservation management goals and budgetary restraints. It also factors in elements such as time scale, spatial scale, technical capacity and specific challenges on the ground. In addition to collecting information on dugongs and seagrass, the toolkit provides tools and techniques to understand the threats and human community factors that affect dugong and seagrass conservation.

The interactive approach of the toolkit makes it extremely efficient in providing the right kind of guidance, saving researchers, conservation practitioners and marine management agencies time and resources. It is designed to be easily accessible to researchers and practitioners who have limited access to scientific expertise, thus serving as an efficient and cost-effective method to ensure consistent, comparable, and standardized data sets across the dugong range.

Since launching in March 2017, the toolkit was reached by 3,200 users from 119 different countries, with a total of over 10,000 page views. It has now also been incorporated into the Dugong and Seagrass Hub.

HE Dr. Shaikha Salem Al Dhaheri, EAD's Secretary General said: "The Dugong and Seagrass Toolkit has made considerable progress towards improving global understanding of the overall status of dugongs and seagrass ecosystems across the Indo-Pacific region.

"It addressed inconsistencies in approaches to research, monitoring, data collection and reporting, which have resulted in the incompatibility of datasets across the range states, as well as raising awareness of the importance of dugong and seagrass research with decision makers."

New UAE Concept Store Spotlights Environmentally Conscious Brands

In line with Majid Al Futtaim's sustainability goals and initiatives, THAT Concept Store at Mall of the Emirates is making strides when it comes to ethical fashion.

The store supports eco-friendly practices within the industry by actively sourcing environmentally responsible brands from all over the world, helping shoppers end their toxic relationships

with laundry and spreading awareness about responsible retail on Instagram.

THAT Concept Store's collection is always evolving, featuring luxury and exclusive labels across a range of categories from accessories to clothing to homeware. As part of this, brands such as Hunza G, Nomadic State of Mind, Cornelia Webb Jewelry, Dedicated Brand, Bokja and many more are there to make a positive impact.

Every effort is taken to reduce the waste in the production process. The Spanish eyewear at Parafina is made from reused soda cans, cork stoppers and rubber tires, just as the Parisian brand, 1/OFF, upcycles leftover fabric from designers to emphasize the uniqueness of its final garments. Even furniture is reinvented and Fastoun's creative collection handcrafted out of recyclable materials.

Besides the unique selection of sustainable brands, THAT Concept Store's partnership with the Natural Laundry Company ensures that garments are properly looked after and maintained. By using non-toxic detergent, the lifespan of each item can be extended by up to three years to help prevent needless shopping. The process also requires up to 80 per cent less energy and water compared to dry-cleaning alternatives.

As a benchmark for the future of fashion and lifestyle, THAT Concept Store represents Majid Al Futtaim's commitment to setting the standard for sustainable development within the region. The adoption of a Net Positive strategy aims towards a positive corporate footprint by 2040 as Majid Al Futtaim aims to enhance social, economic and environmental prosperity.

GCC Consumers Seek Eco-Friendly Alternatives For Sustainable Living

Though public concern about global climate change has been slow to take root across the Gulf States, mounting government and corporate initiatives, and wider access to information, now appear to be making an impact. A number of actions taken by the GCC nations in recent years have improved awareness of climate change and made environmental sustainability a higher priority.

A Boston Consulting Group's study of consumers in the six member states found more than 80% of those surveyed saying they would be willing to adopt a more sustainable lifestyle. Depending on the country, 80% to 95% of respondents said they are willing to start or are already taking action in response to climate change. Consumers in the Gulf region are often willing to try eco-friendly products but are hindered by a scarcity of providers and insufficient choices.

In the light of this background, Beko, Europe's leading home appliance brand, held a virtual showcase of its eco-friendly appliances on June 24 with Arçelik's CEO Hakan Bulgurlu, CMO Zeynep Yalım Uzun and CCO Ragıp Balcıoğlu and with a special guest from the World Business Council for Sustainable Development, Brendan Edgerton, Circular Economy Director. Beko unveiled seven sustainable products including a washing machine/washer dryer, oven, tumble dryer, refrigerator, espresso coffee maker and dishwasher to help consumers reduce their impact on the environment.

Arçelik's CMO, Zeynep Yalım Uzun, said: "Beko's brand purpose is empowering future generations to live healthier lives, which is only possible by living more sustainably and working towards a healthier planet."

BCG's research has confirmed that in the GCC, most consumers are willing to pay a premium for eco-friendly options. Nonetheless, around 30 percent of respondents cited lack of options as an obstacle. In addition, 47 percent of respondents said they would be more likely to adopt sustainable products if a wider variety of options were available or if they were of a higher quality.

Vancouver: On The Leading Edge Of Urban Sustainability

The highly natural setting of Vancouver city, located at southwestern British Columbia, Canada, invokes a strong sense of environmental consciousness amongst its 2.5 million inhabitants to protect their local environment.

The blending of nature and the city contributes to Vancouver regularly being regarded amongst

Aspiring to be one of the greenest cities in the world, Vancouver sets an example in its sustainability goals

the top 10 most liveable cities worldwide making it representative of sustainable development, an example of a modern green city.

When it comes to sustainability, Vancouver has several initiatives it is using to reduce its environmental impact including the 'Greenest City Action Plan', 'Renewable City Strategy', and 'Zero Waste Vancouver', all in the hope of becoming the greenest city in the world!

Vancouver's Greenest City Action Plan 2020 targeted the three key pillars of sustainability. The vision was to create plenty of opportunities for those living in the city, whilst also creating a strong local economy, vibrant and inclusive neighbourhoods, and an internationally-recognised city that meets the needs of generations to come. Within that, there were 10 goals covering three overreaching focus areas:

Vancouver has the lowest per capita greenhouse gas emissions (GHGs) of any major city in North America

zero carbon, zero waste, and healthy ecosystems. The 10 goals were: Climate and Renewables, Green Buildings, Green Transportation, Zero Waste, Access to Nature, Clean Water, Local Food, Clean Air, Green Economy and Lighter Footprint.

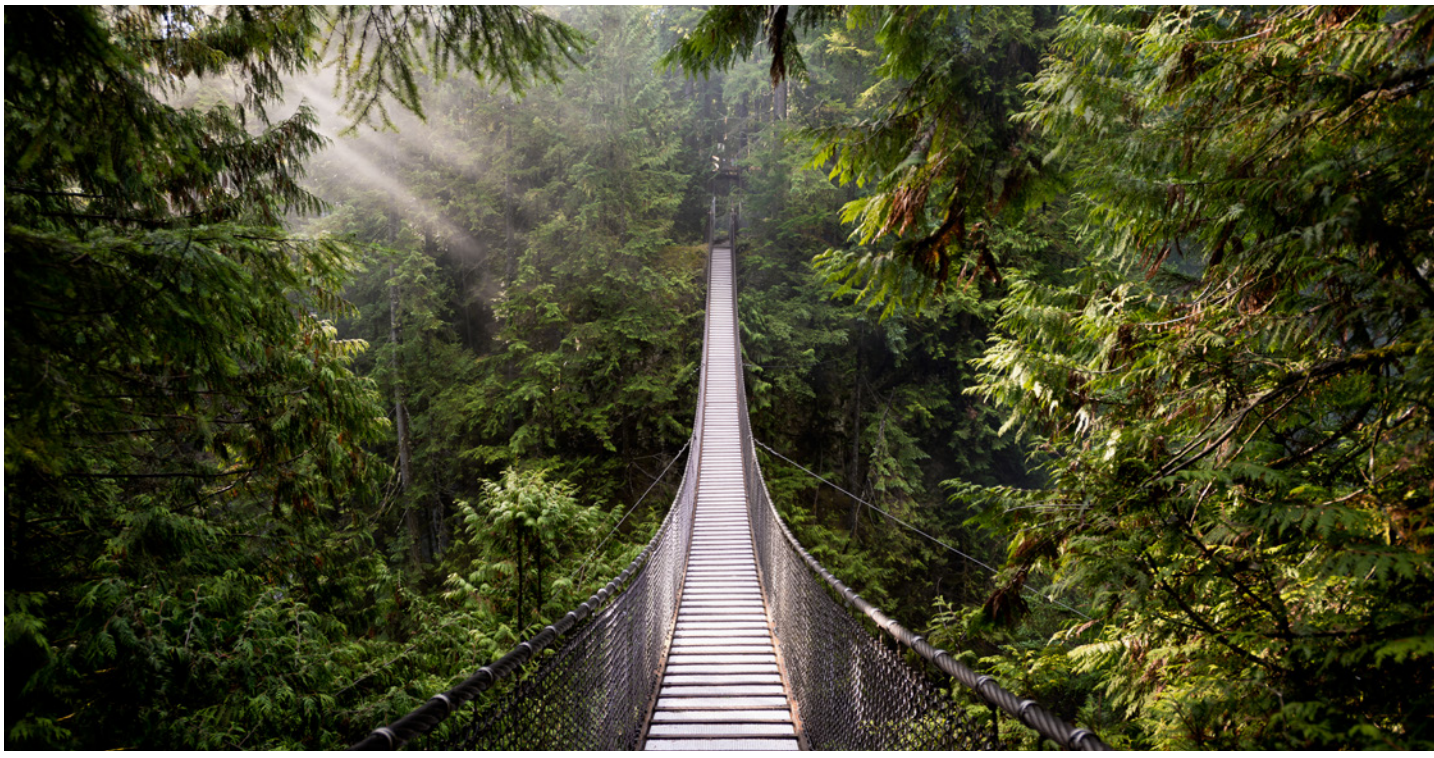
The city has reduced people's dependency on cars making Vancouver a leading North American city for the number of people walking, biking and using public transit. Even in terms of green space and wildlife, Vancouver consistently ranks among the top environmental cities in the world and has increased its number of community gardens in recent years.

In 2020, Vancouver approved the Climate Emergency Action Plan that puts the city back on track to reduce carbon pollution by 50 per cent by 2030. The plan builds on Vancouver's previous climate plans and focuses on cutting carbon pollution from the biggest local sources - burning fossil fuels in vehicles and in buildings.

Sustainable Transportation

Approximately 40 percent of Vancouver's carbon emissions originate from transport. So reducing emissions in this sector is vital. Pedestrians and cyclists are a priority in Vancouver, as walking is encouraged by citywide programs that maintain the city's natural beauty with green spaces along most city sidewalks and bike paths. Vancouver has land-use patterns that encourage walking and biking by creating high-density city centers and even widening sidewalks.

The 2010 Winter Olympics in Vancouver were a source of increased solutions, that have been maintained, for greater cycling and pedestrian ease of transit, and less automotive traffic. One



major change was the creation of large, safe, and expansive bike lanes. The city features over 279 miles of bike trails.

Vancouver encourages alternative transportation modes. Public transit in Vancouver like SkyTrain, which is expanding beyond its 300 fully automated rapid-transit SkyTrain train cars, is the largest autonomous mass public transit system in the world. Another step toward modernisation of transportation in Vancouver is that the city of Vancouver requires all new condos in the city have electric vehicle charging stations, focusing on this technology to encourage zero emission vehicles.

Vancouver's next goal is to have 66 per cent of all trips made by walking, cycling, or public transit by 2040. To do this, the city will continue to make investments in large, protected bike lanes, better side-street lighting, and improved crosswalks. Vancouver has implemented these safety measures, in combination with the increased proliferation of educational materials about why using these modes of transportation is important for the environment, and about how to use these modes of transportation safely and efficiently.

Urban Planning and Green Buildings

Vancouver has the lowest per capita greenhouse gas emissions (GHGs) of any major city in North America. Vancouver runs on over 90 per cent renewable energy, thanks to the city's large supply of hydroelectricity.

The city has retrofitted buildings citywide to increase energy efficiency and has a citywide mandate to do so. Urban planning has been relied on in order to keep Vancouver's city design as clean and efficient as possible, with a concept

The city wants to ensure green jobs continue in growth to seal its status as a 'mecca of green enterprise'

called eco-density. This refers to building vertically (as in skyscrapers), as opposed to urban sprawl.

The City of Vancouver also has the goal of building only new energy efficient buildings in the city, so that, along with retrofits, all buildings in the city are to be carbon neutral by 2030. In addition to carbon neutral buildings, the sewers, parks, water utilities, roadways, and energy supply in the city, are being worked on, to align with the city's goal of becoming "the greenest city on earth".

Zero Waste Vancouver

Cities all over the world must face the challenge of reducing plastics and other single-use items that are so extensively used. Vancouver's goal of becoming a zero-waste city by 2040. is guiding future decisions and investments relating to solid waste and provides a framework to continue the work and success of the city's current zero waste policies and programs. The plan includes forward looking policies and actions to help stimulate, support, and allow Vancouver to become a zero-waste community. While some of these actions can be implemented right away, some will lay the ground work to progress over time.

Vancouver, like many cities around the world, has a long way to go in achieving the goals they have set. The city has made a positive start and continually works to better itself, leading the way in the city's goal of becoming the greenest city in the world!

IRENA And Morocco Sign Strategic Partnership

The International Renewable Energy Agency (IRENA) and the Ministry of Energy, Mines and Environment (MEME) of the Kingdom of Morocco have agreed to strengthen joint collaboration to advance knowledge in renewable energy and to accelerate the energy transition.

IRENA and Morocco will work closely to advance the national green hydrogen economy as the country aims to become a major green hydrogen producer and exporter.

The International Renewable Energy Agency (IRENA) and the Ministry of Energy, Mines and Environment (MEME) of the Kingdom of Morocco to advance knowledge in renewable energy and accelerate energy transition

Under the strategic agreement signed by IRENA Director-General Francesco La Camera, and Morocco's Minister of Energy, Mines and the Environment, Aziz Rabbah, the two parties will actively pursue green hydrogen studies and jointly explore policy instruments to engage the private sector at a national level in the green hydrogen economy. Morocco is recognised as a regional energy transition pioneer. The country has revised upwards its renewable energy ambition with a decision to increase the share of total installed capacity to more than 52 percent by 2030 – exceeding the country's objective announced at COP21 in Paris.

"The Kingdom of Morocco has shown great leadership in advancing the deployment of

IRENA and Morocco will work closely to advance the national green hydrogen economy

renewable energy to meet growing energy demand while creating new industrial opportunities across the country," said Francesco La Camera. "It is only natural that this leadership be extended to the pursuit of green hydrogen, which may play a critical role in global decarbonisation ambitions."

Aziz Rabbah said, "Morocco has played an important role in global renewable energy cooperation through IRENA since the Agency's formation, and we will continue to promote and encourage the uptake of renewables in the context of climate change and sustainable development at a regional and an international level."

Under the agreement, IRENA and the MEME Morocco will work together to develop technology and market outlook studies, craft public-private models of cooperation in the hydrogen space, explore the development of new hydrogen value chains and lay the groundwork for the trading of green hydrogen at a national and regional level.

The two parties will also conduct joint analyses that further explore the socio-economic benefits of renewables, emphasising the development of new value chains, job creation at the national level and lessons learned to the broader region. More broadly, IRENA and Morocco will work together to strengthen the policies and regulatory frameworks for renewable energy deployment and energy efficiency applications in the Kingdom.

Furthermore, the two parties will promote renewable energy investments, including climate finance, through the development of solid project pipelines with enhanced bankability and the facilitation of access to finance.

Together with the European Commission, Morocco co-facilitated IRENA's Collaborative Framework on Green Hydrogen earlier this year to address challenges in developing the infrastructure, technology and certification needed to shape a global green economy and lay the ground for green hydrogen trading.

Saudi Arabia To Build Desalination Plant Using Clean Energy

GE Renewable Energy's Grid Solutions has won a deal from Doosan Heavy Industries and Construction Co. Ltd., to build a turnkey substation that will power the Yanbu-4 independent water producer (IWP) plant. This is the first integrated, seawater reverse osmosis project in the Kingdom that uses clean energy.

Scheduled to be operational in 2023, Yanbu-4 will have a capacity of 450,000 cubic meters per day of fresh water to be supplied to households in Makkah and Madinah.

GE wins deal to build turnkey substation for first desalination plant using clean energy in Saudi Arabia

Located 140 km west of Madinah, near the town of Ar Rayyis on the Red Sea coast of the Kingdom, Yanbu-4 will utilize reverse osmosis technology to supply potable water. The plant will include solar energy units generating 20 MW of power to reduce grid electricity consumption throughout the desalination process, as well as water storage tanks designed to maintain a capacity of two operational days.

Seoungsan Seo, Project Director, Doosan Heavy Industries and Construction Co. Ltd. said: "We are honored to be playing a critical role in such an innovative project and to be partnering with GE's Grid Solutions, who have a strong track record of delivering infrastructure projects in the Kingdom."

This is the first integrated, seawater reverse osmosis project in the Kingdom that uses clean energy

Developed as a build-own-operate contract by Saudi Water Partnership Company (SWPC), as part of consortium comprising ENGIE, Nesma and Mowah, the plant will be operated and maintained by ENGIE with a concession term of 25 years.

A consortium of GE's Grid Solutions and Al Sharif Group will provide the full turnkey solution for Yanbu-4 including a 380-110 kV gas-insulated switchgear (GIS) substation. The substation will provide Yanbu-4 the power required by each load center at the plant.

Bernard Dagher, President & CEO of GE's Grid Solutions for the Middle East, North Africa and Turkey, said: "The Yanbu-4 project is a major milestone in the development of the Kingdom's water infrastructure. As a renewable energy driven project, it meets the vision of the Saudi leadership to promote environmental sustainability, while meeting the growing demand for fresh water supply in the cities of Makkah and Madinah. This win confirms our ability to be a trusted partner in the infrastructure growth of the Kingdom, including in the delivery of turnkey substations for desalination plants."

Desalination has proven a viable alternative to meet Saudi Arabia's potable water requirements. A report by the UN University states that Saudi Arabia is the world's largest desalination market, accounting for 22 percent of global production.

Reverse osmosis is the primary desalination process whereby water is pushed under high pressure through fine membranes to produce potable water. The process of desalination is power-intensive, and GE's Grid Solutions supports plants through its technology solutions.

Webinar Series Highlights Ways To Embed Sustainability Into Built Environment

Throughout the spring semester, Sharjah Sustainable City (SSC) and American University of Sharjah (AUS) hosted a four-part webinar series focused on sustainability and the built environment. The webinars brought together practitioners from SSC and academics from AUS to discuss energy and climate change, smarter mobility, ecodistricts and sustainable materials.

The partnership includes overseeing the collection, transportation and recycling of polyethylene terephthalate (PET) plastics

The webinar series provided an opportunity for students to expand their knowledge beyond classroom discussions and theoretical ideas to how SSC is implementing sustainable practices on the ground. The students were able to learn about the successes and challenges faced in the development of sustainable housing and communities.

"Collaborations such as this webinar series with SSC allowed students to learn first-hand what it takes to incorporate sustainability principles into a project like Sharjah Sustainable City and the impact it can have on our individual and community carbon footprint. This is invaluable insight for students. It brings all of the knowledge gained in the classroom to life," said Rose Armour, Head of AUS Sustainability.

Approximately 370 students, faculty and staff

The four-part webinar series was hosted by American University of Sharjah (AUS) in collaboration with Sharjah Sustainable City

attended the different webinars, with students comprising the majority of the attendees. Professors in the College of Arts and Sciences, College of Engineering, and the College of Architecture, Art and Design were able to incorporate the webinars into their classroom learning.

"The SSC webinars provided a great window for our students and faculty alike to interact with prominent professionals who are working on the development of SSC. For my classes, it has substituted the face-to face site visits that have been limited by COVID-19 and has enriched the students' knowledge and supported the delivery in my courses. As a result of these webinars, the Chief Sustainability Officer (CSO) of Diamond Developer asked us to measure and evaluate the thermal insulation of one villa and has voiced interest in our project on 3D concrete printing," said Dr. Adil Tamimi, Professor of Civil Engineering at AUS.

"The webinar series was a true success as AUS Sustainability capitalized on the university's online-based transition. As a student, it's often challenging finding the time to participate in new discourse while balancing our academic commitments; however, this series was offered at a great pace that piqued my curiosity in an especially important topic: sustainability. The SSC and AUS collaboration exposed the AUS community to global trends and sustainable urban planning," said Ishrag Abdalla, an environmental sciences senior.

AUS is looking forward to the next phase of collaboration with SSC in Fall Semester 2021, which will see the start of research projects with the College of Engineering and potential co-authoring of a research paper on urban planning. Building strong relationships with distinguished local companies enhances the AUS educational experience by providing real-world applications that cannot be learned in the classroom.

Word Scramble

Ilifdlew

Drlow

Enonminvret

Iisblsattniayu

Erhoseeugn

Tciamel

Rlofa

Lyecere

_____ _____

_____ _____

_____ _____

_____ _____

Answers: 1) Sustainability 2) Environment 3) World 4) Greenhouse 5) Wildlife 6) Flora 7) Recycle 8) Climate

Word Search

O	N	C	A	R	B	O	N	A	R	F	U	A	C
O	O	E	R	S	S	E	T	I	Y	V	O	A	E
E	Y	A	C	O	D	P	M	A	O	H	N	E	L
Y	C	L	I	M	A	T	E	T	R	U	T	I	S
D	E	T	I	S	W	E	T	I	A	S	E	H	M
E	A	S	O	L	A	R	S	F	A	E	L	D	L
E	C	T	A	L	C	E	Y	W	O	A	E	I	W
O	A	F	R	A	S	S	S	L	A	E	T	V	S
S	A	R	N	A	E	B	O	Y	R	G	E	E	Y
E	P	T	T	C	A	S	C	S	O	A	S	R	B
N	T	I	E	H	E	C	E	E	L	R	A	S	E
N	E	T	T	E	A	C	D	C	F	D	M	I	M
I	E	S	B	I	S	P	L	A	N	E	T	T	E
L	Y	S	V	E	N	A	M	O	O	N	S	Y	T

WASTE

BEES

DIVERSITY

EARTH

FLORA

CARBON

GARDEN

FAUNA

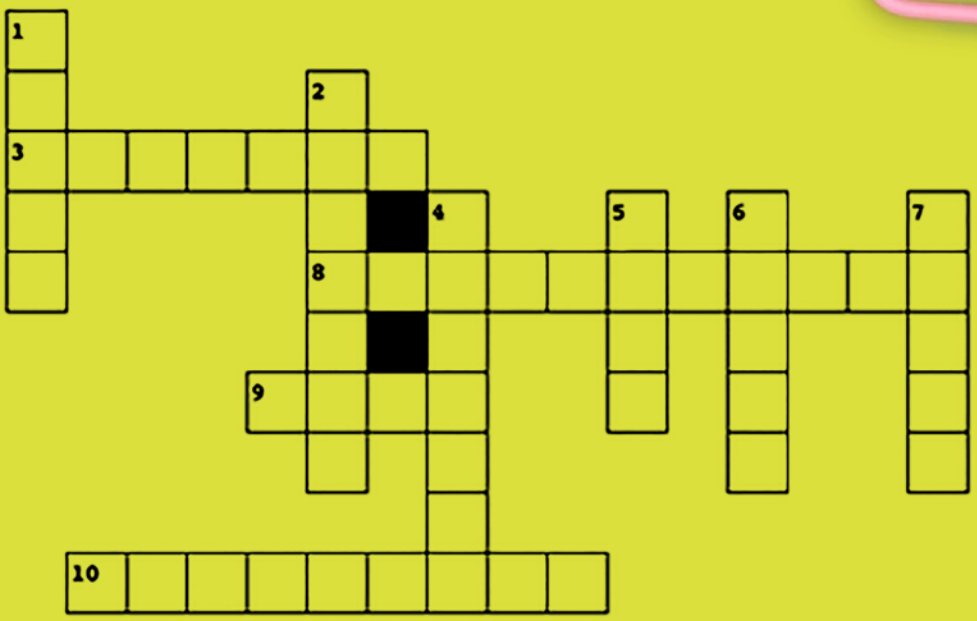
SOLAR

CLIMATE

ECOSYSTEM

PLANET

Crossword Puzzle



Across

3. Reduce, reuse and ?
8. Capable of being sustained
9. The king of the jungle
10. Contamination of our natural environment

Down

1. The planet we live on
2. Synthetic material that lasts for decades
4. Giant tidal waves that cause destruction
5. Animals that live in the jungle or forests
6. This covers 70% of the Earth
7. Consumes no animal products

Answers: 1) Earth 2) Plastic 3) Recycle 4) Tsunami 5) Wild 6) Water 7) Vegan 8) Sustainable 9) Lion 10) Pollution

WORD OF THE DAY:

CARBON FOOTPRINT

The term carbon footprint refers to how much carbon goes into the air because of something done by people (not by nature). Doing something that burns fuel will make carbon dioxide gas in the smoke. Carbon dioxide has carbon in it. Just as walking on the sand leaves a footprint, burning fuel leaves carbon dioxide in the air, this is called a carbon footprint. Simply put, a carbon footprint is the carbon dioxide that is put into the air because of a person, a group of people, an event or a product.

So, through what does your carbon footprint increase?

• FOOD: Emissions from food production are mainly: carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (NO_2). Most of this comes from the farming and raising of the food.

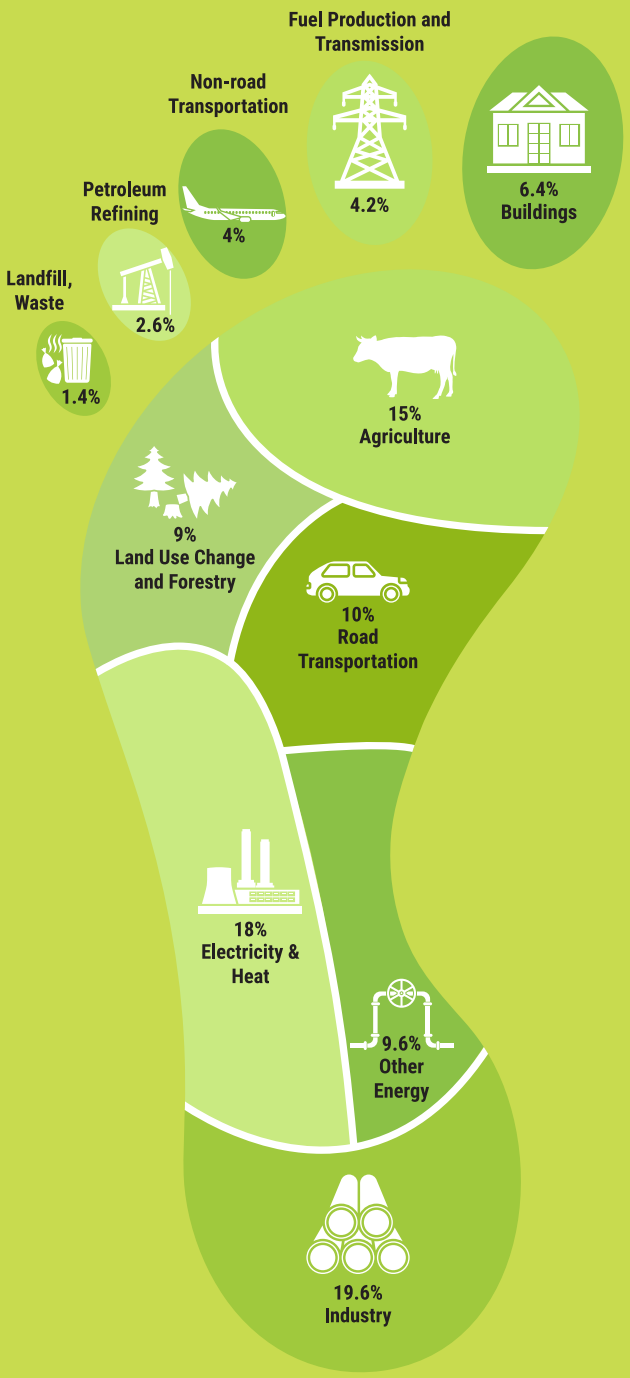
• ELECTRICITY: While we use electricity in our homes for lights, kitchen appliances or other electronic devices we do not create carbon dioxide, but the power plants that generate the electricity emit carbon dioxide by using coal to create energy. These power plants create the most amount of carbon dioxide.

• TRANSPORTATION: Most cars run on petrol or diesel. New age electric cars use energy as well because the electricity used to charge these cars leave a carbon footprint too.

• AGRICULTURE: Methane, which is a comparatively more powerful greenhouse gas than carbon dioxide is generated by agriculture. A large portion of this comes from livestock.

• GAS HEATING: After electricity, gas heating releases the second highest amount of carbon dioxide. Most houses use oil, natural gas or electricity in winter to keep the house warm. All of these create carbon dioxide.

• INDUSTRIES: The industrial sector is the third largest source of human-made carbon dioxide emissions. The industrial sector consists of mining, construction, agriculture, and manufacturing.



HOW CAN YOU HELP REDUCE YOUR CARBON FOOTPRINT?

There are many simple ways in which you can help reduce your carbon footprint. These include: Turning off lights, TVs, computers, when you do not need them, unplugging any electronic gadget you can turn on with a remote (TV, DVD player, Nintendo, Xbox), use fans if you are hot as they use much less power and walk or ride your bike instead of taking a car everywhere.

INTERNATIONAL TIGER DAY

The beautiful, magnanimous tiger is one of our planet's most iconic animals and unfortunately, wild tiger numbers dropped by more than 95% since the beginning of the 20th century. Hence International Tiger Day is an annual celebration to raise awareness for wild tiger conservation, held on July 29th every year. The day was founded in 2010, when the 13 tiger range countries came together to create Tx2 – the global goal to double the number of wild tigers by the year 2022.

Tigers used to roam across most of Asia, but now they're restricted to just 7% of their original range, in isolated forests and grasslands across 13 countries. Tigers are largely affected by illegal wildlife trade, human wildlife conflict and habitat loss and fragmentation.

Facts about Tigers!

- Tigers are the largest wild cats in the world!
- Tigers are solitary hunters, and generally search for food alone at night.
- Tigers are good swimmers! Unlike most members of the cat family, they like water and often cool off in pools or streams.
- A tiger's roar can be heard as far as three kilometres away.
- No two tigers have the same stripes.

What can you do to help?

Things to Do...

- ☑ Recycle waste papers!
- ☑ Do not waste food!
- ☑ Switch off all lights when not in use!
- ☑ Reuse plastic bags!
- ☑ Cycle around or use public transport!

COLOUR ME!

150 Rehabilitated Sea Turtles Released Into UAE Waters

With the participation of H.H. Sheikh Theyab bin Mohamed bin Zayed Al Nahyan, Chairman of the Abu Dhabi Crown Prince's Court, the Environment Agency – Abu Dhabi (EAD) released a batch of sea turtles into the sea by Al Hederyat Island.

The turtles are the first group of over 150 sea turtles that will be gradually released into key

marine areas in Abu Dhabi.

Sheikh Theyab participated in the event - the largest of its kind in the region, in the presence of Dr Mohammad Rashid Ahmad Al Hameli, the Secretary General of Abu Dhabi Executive Council, Ahmed Matar Al Dhaheri, Director of the Ruler's Representative Office in the Al Dhafra Region, and Dr Shaikha Salem Al Dhaheri, Secretary General of EAD.

The sea turtles were successfully rehabilitated after being rescued last year with the help of the public, seagoers, fishermen, EAD rangers and the strategic partners from government and private sectors, as well as other partners.

Rehabilitation was conducted at the sea turtle's rehabilitation centre in the National Aquarium, where they received advanced veterinary care and treated for all ailments including infection, diseases and injuries.

During the release, one of the turtle's named Al Hederyat, which refers to the Island where the turtle was released from, was selected to affix a satellite tracking system on its back for purposes of observation and monitoring to identify its habitats and feeding areas. The collected data will be used to enhance EAD's efforts to set plans and programmes that would ensure the conservation of sea turtles and mitigate the risks they face.

As part of its commitment towards protecting endangered species, EAD has been conducting research studies since 1999, to monitor and track sea turtles to protect them. The two types of sea turtles in Abu Dhabi are the Hawksbill Turtle and the Green Turtle.

Recreate, Re-imagine, Restore!

Leaders in global politics, science, communities, religion and culture joined hands on June 4, 2021, to officially kick off the UN Decade on Ecosystem Restoration - a rallying call for the protection and revival of millions of hectares of ecosystems all around the world for the benefit of people and nature.

Led by the UN Environment Programme (UNEP)

The UN Decade on Ecosystem Restoration 2021-2030 kicks off

and the Food and Agriculture Organization of the UN (FAO), the Decade on Restoration – which runs from 2021 to 2030 – was proclaimed by the United Nations General Assembly in a 2019 resolution.

The launch took the form of a high-level virtual gala with the participation, alongside the heads of UNEP and FAO and UN Secretary-General António Guterres, of Imran Khan, the Prime Minister of Pakistan, which hosted World Environment Day on June 5 this year; Pope Francis; Félix-Antoine Tshisekedi Tshilombo, President of the Democratic Republic of Congo and Chair of the African Union; German Chancellor Angela Merkel; and Prime Minister of Barbados, Mia Mottley.

Among the global figures who spoke were UN Messenger of Peace Jane Goodall and other

The UN Decade on Ecosystem Restoration is a rallying call for the protection and revival of ecosystems all around the world, for the benefit of people and nature

goodwill ambassadors, advocates, youth representatives, scientists and CEOs.

"By restoring ecosystems, we can drive a transformation that will contribute to the achievement of all the Sustainable Development Goals. The task is monumental. We need to replant and protect our forests. We need to clean up our rivers and seas. And we need to green our cities," said the UN Secretary-General.

"Accomplishing these things will not only safeguard the planet's resources. It will create millions of new jobs by 2030, generate returns of over $7 trillion dollars every year and help eliminate poverty and hunger," he added.

The FAO Director-General QU Dongyu, noting that the increasing pressure on the world's natural resources is affecting the well-being of 40 percent of the global population, called for a change of mindset. "Business as usual is not an option!" he underscored. "We need to prevent, halt and reverse the degradation of ecosystems worldwide, including our farmlands and forests; our rivers and oceans. More efficient, inclusive, resilient and sustainable agri-food systems can help restore ecosystems and safeguard sustainable food production, leaving no one behind," he added.

"We must use this moment in history to launch a massive global movement to save our terrestrial and marine ecosystems even as we continue to decarbonize. Everyone has a 'to-do' here," said UNEP Executive Director Inger Andersen.

He added: "Governments must ensure COVID-19 stimulus packages contribute to a sustainable and equitable recovery from the pandemic. Businesses and the financial sector must reform

operations and financial flows so that they restore the natural world. And as individuals and consumers, it is time rethink choices, demand deforestation-free products and vote for sustainability in the polling booths."

The Decade aims to inspire and support governments, multilateral organizations, civil society, private sector companies, youth, women's groups, indigenous peoples, farmers, local communities and individuals globally, to collaborate, develop and catalyse restoration initiatives across the world. The effort will involve a raft of activities.

These range from redirecting fiscal incentives and financial flows to promote restoration to undertaking research on restoration in terrestrial and marine environments, building the technical capacity of restoration practitioners globally and monitoring global progress on restoration. The Decade aims to mobilize hundreds of millions of people to restore nature and foster a global restoration culture in which restoration initiatives are scaled up across the planet.

"The world has no choice but to go on a nature positive pathway which will not only boost the economy but also protect the environment," said Imran Khan, Prime Minister of Pakistan, whose country in 2019 embarked on an ambitious plan to plant 10 billion trees.

Welcoming the launch of the UN Decade, Felix-Antoine Tshisekedi Tshilombo, President of the Democratic Republic of Congo and Chair of the African Union, noted that the African continent had made multiple commitments through several regional Declarations, pledges, Calls to Action and pilot activities, but there was a need to

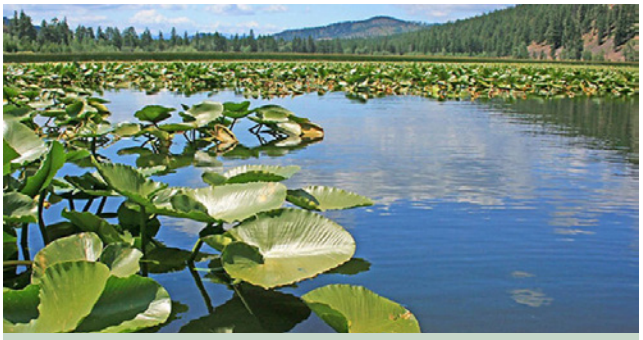
The UN Decade is building a strong, broad-based global movement to ramp up restoration and put the world on track for a sustainable future

mobilize the necessary resources and expertise to lead large-scale implementation.

"The restoration of terrestrial, marine and freshwater ecosystems should be undertaken in such a way as to avoid creating land conflicts or conflicts of use," he added. "It must therefore be part of visionary spatial planning processes that take into account inter-sectoral trade-offs, respecting land and resource tenure rights of local communities and other vulnerable social groups."

In her message, German Chancellor Angela Merkel said: "We have to do more to protect and restore natural habitats – and we have to do it now, not some time in the future." The Chancellor also announced that Germany would be the first country to provide funding – 14 million Euro – to the Multi-Partner Trust Fund for the Decade on Ecosystem Restoration.

The launch of the Decade on Ecosystem Restoration led into World Environment Day on June 5, the United Nations' flagship day for promoting worldwide awareness and action for the environment. Held under the theme of ecosystem restoration, this year's World Environment Day was hosted by Pakistan, which marked the day and the start of the UN Decade with an event at Islamabad.



Single-Use Plastic Hindering Sustainability In Travel And Tourism Sector

New UN report maps single-use plastic products across the Travel & Tourism value chain, identifying hotspots for environmental leakages

The World Travel & Tourism Council (WTTC) and the United Nations Environment Programme (UNEP), launched a major new report on June 15, 2021, addressing the complex issue of single-use plastic products within Travel & Tourism.

'Rethinking Single-Use Plastic Products in Travel & Tourism' was launched as countries around the world begin to reopen, and the Travel & Tourism sector starts to show signs of recovery from the COVID-19 pandemic which has been devastating.

The report is a first step to mapping single-use plastic products across the Travel & Tourism value chain, identifying hotspots for environmental leakages, and providing practical and strategic recommendations for businesses and policymakers.

It is intended to help stakeholders take collective steps towards coordinated actions and policies that drive a shift towards reduce and reuse models, in line with circularity principles, as well as current and future waste infrastructures.

The report's recommendations include redefining unnecessary single-use plastic products in the context of one's own business;

Water bottles, disposable toiletries, plastic bags, bin liners, food packaging and cups are among the biggest plastic polluters

giving contractual preference to suppliers of reusable products; proactively planning procedures that avoid a return to single-use plastic products in the event of disease outbreaks; supporting research and innovation in product design and service models that decrease the use of plastic items, and revising policies and quality standards with waste reduction, and circularity in mind.

Virginia Messina, Senior Vice President and Acting CEO, WTTC said: "WTTC is proud to release this important high-level report for the sector, focusing on sustainability and reducing waste from single-use plastic products in Travel & Tourism.

"The COVID-19 pandemic has accelerated the sustainability agenda with businesses and policymakers now putting an even stronger focus on it. As a growing priority, businesses are expected to continue to reduce single-use plastic products waste for the future and drive circularity to protect not only our people, but importantly, our planet. It is also becoming clear that consumers are making more conscious choices, and increasingly supporting businesses with sustainability front of mind."

Single-use plastic products can be a threat to the environment and human health and without deliberate effort across the sector, Travel & Tourism can and will contribute significantly to the issue.

The COVID-19 pandemic has had both negative and positive impacts on single-use plastics pollution. The demand for single-use plastics items has increased with safety being a high concern among tourists and take-away services

being on the rise. According to the Thailand Environment Institute, plastic waste has increased from 1,500 tons to a staggering 6,300 tons per day, owing to soaring home deliveries of food. However, the pandemic has also catalysed consumer demand for green tourism experiences around the world, with a 2019 global study finding 82% of respondents are aware of plastic waste and are already taking practical actions to tackle pollution.

The report recognises that global solutions are required to address corporate concerns about the use of single-use plastic products. It aims to support informed decision making based on the potential impacts of trade-offs and of unintended burden shifting when considering the transition to sustainable alternatives.

Sheila Aggarwal-Khan, Director of the Economy Division, UNEP said: "Travel & Tourism has a key role to play in addressing the triple planetary crises of climate change, biodiversity loss and pollution, as well as making circularity in the use of plastics a reality.

“The advent of COVID-19 and consequent proliferation of single-use plastic products has added urgency to the crises. With this report, we hope to encourage stakeholders in this industry to come together to address this multifaceted challenge."

With around 90 percent of ocean plastic derived from land-based sources and the annual damage of plastics to marine ecosystems amounting to US$13 billion per year, proactively addressing the challenge of plastics within the Travel & Tourism sector is key.

EGA Begins Planting 10,000 Mangroves In Jebel Ali

Emirates Global Aluminium (EGA) began planting 10,000 mangroves in Jebel Ali Wildlife Sanctuary in partnership with the "One Billion Tree-Planting Initiative" on June 15, 2021. Mangroves, which grow in tidal areas of the coast, are an important native tree species in the UAE.

Studies show that mangroves sequester carbon

dioxide from the atmosphere up to four times as effective as a rainforest. The trees also protect coastal areas from erosion and contribute to the sustainability of coastal ecosystems. EGA and the One Billion Tree-Planting Initiative have engaged experts from the Emirates Marine Environmental Group, Dubai's oldest NGO, to plant the mangrove saplings to ensure the young trees will thrive.

The Initiative is a global campaign spearheaded by the UAE to plant one billion trees around the world by the end of 2025, improving lives and livelihoods whilst also helping tackle climate change. One innovative feature of the campaign, delivered in partnership with EcoMatcher, a Hong Kong-based benefit or "B" corporation, is its use of blockchain technology to track tree planting accurately and transparently and to measure carbon sequestration achieved.

Abdulnasser bin Kalban, CEO of EGA, said, "We are pleased to partner with the One Billion Tree-Planting Initiative to plant mangroves down the coast from our Jebel Ali plant in Dubai. Aluminium plays an important role in the development of a more sustainable society, but it also matters how sustainably it is made. At EGA we are committed to reducing the greenhouse gas emissions from our industrial activities and we have already made considerable progress. Offsetting emissions we cannot eliminate from human activity will be an important part of the global solution to climate change over the decades ahead."

The One Billion Tree-Planting Initiative aims to reach 21 countries by the end of this year and individuals can play a part alongside companies and other organisations.

Saadiyat Beach Golf Club Sets New Standards For Sustainability Practices

Saadiyat Beach Golf Club in Abu Dhabi has achieved major environmental milestones that position themselves as leaders in enhancing, protecting, and nurturing the property and surrounding area.

These standout achievements have landed Saadiyat Beach Golf Club a nomination for the World's Best Eco-Friendly Golf Facility in the 2021 World Golf Awards, with the winner to be announced later this year.

Saadiyat Beach Golf Club in Abu Dhabi nominated for 'World's Best Eco-Friendly Golf Facility'

Sustainability and environmental best practices have been at the forefront of Saadiyat Beach Golf Club's strategy since opening, embracing their stewardship responsibility on the land they reside on. They provide a thriving sanctuary for over 160 bird species, 250 plus mountain gazelles and a rejuvenation of native plants.

The team have also been supporting the efforts of Saadiyat Island's Hawksbill Turtle Conservation Programme. Thanks to the collective efforts, hawksbill sea turtles continue to nest on this pristine island's sweeping beachfront. Master developer, Tourism Development and Investment Company (TDIC) began its Hawksbill Turtle Conservation Programme – the only one of its kind in the

Saadiyat Beach Golf Club provides a thriving sanctuary for over 160 bird species, 250 plus mountain gazelles and a rejuvenation of native plants

Arabian Gulf – in early 2010. The nine-kilometre Saadiyat Beach is now home to several hawksbill turtle nests each year, with each nest containing around 90 to 100 eggs.

Shortly after achieving Audubon Certification in 2020, Saadiyat Beach Golf Club made impressive strides in environmental practices by converting to 100% treated effluent irrigation water. Saadiyat Beach Golf Club is approximately a 140 hectares' facility, with 120 hectares being irrigated through an automatic system. The conversion of the irrigation water source is a major positive move for suitability on the island.

Producing a year-round championship golf course conditions in weather experienced in Abu Dhabi is challenging and to have such a dramatic change in water quality has taken some adapting to. Utilising the resources within Troon International, the Agronomy team underwent several agronomic changes within the maintenance programme. Capital was also invested, with the Agronomy team implementing a turf species change, which has better capabilities to survive and produce consistent turf surfaces to utilise the new irrigation water source.

Within the 160 bird species spotted at Saadiyat Beach, there was one extremely rare bird sighting of a juvenile Steppe Whimbrel. This caused worldwide excitement and showcased Saadiyat Island to the wildlife community. The discovery of a Steppe Whimbrel in Abu Dhabi confirms the migration route of the sub-species passes through the Arabian Peninsula region. The sub-species was declared extinct in 1995 and it is the first-time ever, anywhere in the world, that a juvenile Steppe Whimbrel has been seen in field.

Reducing the Carbon Footprint of Buildings

The Zayed International Foundation for the Environment held a webinar in May 2021 on "Carbonation Technology" which relates to the formation of calcium carbonate in concrete. The webinar explored the role of sustainable building materials in striking a balance between high-quality construction and low environmental impact. Green construction thus refers to wisely using available resources to create high-quality, healthy, and energy-efficient buildings that significantly reduce a building's carbon footprint.

Natural carbonation happens when the carbon dioxide (CO_2) in the atmosphere reacts with calcium oxide in concrete to form calcium carbonate. This process affects the life span of the building. But carbonation will reabsorb over 30% of the CO_2 emitted when making cement, reducing the footprint of the concrete. This highlights the importance of carrying out a life cycle assessment of concrete and buildings to see the environmental benefit of carbonation.

Dr. Eisa M. Abdelllatif
Chief Technical Advisor
Zayed International Foundation for the Environment

Carbonation is limited in use because it causes corrosion of steel reinforcement if it reaches deep enough. But it is viable in lower strength concrete where no steel reinforcement is used, such as blocks where it increases the strength of these materials with a much longer serviceable lifespan.

We need to explore and continuously develop such materials and technologies that aim at not only Zero Carbon buildings, but negative carbon. These new materials appeal to clients in terms of cost/benefit, and they must be made aware of not only the benefits but also the long-term losses incurred if sustainable materials are not used.

Reducing the footprint of a building does not depend on materials only, it is also dependent on our daily practices and behaviour. We can significantly reduce water and energy consumption, reduce food waste, and refuse, reduce, reuse, and recycle waste. We can also practice home farming and plant trees to contribute to greening, health, and food security.

Protecting our planet is your responsibility too.

THE FUTURE OF OUR WORLD IS IN OUR HANDS.

ACT NOW!

مؤسسة زايد الدولية للبيئة

Zayed International Foundation for the Environment

رئيس و أعضاء مجلس إدارة مؤسسة الإمارات العامة للبترول (امارات)
والمدير العام وكافة العاملين بالمؤسسة

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X: 243 cm
Y: 328.69 cm