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creating green communities for a better tomorrow

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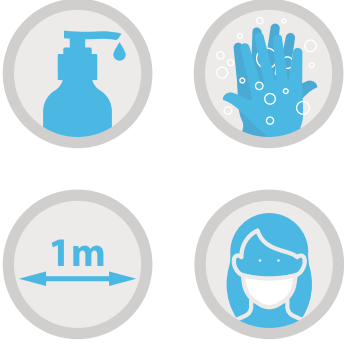
مؤسسة زايد الدولية للبيئة

Zayed International Foundation for the Environment

KILLING CORONAVIRUS COVID-19



TOGETHER WE CAN DO IT!

Chairman's Message

In the year that marks the 50th anniversary of our nation's founding, the UAE has created history and joined an elite club of nations as it has become the first country in the Arab world and only the fifth around the globe, to have successfully sent missions to orbit the Mars.

The UAE's unmanned probe, named Hope, became the first interplanetary exploration undertaken by an Arab nation. The feat is indeed monumental considering that the chance of successfully entering Mars' orbit is only about 50 per cent. This national achievement is an inspiration not only for Emiratis and Arabs but for all of humanity who believe in and desire, a better future.

The UAE's Emirates Mars Mission sends a powerful message to the youth about our region's rich history of scientific discovery – the Middle East's golden age of cultural and scientific achievements from the 8th to the 13th centuries. The youth are our hope for the future, and the incredible success of the scientific mission will further drive innovation in science and technology.

Prof. Mohammed bin Fahad
Executive Editor

Through international collaborations and by focusing on human and economic development, the Emirates Mars Mission has established the UAE's position as a beacon of progress in the region, and is developing confidence in the nation's science, technology and research sectors.

The vision to build Emirati capabilities in the field of interplanetary exploration and scale up our scientific knowledge with the vision of creating a sustainable, knowledge-based economy reflects the broader journey of the UAE.

The nation's outstanding development journey over five decades has empowered its people, and the bold endeavour to explore the Red Planet will boost the capabilities of the country's science, engineering and education communities, and inspire many more to reach for the stars.

Contents

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Upcoming events

The 5th International Virtual Conference on Climate Change 2021

Date: : February 18-19
Location: Virtually, Sri Lanka

ICCC 2021 is a platform for eminent researchers, scientists, industry experts and all interested scholars to discuss and share their current policies, implementations, data streams about climate change and its impacts. The Conference will feature speakers representing activists, academicians, and industry experts working on Climatology.

Fifth session of the United Nations Environment Assembly

Date: February 22-23
Location: : Nairobi, Kenya

The fifth session of the UN Environment Assembly will connect and consolidate environmental actions within the context of sustainable development and give significant impetus to more effective implementation.

Workshop for the State of Finance for Nature: Initial Findings & Case Studies

Date: February 25
Location: Online. RSVP Aurelia Blin at blin@un.org to receive information about how to join the meeting

The purpose of this virtual workshop is to provide insight into the preliminary findings of the forthcoming joint UNEP, GIZ, and WEF report on the State of Finance for Nature.

International Conference on Resources Management and Environment Sciences

Date: February 25-26
Location: Sydney, Australia

ICRMES 2021 is a premier interdisciplinary platform for researchers, practitioners and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered, and solutions adopted in the fields of Resources Management and Environment Sciences

HISTORY IN THE MAKING: UAE's Hope Probe Reaches Mars' Orbit

UAE President His Highness Sheikh Khalifa bin Zayed Al Nahyan congratulated UAE citizens, residents and people of the wider region on the success of the UAE's Hope Probe arrival to Mars in the first-ever Arab interplanetary mission that marks the Arab world's entry in the global race of space exploration.

The Emirates Mars Mission, named the Hope Probe, reached Mars' orbit at 7:42 p.m. local time on Tuesday, February 09, 2021, and sent a signal back to Earth

The UAE made history on Tuesday evening, February 09, as the first Arab nation, and the fifth in the world, to reach Mars after the Hope Probe successfully entered the Red Planet's orbit, at 7:42pm.

The probe overcame the most critical part of its mission, the Mars Orbital Insertion (MOI) that involved reversing and firing its six Delta V thrusters to rapidly reduce its speed from 121,000 km/h to 18,000 km/h. During the 27-minute critical phase, the contact kept with the probe was kept to a minimum.

Hailing the historic breakthrough, Sheikh Khalifa bin Zayed Al Nahyan said, "This historic achievement would not have been possible without the persistence and determination to implement the idea that emerged at the end of 2013 by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime

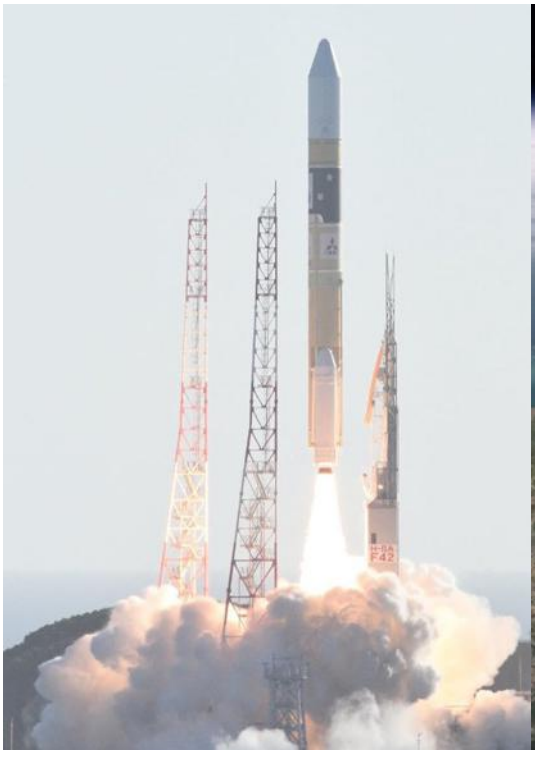
> *"Hope Probe is a historic milestone that marks the beginning of the coming 50 years."*
>
> ***- HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai***

Minister of UAE and Ruler of Dubai, who followed it up closely until its success."

He also praised the efforts of His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, in dedicating all kinds of support needed to make the dream come true. "Thanks to both leaders and the team of scientists and engineers behind the project for proving to the world that the UAE is capable of achieving the impossible."

Sheikh Khalifa bin Zayed hailed the space project, which was the outcome of solid institutional collaboration and a bold vision that aimed to serve mankind and the international science community.

The Hope Probe is the first of three exploration missions to arrive to the Red Planet in February. China and the US are leading ambitious projects to Mars, scheduled to arrive on Feb. 10 and Feb. 18 respectively. Hope Probe's arrival to Mars,



after travelling 493 million kilometers in a seven-month journey in space, marks the UAE's 50th anniversary celebrations.

Now that it has entered the Martian orbit, the Probe will transition to the Science phase– transmitting its first image of Mars back to Earth within just one week.

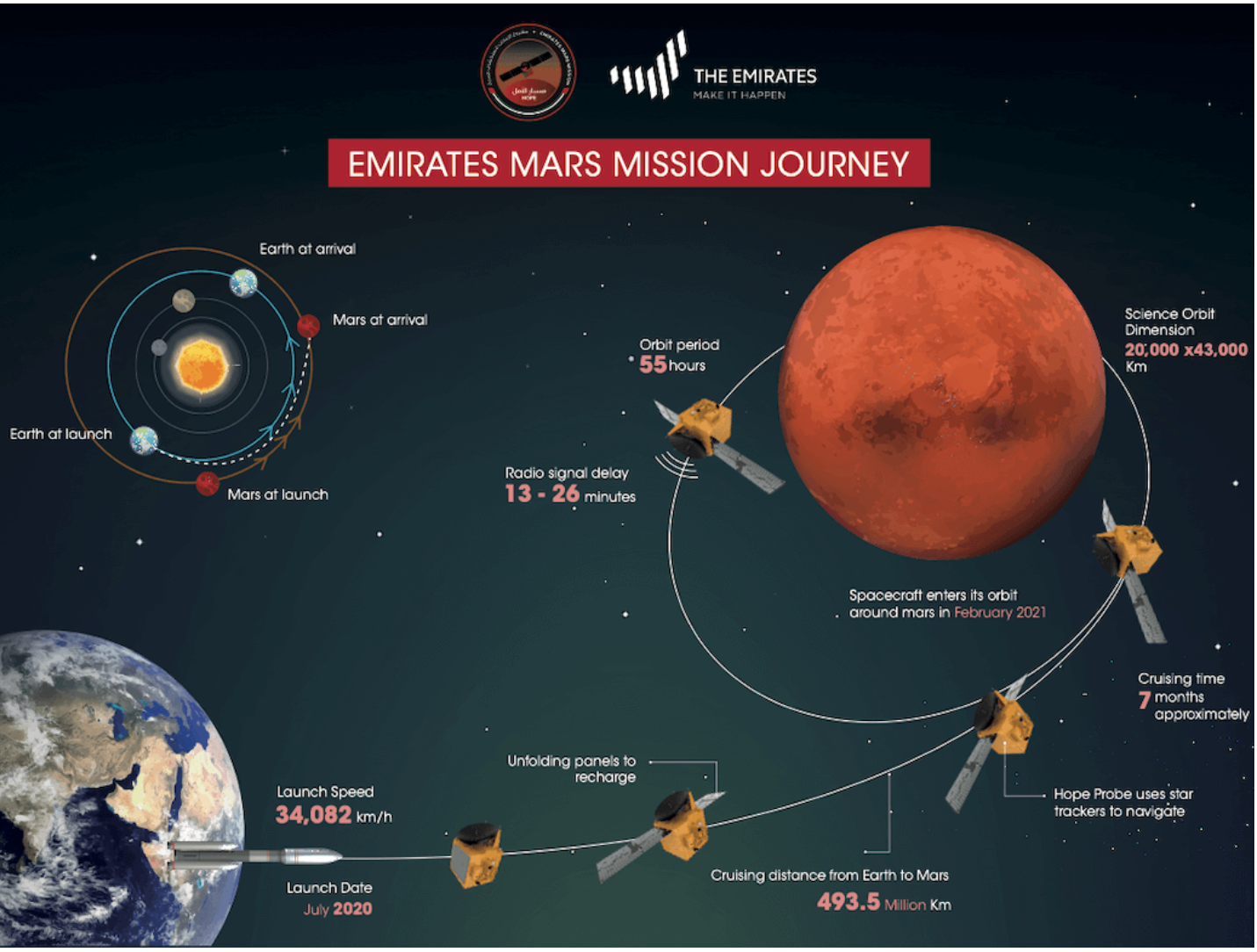
The Rulers of Dubai and Abu Dhabi celebrated the project as a great success for the UAE, the wider Arab region and the global scientific community following six years of technical and logistical efforts to complete the project. They hailed the team of engineers and scientists behind the project who made the Arab team come true after relentless efforts.

Hailing the success of the mission, His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, said: "The Hope probe's historic arrival to Mars is the greatest celebration of the 50th anniversary of our country. It sets the beginning of the next 50 years with boundless ambitions and dreams." He added, "Our next accomplishments will be even bigger and greater."

Sheikh Mohammed bin Rashid noted that "Our biggest success is building national scientific expertise who will contribute to the international science community."

He added, "We dedicate our Mars achievement to the people of the UAE and the rest of the Arab world. Our success proves that Arabs are capable of reviving the region's legacy and status in the scientific sphere."

"We mark our country's 50th anniversary by our



Mars stop and invite Arab youth to join the UAE's science movement that marched at high speed."

His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, said: "The Hope Probe's successful arrival to Mars is an Arab and Islamic achievement that was made possible by the relentless efforts of our youth. The mission marks our entry in the global race to space."

> *"The UAE is the first Arab nation, and the fifth in the world, to enter the Mars orbit"*

He noted that the "Emirates Mars Mission paves the way for the next 50 years of sustainable scientific development in the UAE."

"The human capital is the true wealth of our nation. Investing in our people forms the main pillar of all our development strategies and policies."

Sheikh Mohamed bin Zayed stressed that "the Emirati youth will be the ones leading our development for the next 50 years with their acquired knowledge and skills. The Emirates Mars Mission contributed to building highly-qualified Emirati capabilities equipped to make more accomplishments in the space sector."

H.H. Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, Crown Prince of Dubai, and Chairman of the Mohammed Bin Rashid Space Centre, said: "The Hope probe's historic space journey to Mars

is a significant Arab and Emirati achievement."

He noted that "the Emirates Mars Mission drafts a new chapter in the UAE's record of achievements in the space science sector and supports the efforts of our country to build a sustainable knowledge-based economy driven by advanced technologies."

He concluded: "The UAE's celebrations of the 50th anniversary has become associated with the arrival to Mars, which places a big responsibility on the next generation to make greater achievements in the next 50 years."

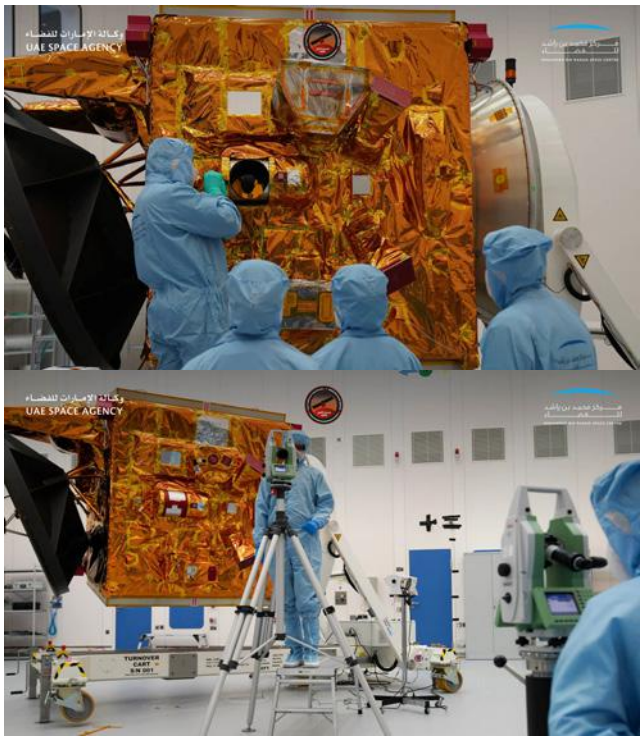
Millions of viewers

Beamed live around the world by international television stations, the Probe successfully entered the orbit of the second-smallest planet in the Solar System on February 9 at 7:42pm UAE time.The moment was marked by a dazzling laser show on the façade of the Burj Khalifa reviewing the journey of the Hope Probe, the stages of the project, and the efforts of the Emirati scientists who participated in the realisation of the country's space dream.

As hundreds of spectators watched the stunning display, the world's media were joined by high-level government officials and the Emirati Hope Probe team for a special briefing on the mission's progress.

During the event, Sarah Al Amiri, Minister of State for Advanced Technology, Chairperson of the UAE Space Agency and leader of the scientific team of the Emirates Mars Mission project, gave a detailed explanation in Arabic and English of all stages from ideation to launch and the seven-month journey to space.

The Hope Probe will study the dynamics in the Martian atmosphere on a global scale, and on both diurnal and seasonal timescales



Al Amiri's briefing shed light on the Hope Probe's journey and the UAE's long-held dream of reaching space. A meeting was also held between the scientific team and several media professionals, offering in-depth detail on aspects of the project.

Attending media also received continuous updates from the Ground Control Station at the Mohammed bin Rashid Space Center in Al Khawaneej as Omran Sharaf, Project Director of the Emirates Mars Mission, provided information about the Probe's path in the final critical minutes before entering the capture orbit around Mars.

The core mission will involve capturing more than 1,000GB of new data over one Martian year (687 Earth days), which will be shared with 200 scientific and educational institutions around the world. The mission can be extended for another two years, to provide the first-ever complete picture of the Martian atmosphere.

A Global Picture

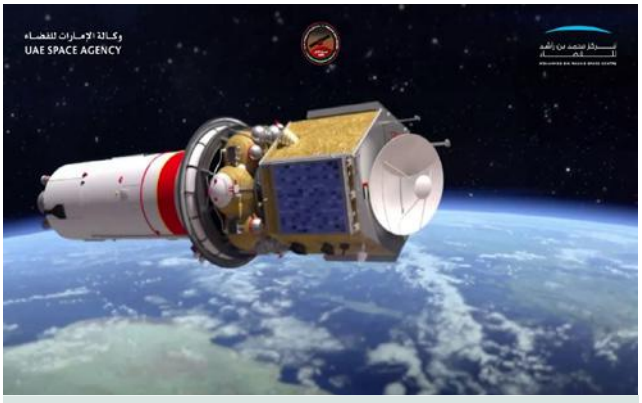
Once it reaches Mars' orbit, the Hope Probe will provide the first-ever complete picture of the Martian atmosphere, monitoring weather changes throughout the day during all seasons, which has not been done by any previous mission.

The mission will provide deeper insights on the climatic dynamics of the Red Planet through observing the weather phenomena in Mars such as the massive famous dust storms that have been known to engulf the Red Planet, as compared to the short and localized dust storms on earth.

It will focus on better understanding the link between weather changes in Mars' lower atmosphere, with the loss of hydrogen and oxygen from the upper layers of the atmosphere.

The probe, for the first time, will study the link between weather change and atmospheric loss, a process that may have caused the Red Planet's surface corrosion and the loss of its upper atmosphere.

Exploring connections between today's Martian weather and the ancient climate of the Red Planet will give deeper insights into the past and future of Earth and the potential of life on Mars and other distant planets.



UAE Announces Ambitious Climate Commitments

The UAE has submitted its second Nationally Determined Contribution (NDC) to the Secretariat of the UN Framework Convention on Climate Change (UNFCCC).

Approved by the UAE Cabinet in early December, the document outlines the country's enhanced climate target of reducing greenhouse gas emissions by 23.5 percent compared to business as usual for the year 2030. The UAE's efforts to reduce emissions include increasing reliance on clean energy, boosting energy efficiency, expanding capacity for carbon capture, use, and storage (CCUS), conserving blue carbon ecosystems, promoting sustainable agriculture, and implementing environment-friendly waste management.

As part of their second Nationally Determined Contribution, UAE outlines their improved efforts to drive climate action

Dr. Abdullah Belhaif Al Nuaimi, Minister of Climate Change and Environment, said: "The UAE's commitment to driving climate action at home and abroad has been steadfast. It was the first country in the region to ratify the Paris Agreement in 2015. And in the past five years, it has achieved multiple milestones on the climate mitigation and adaptation fronts."

He added: "Furthermore, with higher ambitions, the country's second NDC under the Paris

UAE has invested more than US$40 billion in clean power projects locally

Agreement strengthens the global response to the threat of climate change in line with the country's commitment to shaping a better future for the current and next generations."

Climate Change Mitigation

The UAE's clean power capacity, including solar and nuclear, is on track to reach 14 GW by 2030. To date, the country has invested more than US$40 billion in clean power projects locally. The UAE will continue to reduce emissions across key economic sectors – energy, transport, industry, services, agriculture, and waste – through regulatory and technology interventions.

Climate Change Adaptation

The UAE is currently implementing the National Climate Change Adaptation Program. Having assessed the impacts of climate change on priority sectors – energy, health, infrastructure, and the environment, the country is working towards developing adaptation action plans for these sectors.

As part of its commitment to conserving coastal blue carbon ecosystems, such as mangroves, that provide mitigation and adaptation co-benefits, the UAE intends to plant 30 million mangrove seedlings by 2030. In order to address the challenges climate change poses for food systems, the country is adopting sustainable and climate-smart agricultural methods, and promoting sustainable production and consumption habits.

Key Enablers

The NDC identifies technological innovation and sustainable finance as the key enablers of the UAE's green transition. Notably, the country champions the deployment of clean infrastructure and energy solutions globally with a focus on supporting renewables projects in developing countries. The UAE has invested in renewable energy ventures with a total value of around US$16.8 billion across 70 countries and has allocated US$400 million in aid and concessional loans for clean energy projects.

Paris Agreement

In 2015, the UAE submitted its first Nationally Determined Contributions (NDC) to the UNFCCC Secretariat that included a target to increase the share of clean power to 24 percent of the total energy mix by 2021.

UAE Spearheads The Development Of Green Hydrogen Economy In The Middle East

In a strategic partnership with Mubadala Investment Company (Mubadala), the Abu Dhabi state-owned global investment firm, as well as with Masdar and other partners, Siemens Energy is advancing the development of green hydrogen ecosystems in the UAE. Two Memorandums of Understanding (MoU) were signed to this effect during Abu Dhabi Sustainability Week, to jointly drive UAE's green

Siemens Energy and Mubadala to accelerate green hydrogen capabilities in Abu Dhabi

Dietmar Siersdorfer, Managing Director, Siemens Energy Middle East

hydrogen sector and the production of synthetic fuels.

Strategic Partnership with Mubadala

The MoU signed between Siemens Energy and Mubadala on January 17 aims to create a strategic partnership to drive investment and development of advanced technology, manufacture of equipment, and green hydrogen and synthetic fuel production. The initial focus of activity will be in Abu Dhabi and over time it is planned that this will be extended to other international markets.

"Mubadala is strongly committed to the development of the UAE's hydrogen economy, and we are pleased to be extending our relationship with Siemens Energy in this important emerging energy sector, said Musabbeh Al Kaabi, Chief Executive Officer of

Green hydrogen is likely to play a critical role in decarbonization strategies in several industries

UAE Investments at Mubadala Investment Company. "Through this strategic partnership, we expect to be able to leverage Abu Dhabi's strong foundations for the production and sale of green hydrogen, prove a strong business case and attract investment for the development of new facilities, and establish Abu Dhabi as a reliable supplier of green hydrogen to emerging global markets."

Within the partnership the companies will work closely towards the following goals:

- Utilizing renewable energy to produce green hydrogen and derivatives, including synthetic fuels, providing clean and transportable energy to fuel new hydrogen-based ecosystems that are supplied from the UAE
- Establish Abu Dhabi as a world class player in green hydrogen and synthetic fuels
- Jointly advance technology and drive down the costs of green hydrogen and synthetic fuels production
- Enable Siemens Energy and Mubadala to access emerging hydrogen markets and create value for both parties

The first initiative under this agreement and the broader Abu Dhabi Hydrogen Alliance will be the consideration of a demonstrator plant located at Masdar City.

Hydrogen demonstrator plant

Together with Masdar, Siemens Energy announced that it is joining forces with the Abu Dhabi Department of Energy, Etihad Airways, German Lufthansa, Marubeni Corporation and Khalifa University on an ambitious project that will help pave the way for the development of the UAE's green hydrogen economy.

The organizations signed an MoU with the intent to establish a photovoltaic (PV) powered electrolyzer facility, to demonstrate state-of-the-art green hydrogen production technology and present sustainable fuel use cases. The first phase of the demonstration program will focus on the production of green hydrogen for passenger cars and buses in the Masdar City area.

Facts on Hydrogen

Hydrogen, the most abundant element in the universe can be blended with, or used as a substitute for, fossil fuels in a wide variety of applications. Siemens Energy is a pioneer in Green Hydrogen technology, using Proton Exchange Membrane (PEM) technology to convert electricity from renewables into 'green' hydrogen and oxygen. There's no waste, or CO2 emissions. The hydrogen can then be stored for use in fuel-cell cars, as an industrial gas or even to fuel a power plant.

UAE Gears Up For Two Landmark UN Summits In November

Dr. Abdullah Belhaif Al Nuaimi, Minister of Climate Change and Environment, along with other ministers, executives, and youth delegates met on January 20, 2021, to jointly prepare for the UN Food Systems Summit and the High-Level Dialogue on Energy summit that will take place in New York in September.

Hosted by the International Renewable Energy Agency (IRENA) and the UAE as part of the Abu Dhabi Sustainability Week (ADSW), the event drew nearly 1,000 participants from around the globe. Their proposals offer input into the UN Climate Change Conference (COP26) in Glasgow in November 2021.

Dr. Belhaif Al Nuaimi participates in event to prepare for UN Food Systems Summit and the High-Level Dialogue on Energy summit

By 2050, the world will need to feed about 10 billion people while achieving the Paris Agreement and the Sustainable Development Goals (SDGs). Food systems already account for over 25 percent of global greenhouse gas emissions and 30 percent of energy consumption and are vulnerable to climate change.

At the same time, the world must ensure universal modern energy access for the 800 million people currently without electricity and the three billion without clean cooking solutions, most of whom live in agriculture-based economies.

By 2050, the world will need to feed about 10 billion people while achieving the Paris Agreement and the Sustainable Development Goals (SDGs)

Delegates emphasised the importance of decarbonising food transport through a combination of biofuels and cost-competitive vehicles and machines that are powered by renewables. They particularly called for new spending and political commitment on clean cooking at the summits; open fires and inefficient stoves contribute to millions of preventable deaths and illnesses each year, disproportionately concentrated among women and children.

Amina Mohammed, UN Deputy Secretary-General, said, "Our shared roadmap for recovery from COVID-19 for humanity and the planet are the SDGs. I call on all countries, cities, businesses, and people from all parts of civil society to redouble efforts in this Decade of Action to advance all the SDGs – including those on hunger and energy – and achieve net-zero emissions by 2050."

Mariam Almheiri, UAE Minister of State for Food and Water Security, said, "Ten years ago, few would have believed that a country at the heart of the hydrocarbon industry would achieve solar power cheaper than any other electricity source.

"A mere two years ago, not many would have thought that an arid country that imports nearly 90 percent of its food could locally and sustainably produce salmon, blueberries, quinoa, and many other products from the heart of the desert. Both are examples of what the UAE has achieved."

She concluded: "The UAE is working to increase yield improvement from new technology-enabled production by 30 percent this year, thereby dramatically reducing the energy requirements for food."

Sustainability, opportunity and the circular economy

True sustainability is circular rather than linear. There is growing societal expectation around a more inclusive and circular economy, one in which resources are recovered at their highest quality, re-used and kept in circulation for as long as possible. Senior executives and management teams across the world are now challenged with embedding sustainability into every aspect of their operations.

Our global economic system has long been dominated by a linear model with a "take, make and dispose" approach to production and consumption. This linear model is wasteful and grounded in short-term thinking, relying on large quantities of easily accessible resources and energy, many of which are in danger of rapid depletion.

Aside from the ethical imperatives, moving towards circularity is essential for long-term organizational survival, providing both resilience and competitive advantage. Beyond resource efficiency, a circular approach creates longlasting value. It goes beyond waste reduction, to adaptable product design: offering versatile services that remove the concept of waste altogether. The circular model also allows businesses to remain relevant to customers and serve their evolving expectations, offering value from both a commercial and reputational perspective.

Many organizations are awakening to these opportunities, although making the shift towards circular thinking, and adapting corporate systems, is certainly not an easy task. It requires a frank examination of your relationship with our planet's natural resources. This benchmarking is important to inform the resulting process changes and internal initiatives to create integrated cultural and behavioural change across an organization. These practices must also be implemented in a way that will support consumption habits for current and future generations.

Senior management teams seldom lack the good sustainability intentions, more the means to embark on large-scale permanent organizational change of this kind. What's needed is a practical framework that empowers organizations to identify what is relevant to them.

BSI, the business improvement company that enables organizations to turn standards of best practice into habits of excellence, is the first to publish guidance on a circular economy. We've already developed a number of standards that support waste prevention, resource efficiency, eco-design and remanufacturing. Although there is no one standard focused entirely on the concept of the circular economy and resource management, BS 8001 provides a framework and guidance on how to explore the practicalities for your organization. It provides comprehensive advice to help companies adjust systems to better fit with circular economy principles, helping the long-term transition to sustainable operations.

The standard highlights the six principles of the circular economy: innovation; stewardship; collaboration; value optimizations; transparency; and systems thinking, offering guidance on the practical implementation of each.

BS 8001 falls systematically in line with ISO 14001 on environmental management. This management standard maps out a framework that businesses can use to improve resource utilization up and down the supply chain, again maximizing the value of the resources used, minimizing the creation of waste and reducing environmental impact.

Both of these standards are based on the principle of continual improvement and offer a holistic approach that encourages organizations to evaluate and mitigate their impact on an ongoing basis. Not only does this include looking internally at business operations, but also at surrounding environmental conditions that might require an organization to adapt.

One specific area to draw focus to is energy, which is one of the most critical challenges currently facing the international community. ISO 50001 on energy management systems tackles this problem head on,

supporting leadership teams across all sectors to use energy more efficiently. Implementation of the standard enables businesses to continually improve energy performance, drive cumulative energy savings, reduce emissions and contribute to a low-carbon economy.

With sustainability at the core of its strategy, any organization can achieve substantial cost savings through increased operational efficiency. But more than this, with systems in place to encourage a culture of re-use and repair, industry can set a new benchmark for climate and clean energy action. This commitment and dedication matches the that of today's society – consumers are increasingly moving to support companies that demonstrate circular economy principles. A move to circularity therefore, is also an investment in brand reputation and customer loyalty, which further aids growth and financial security.

Regardless of your organization's scale or focus, BSI can work with you to deliver against your sustainability goals on your journey to organizational resilience. Whether that's a commitment to improving your culture and corporate governance, utilizing resources more efficiently or reducing waste and your environmental impact – embedding operational, information and supply chain resilience into your sustainable practices can offer you the greatest potential for opportunities and growth.

For more information visit: bsigroup.com/en-AE
email: bsi.me@bsigroup.com

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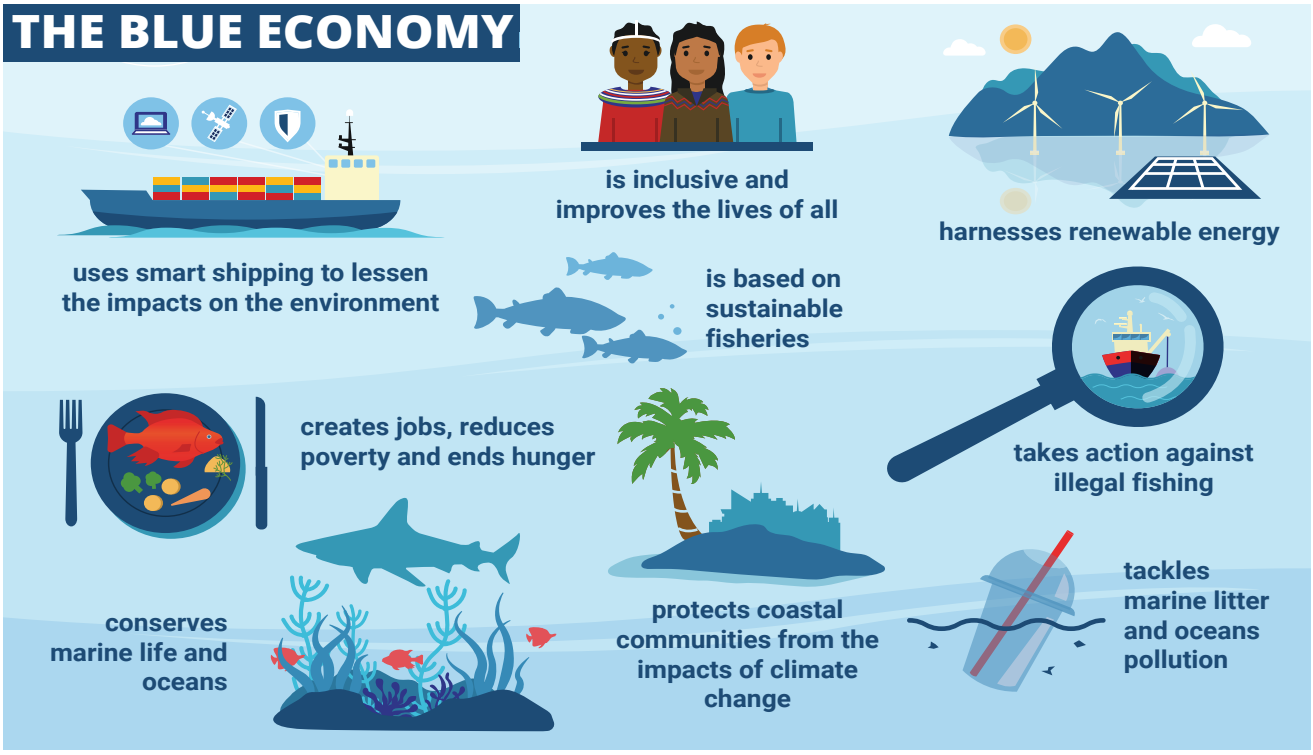
UAE Promotes The Practice Of The Sustainable Blue Economy

Abu Dhabi Global Market (ADGM), and Emirates Nature-WWF have signed a Memorandum of Understanding (MoU) to progress the implementation of sustainable finance practices across the UAE and the wider region.

Through the MoU, Emirates Nature-WWF and ADGM will collaborate on common aims, initiatives, and events for enhancing the development of a sustainable blue economy, which details the provision of social and economic benefits relevant to the marine environment, as well as the increased integration of sustainable finance practices. In addition, the collaboration will explore new approaches and initiatives for environmental, social and governance (ESG) approaches, climate change nexus and best practice.



Commenting on the agreement Juma Al Hameli, Senior Executive Director, Strategy and Business Development at ADGM said, "The signing of this MoU alongside our esteemed partner Emirates Nature-WWF is a testament to our shared commitment to accelerate sustainable practices across the UAE and build a progressive resilient future. ADGM has been advocating the adoption of sustainable practices, as it aims to develop a sustainable finance ecosystem within the UAE and the wider region. Through this agreement, we will continue to support the UAE's sustainability agenda."

Laila Abdullatif, Director-General of Emirates Nature-WWF, said, "Nature, including marine ecosystems, is vital to our wellbeing and long-term economic prosperity. We are proud to support the UAE's sustainability agenda addressing the current global climate crisis and pursuing a sustainable economy for a better world for us all. Recognizing the crucial role of sustainable finance in achieving a more viable and an economic model in harmony with nature, Emirates Nature-WWF through this partnership aims to promote the practice of the Sustainable Blue Economy and explore innovative solutions that balance profit with long-term environmental and social needs."

FAO And IRENA Join Forces To Boost Renewables In Food And Agriculture

The Food and Agriculture Organization of the United Nations (FAO) and the International Renewable Energy Agency (IRENA) have underscored their continued commitment to accelerate the deployment of renewable energy technologies in agri-food, fisheries and forestry chains and sustainable bioenergy through the signature of a collaboration agreement.

Signed by FAO Director-General QU Dongyu and IRENA Director-General Francesco La Camera in a virtual meeting, the new memorandum of understanding (MoU) aims to improve the profitability and sustainability of the food and agriculture sectors by accelerating the use of renewables and sustainable bioenergy while fostering climate action and resilience.

Energy-smart agri-food practices based on renewables can increase both agricultural productivity, food chain decarbonisation and food security. Accelerating renewable energy solutions will also boost economic growth and create jobs in a sustainable agro-industry – addressing critical development challenges of the Sustainable Development Goals (SDGs) in developing countries.

"Renewable energy is essential for agri-food systems transformation, climate resilience and net-zero strategies. Through our collaboration, we aim to generate and share knowledge, innovative products and technologies, as well as data and information," said Qu Dongyu, FAO Director-General

Francesco La Camera, IRENA's Director-General, added: "Renewables in agri-food systems are central to any sustainable support strategy for inclusive rural development. Renewables enhance food and water security, drive industrial productivity and offer much needed socio-economic benefits in recovering from Covid-19."

The strengthened collaboration focuses on advancing cutting-edge knowledge on the energy-food-water nexus and spur collaborative efforts on projects and activities, including capacity building, knowledge exchange, tailored policy advice and financing initiatives.

Adding Value To Capped Landfills

Emirates Waste to Energy Company, a joint venture between Bee'ah and Masdar will undertake a pioneering project to develop Bee'ah's landfill into a solar farm, the first of its kind in the UAE.

The agreement was announced jointly by Khaled Al Huraimel, Group Chief Executive Officer of Bee'ah and Chairman of the Emirates Waste to

In a pioneering project, Emirates Waste to Energy Company to develop first UAE landfill site into solar farm

Energy Company, and Mohamed Jameel Al Ramahi, Chief Executive Officer of Masdar, during Abu Dhabi Sustainability Week which took place from January 18-21.

Emirates Waste to Energy Company will deliver the solar photovoltaic (PV) project that will comprise up to 120 megawatts (MW) and will be constructed on top of Bee'ah's Al Sa'jah landfill in close proximity to the Sharjah Waste to Energy facility and Bee'ah's Waste Management Complex. The solar landfill project will be delivered across three phases, with the first phase due for completion in 2023.

"Masdar is proud to be extending our existing partnership with Bee'ah through the Emirates Waste to Energy Company to develop this landmark project in Sharjah. Waste is a growing issue in the Gulf Cooperation Council region.

The solar farm will be constructed on top of Bee'ah's Al Sa'jah landfill in Sharjah and will be delivered in three phases, with the first phase due for completion in 2023

However, this project highlights how we can utilize closed landfills to deliver clean energy, while simultaneously supporting the UAE's clean energy targets and UN Sustainable Development Goals. We are confident that this project can become a benchmark for other landfill sites in the region," said Mohamed Jameel Al Ramahi, Chief Executive Officer of Masdar.

"As a pioneer of zero waste solutions, Bee'ah is looking to create new value from capped landfills while supporting the deployment of renewable energy in the UAE and I am confident that we can replicate this same model of success for other cities in the Middle East," said Khaled Al Huraimel, Group CEO of Bee'ah, Chairman of the Emirates Waste to Energy Company.

Finding productive uses for closed landfills is a global industry issue due to stringent environmental monitoring and remediation requirements that can take up to 30 years. Redeveloping the landfill into a solar farm will add to Sharjah's renewable energy generation, and it is also economically and environmentally beneficial.

The company will be responsible for the financing, design, procurement and construction. Under the terms of the lease agreement, operation and maintenance services will also be provided by the company for a 25-year period.

Established in 2017, Emirates Waste to Energy Company's first project is the Sharjah Waste to Energy facility housed in Bee'ah's Waste Management Complex. The 30 MW Sharjah Waste to Energy project is currently under construction and is due for completion later this year.

New Collaboration To Protect Marine Environment In The UAE

The Arab Academy for Science, Technology and Maritime Transport in Sharjah (AASTS) has discussed prospects for cooperation and collaboration with the UAE Ministry of Climate Change and Environment to employ its capabilities and expertise to protect the environment and curb marine activities that are causing climate change. Cooperation also includes protecting and maintaining the ecological balance in the Arabian Gulf and the Gulf of Oman, which the UAE overlooks.

Apart from training and specialised research, the entities will use Artificial Intelligence (AI) and big data to develop marine food resources and combat the effects of pollution and harmful emissions

H.E. Dr. Abdullah Belhaif Al Nuaimi, Minister of Climate Change and Environment in the UAE, and H.E. Dr. Ismail Abdel Ghaffar Ismail Faraj, President of the Arab Academy for Science, Technology and Maritime Transport, were a part of the discussions. Prospects for cooperation cover several areas including education and training, specialised research for developing the marine environment and protecting fish wealth, enhancing the electronic capabilities, and using Artificial Intelligence (AI) and big data to develop marine food resources and combat the effects of pollution and harmful emissions.

H.E. Dr. Abdullah Belhaif Al Nuaimi, Minister of Climate Change and Environment in the UAE said that the collaboration with AASTS is in line with

The UAE has an environmentally and climatically diverse coastline, which is home to a variety of aquatic life

the government's strategy to enhance the scientific, knowledge and research aspect through agreements and partnerships with specialized institutions in the field to find innovative solutions to protect the marine environment, preserve natural habitats and ensure the sustainability of its biodiversity.

Artificial intelligence to protect the marine environment

Commenting on the cooperation between the Academy and MoCCAE in the field of training and rehabilitation, Dr. Ahmed Youssef, Associate Dean of the Maritime Transport Technology College, AASTS, said: "Protecting the marine environment and keeping its waters free from pollution is one of the biggest challenges besides developing and having the latest water desalination technologies that are cost-efficient and use clean energy and sustainable resources."

He added: "We will focus on building, operating and ensuring the quality and sustainability of fishing vessels. We will also provide marine education and training for the crew and provide training and technical advice on the inspection of ships to ensure their suitability for sailing. This includes using fishing nets and tools that are not harmful to the environment or rare species and aquatic wildlife and ensuring no overfishing is done.

"We will use artificial intelligence and the Internet of Things to build a smart and advanced system of sensors that monitor all the indicators necessary to get an integrated and accurate picture of the state of the marine environment in the UAE. This will support the development of the blue economy and sustainability, which are the foundations for achieving prosperity and development for future generations."

Launch of 3rd Edition of Infectious Biological Waste Management Handbook

The Ministry of Climate Change and Environment has released the third edition of the Infectious Biological Waste Management Handbook that outlines the standards and practices for safe handling, processing, and disposal of potentially infectious waste.

The handbook, only available in Arabic, comprises five sections. Topics cover the definition and

The MoCCAE handbook, currently available only in Arabic, outlines the disposal of infectious waste, including the handling of COVID-19 waste

classifications of infectious biological waste, associated risks, proper ways of handling and related precautions, as well as medical waste management rules and regulations

The publication also contains a comprehensive guide on the disposal of waste generated during the diagnosis, isolation, and treatment of COVID-19 patients.

The document classifies infectious biological waste as hazardous waste, which is defined by the United States Environmental Protection Agency as waste with properties that make it dangerous or capable of harming human health or the environment. Under biological waste, it includes plant and soil waste, infectious waste, medical chemical waste, and sharps waste. Among the processes explained in the handbook are waste segregation, handling, storage, and disposal.

Topics cover the associated risks of infectious biological waste, proper ways of handling and related precautions, as well as medical waste management rules and regulations

Segregation

The handbook highlights the importance of segregating infectious biological waste at source, placing it in colour-coded bags to distinguish different types of waste, using a steriliser for soil and fertiliser waste and contaminated feed,

double-bagging and tagging infectious waste, and disposing of sharps in containers made of rigid plastics.

Handling

The document specifies a set of requirements that must be met at the waste site, such as sealing and replacing waste bags once they are 75 percent full, refraining from transporting and unloading biological waste in open carts, and adhering to the colour-coding system of waste bags.

Storage

The handbook limits the storage time for biological waste to a maximum of five days in a refrigerator and 72 hours at room temperature. It lists 10 prerequisites for storage locations, including allocating a separate room for storage inside the laboratories but away from daily routine work activities, and placing signage on the door indicating a hazardous waste storage area. Furthermore, it sets out the specifications for transporting biological waste outside of facilities, such as proper labelling, enclosing the required transportation documents, and delivering it only to authorised treatment facilities.

Disposal

The procedures for disposing of solid and liquid biological waste in the UAE that protect public health and safety are described. It includes the precautions that must be taken during waste disposal and the responsibilities of the designated waste coordinator at the facility. The handbook includes guidelines for the handling and disposal of waste generated during diagnosis, isolation, and treatment of COVID-19 patients. The guidelines are also applicable to other highly contagious diseases, such as HIV and H1N1.

ADSW 2021 Discusses Ways To Achieve A Sustainable Post-Covid-19 Recovery

On January 19, 2021, the Abu Dhabi Sustainability Week Summit (ADSW) - the global platform for accelerating the pace of sustainable development, got underway in the presence of His Highness Sheikh Hazza bin Zayed Al Nahyan, Vice President of the Abu Dhabi Executive Council. Hosted by Masdar, the event was held virtually this year due to restrictions in place to manage the COVID-19 pandemic. His Highness welcomed the leaders, officials and experts participating in the sessions of this year's summit to discuss how to enact a 'green recovery' to help economies rebound from the pandemic and build a more sustainable future for all.

Through its various initiatives and events, ADSW advances the process of exchanging knowledge, implementing strategies, and developing realistic solutions to face the challenges of sustainability and climate change

His Highness Sheikh Hazza bin Zayed Al Nahyan emphasized that the UAE is continuing its efforts under the leadership of His Highness Sheikh Khalifa bin Zayed Al Nahyan, President of the UAE, and with the support of His Highness Sheikh Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, to stimulate sustainable development.

He added that ADSW is particularly relevant this year as it represents a global platform for dialogue and setting the sustainable

ADSW represents a global platform for dialogue and setting the sustainable development agenda based on the principles of the green recovery

development agenda based on the principles of the green recovery.

His Highness said: "In light of the exceptional circumstances that the world is experiencing, there is an urgent need to take practical steps and initiatives that contribute to accelerating the application of the principles and foundations of sustainable development, with the need to take proactive steps, plan for a more flexible future and strengthen capabilities in order to efficiently face the existing and emerging challenges."

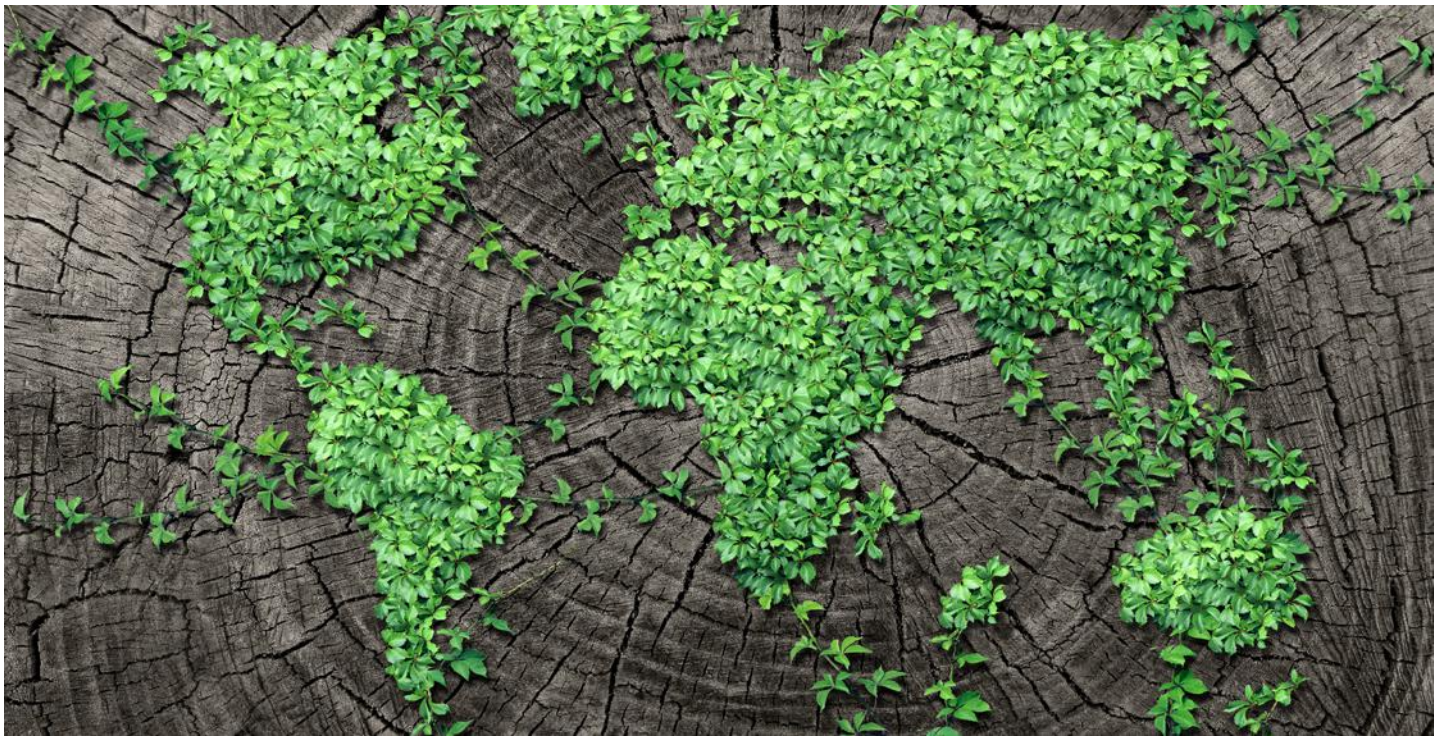
He added: "The Emirati initiatives, present to the world a practical model on the economic feasibility of renewable energy, stressing the importance of cooperation and joint work to achieve tangible progress in the field of reducing the repercussions of climate change".

His Highness said that Abu Dhabi continues, year after year, to consolidate its position and pivotal role as a platform that brings together the international community to discuss key issues in sustainability. He said that he hoped that this year's ADSW would be the starting point for constructive global dialogue on building a secure and stable future for current and future generations.

Keynote address by Prince Albert of Monaco

H.S.H. Prince Albert II, Sovereign Prince of Monaco, delivered the Summit's keynote speech, thanked Abu Dhabi for hosting this event under the unprecedented circumstances and said: "I believe the crisis we are experiencing is urging us to reinvent the ways we live, produce and travel in a more radical manner.

"It is urging us to rethink our relationship with



nature and to reevaluate our priorities. In this respect, the coming year will be full of opportunities which we need to grasp."

His Excellency Dr. Sultan bin Ahmed Al Jaber, UAE Minister of Industry and Advanced Technology, Special Envoy for Climate Change and Chairman of Masdar, welcomed the guests and participants of the Summit, and praised the wise leadership's support for sustainable development.

His Excellency said that the COVID-19 pandemic was a wake-up call to humanity as a whole, and that it demonstrated the importance of sustainability in its broadest sense, and revealed the interdependence between health and food and resource security.

His Excellency explained how efforts made by the UAE to face the pandemic, through proactive measures enacted by the wise leadership, focused on enhancing resource security and supporting vital supply chains. His Excellency stressed the concept of cooperation and building bridges of dialogue and communication, noting that the country will host the Dubai Expo later this year, with sustainability and the future as the main themes of this event.

His Excellency touched on the Zayed Sustainability Prize and its role in promoting global sustainability efforts. He said that the award has a special place among the UAE's leadership because it embodies the values and principles of the UAE's founding father, Sheikh Zayed bin Sultan Al Nahyan, and especially his commitment to sustainable progress.

His Excellency explained that the award will return in its usual form next year, with a focus on

The Zayed Sustainability Prize will return in its usual form next year, with a focus on aspects of innovation and recovery for the post-COVID period

aspects of innovation and recovery for the post-COVID period.

The ADSW Summit comprised of three sessions, two hours each, and focused on three topics: restoring the circle of life (Live & Move), enhancing responsibility and interaction (Care & Engage), and doing business and investment (Work & Invest).

As well as the Summit, ADSW, which ran from January 18-21, hosted a series of high-level virtual activities, including the General Assembly of the International Renewable Energy Agency (IRENA), the Abu Dhabi Forum for Sustainable Finance, and the Global Energy Forum of the Atlantic Council, the virtual forum for the "Youth for Sustainability" platform, and the World Future Energy Summit forums.

Through its various initiatives and events, ADSW advances the process of exchanging knowledge, implementing strategies, and developing realistic solutions to face the challenges of sustainability and climate change. As the first major global event in 2021, the year in which the UAE celebrates its 50th anniversary, the week had a pioneering role in enhancing cooperation between the public and private sectors in order to achieve the United Nations' Sustainable Development Goals.

New Policy For Energy Production From Waste Launched In The UAE

The Abu Dhabi Department of Energy (DoE) has launched the Policy for Energy Production from Waste (EFW) in the emirate of Abu Dhabi to support its transition towards a more sustainable economy highlight the circular economy's role.

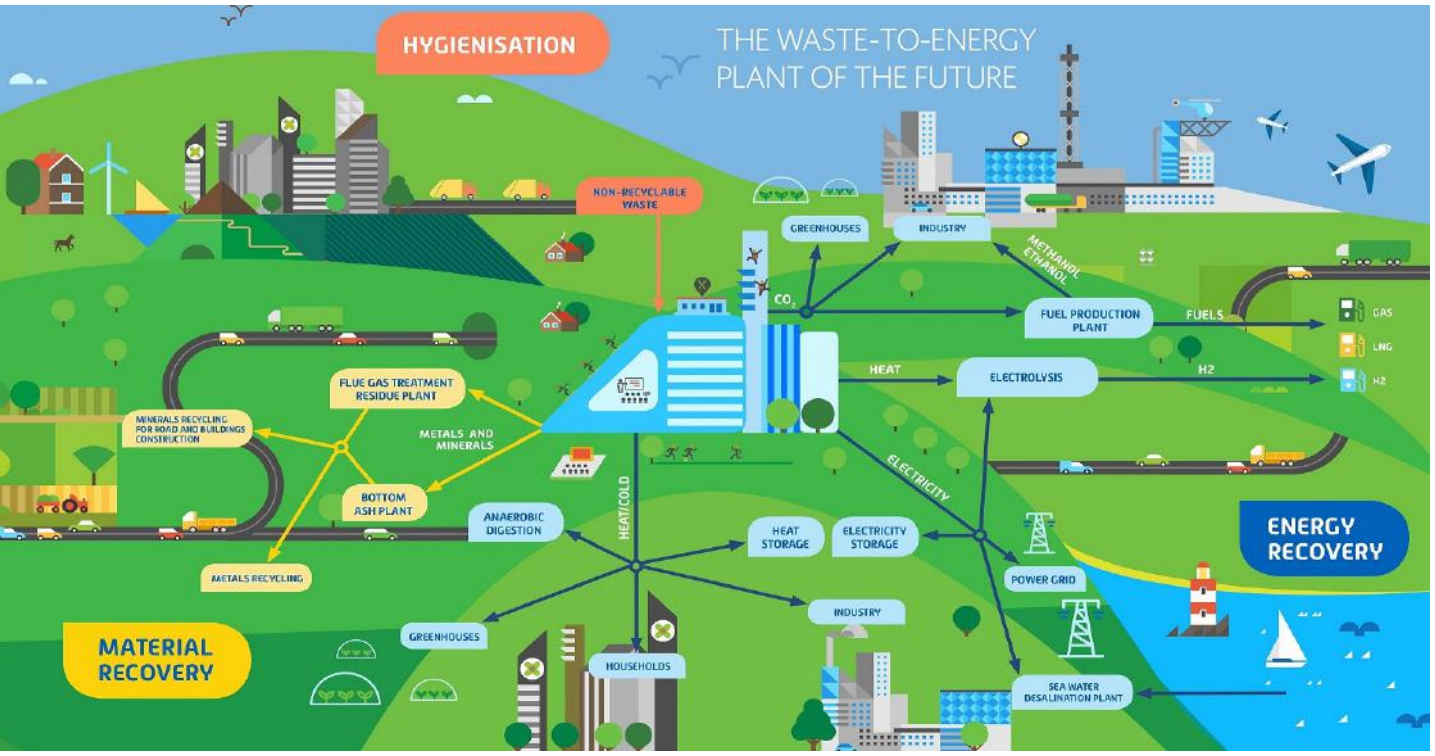
It reflects the DoE's commitment to enhancing Abu Dhabi's strategies in both the energy and waste management sectors and allows for a deeper examination of the strategic investments that affect supply and demand in the local energy sector, in addition to regulating prices, fees, and tariffs. The policy applies to all EFW activities in the emirate.

Abu Dhabi Department of Energy launches Policy for Energy Production from Waste to support its transition towards a more sustainable economy

The launch took place in coordination between the Abu Dhabi Department of Energy and various relevant entities in the emirate, namely Abu Dhabi Development Holding Company (ADQ), Tadweer, Abu Dhabi Power Corporation, TAQA, Emirates Water and Electricity Company (EWEC), TRANSCO, Environment Agency Abu Dhabi, Department of Municipalities and Transport in Abu Dhabi, and Masdar City.

DoE Under-Secretary, Mohammed bin Jarsh Al Falasi, said: "The Abu Dhabi Department of Energy conducts integrated operations to develop the entire energy sector in accordance

The Policy for Energy Production from Waste (EFW) sets out principles for the future development of EFW



with an ambitious vision for the future that guarantees the sustainability of natural resources, aims to preserve the environment and strives to meet the sector's commitments towards the growing demand for energy in the years ahead."

The policy aims to address the potential challenges to the development of Energy from Waste in Abu Dhabi. It seeks to facilitate the development of EFW in the emirate by addressing, minimising, and/or removing potential barriers that may exist in the energy sector for any future development of waste-to-energy projects in Abu Dhabi.

To achieve its objectives, the policy sets out principles for the future development of EFW that are considered from an energy sector perspective. It also sets out the mechanism to establish the energy sector's contribution to the allocation of the recovery of EFW costs.

Furthermore, the policy calls for waste-to-energy projects to be safe, reliable, efficient and economically purchased. This, in turn, requires these projects to meet a set of conditions. These are economic efficiency and emission reduction technology, among the other technologies available in the industry.

As for the allocation mechanism for EFW cost recovery from the energy sector, the policy clarifies that it should be based on an approach that estimates the energy sector's avoided costs from EFW electricity. The price for electricity from EFW is determined by the Long Run Marginal Cost (LRMC) of the energy sector avoidable costs from EFW electricity.

It's Getting Greener at Al Muntather Reserve!

Al Muntather Reserve, which was launched in 2007, is distinguished by its desert and the abundance of trees, pastures, and wild plants in it

The Environment and Protected Areas Authority in Sharjah (EPAA) organised an afforestation campaign in the Al Muntather Reserve, located in Al-Batayeh area, on January 21.

Hana Saif Al Suwaidi, Chairperson of the Environment and Protected Areas Authority, said, "The afforestation campaign for Al Muntather Reserve is an initiative aimed at embodying the vision and directives of H.H. Sheikh Dr Sultan bin Mohammad Al Qasimi, Supreme Council Member and Ruler of Sharjah, regarding the preservation of wild areas and their biodiversity. The campaign emphasises social responsibility in preserving these environments and encouraging local agriculture."

She expressed her thanks and appreciation for EPAA's efforts, along with the efforts of all institutions and authorities involved. These include Al Batayeh Municipality, Sharjah Police General Directorate, Sharjah Broadcasting Authority, Bee'ah environmental management company, and the Emirates Scouts Commission.

The campaign included several events and activities for all attendees, starting with registration and the distribution of ID cards. Participants then enjoyed the opportunity to plant Al Ghaf and Sedr seedlings in their allocated space located in the Al Muntather Reserve.

The EPAA has previously organised many similar campaigns to instill an environmental culture among residents and citizens. Al Muntather Reserve, which was launched in 2007, is distinguished by its desert and the abundance of trees, pastures, and wild plants in it. The reserve is considered an ideal environment for birds and certain wild animals such as Arabian Oryx. The reserve is located on Sharjah Maleiha Road, and covers an area of nine square kilometres. It is home to over one and a quarter million Al Ghaf and Sedr trees and is considered an integrated reserve with its trees and wild plants.

Jaguar I-PACE: Now Smarter, Better Connected And Faster-Charging

Since its debut, the Jaguar I-PACE - the world's first premium all-electric performance SUV - has won more than 80 global awards, including 2019 World Car of the Year, World Car Design of the Year and World Green Car.

These accolades have reinforced its status as the Jaguar which tore up the rule book to become the first and best electric car of its kind.

The I-PACE, an all-electric performance SUV, places Jaguar at the forefront of the electric vehicle revolution

With two Jaguar-designed electric motors at each axle, producing exceptional combined performance of 400PS and 696Nm, aluminium construction and a low centre of gravity, the

I-PACE offers an unrivalled balance of all-wheel drive performance, refinement, luxury and agility – together with outstanding real-world range and day-to-day usability.

I-PACE: At a glance

The Jaguar I-PACE now delivers even more technology to make living the electric life simpler and more rewarding than ever. This is the first Jaguar to feature the new Pivi Pro infotainment system. As easy to use as a smartphone, Pivi Pro is fast and responsive with enhanced EV navigation that can show if nearby charging stations are available or in use, what they cost, and how long it will take to charge.

The Jaguar I-PACE has an Eco Mode which helps preserve range by reducing energy depletion and encouraging a more efficient driving style

I-PACE now comes with an 11kW on-board charger as standard, enabling customers with access to three-phase electricity supplies to enjoy significantly faster charging: when connected to an 11kW wall box 53km/33 miles of range (WLTP) per hour can be achieved, while a full charge from empty now takes only 8.6 hours – ideal for overnight charging at home.

Customers in single-phase markets using 7kW wall boxes also benefit from competitive charging capability – up to 35km/22 miles of charge per hour, with a full charge taking 12.75 hours. When charging 'on the go', a 50kW charger will add up to 63km/39 miles in 15 minutes, whilst a 100kW charger will add up to 127km/78 miles over the same period.

With a focus on air quality, occupant well-being is prioritised, with cabin air ionisation now featuring PM2.5 filtration to capture ultrafine airborne particles and allergens. The I-PACE can even filter its cabin air before a journey begins.

The exterior design is enhanced with a new Atlas Grey grille tip finish and customers benefit from an enhanced paint palette, new range of wheels, and a luxurious new Bright Pack option, available on all models in the I-PACE range.

Alan Volkaerts, Vehicle Line Director, Jaguar I-PACE, said: "When we developed the I-PACE we wanted it to be the world's most desirable electric vehicle and to show what happens when Jaguar goes electric."

He added, "I think we have achieved those ambitious goals, and now we have made it even better with a new infotainment system, three-phase charging and technology that benefits driver and passengers alike."

"We've also subtly enhanced the design with an Atlas Grey finish to the grille mesh and with the new Bright Pack option. I-PACE was the first premium all-electric performance SUV: every change we've made ensures that it's still the benchmark in its class."

Smarter, faster and better connected

The new Pivi Pro infotainment system is a highlight of the I-PACE's spacious, luxurious interior. The 12.3-inch high-definition virtual instrument cluster, 10-inch and 5-inch upper and lower touchscreens and multi-function, haptic rotary controllers are matched to crisp, clean, contemporary graphics for an engaging, intuitive user experience.

Inspired by smartphones, Pivi Pro is easy to use, while its powerful processor and 'fast start-up' ensures the system is ready to go by the time you are in the driving seat. Supported by a built-in back-up battery, navigation initialisation takes just a few seconds.

The new Pivi Pro infotainment system will help to get you where you want to go in less time and with less effort. The navigation uses self-learning algorithms to optimise routing, voice guidance even knows to remain quiet when you are travelling through areas you know, and maps will always be up to date thanks to software-over-the-air (SOTA) functionality.

Stephen Boulter, Vehicle Engineering Manager, Jaguar I-PACE, said: "The Pivi Pro infotainment system makes it easy to use public charging networks. As well as showing where charging stations are it can also tell you if they are available, what they cost to use, and an estimate of charging time."

The all-electric I-PACE performance SUV now features a new infotainment system, three phase AC home charging, and even more driver-focused technology

Going electric made easy

The Jaguar I-PACE has been designed to ensure every step of the customer journey delivers peace of mind and makes owning an electric car as easy as possible.

- With a range of up to 470km / 292 miles (WLTP) from its 90kWh battery, customers with an average daily commute would only need to charge their I-PACE once a week.
- I-PACE is offered with an 8-year or 100,000 mile / 160,000KM battery warranty.
- A range calculation tool on jaguar.com makes it easy to see how factors such as vehicle speed, ambient temperature and climate control settings can influence the real-world range you could expect to achieve.
- Jaguar has developed the iGuide app making it simple to find and understand the key features and controls of your Jaguar I PACE.
- Every home charging point from Jaguar's recommended partners comes smart enabled, meaning you can conveniently activate and deactivate your charging progress straight from your smart phone.
- When charging in public places the I-PACE's charging cable locks into place as soon as the car is locked, and cannot be disconnected until the vehicle is unlocked.
- The I-PACE is equipped with Software over the Air (SOTA) functionality. This means systems including infotainment, battery management and charging can be updated remotely and enable it to continuously improve over time.

Virgin Hyperloop Unveils Passenger Experience Vision

Just months after their first passenger testing, Virgin Hyperloop unveiled its vision for the future hyperloop experience on January 28, 2021. The newly-released concept video takes the viewer step-by-step through a hyperloop journey, from arriving at the portal to boarding the pod.

DP World, the Dubai-based leading global

Groundbreaking design shows end-to-end passenger experience for the 21st century

provider of smart logistics solutions, is a major investor in Virgin Hyperloop.

Sultan Ahmed Bin Sulayem, Group Chairman and CEO of DP World and Chairman of Virgin Hyperloop, said: "Showing the passenger experience of Virgin Hyperloop is a glimpse of the future, following the success three months ago when people rode in a hyperloop pod for the first time. We have demonstrated the maturity of our technology. We are getting closer to commercialisation of what will be the first new mass-scale transportation mode in a century."

"Designing a new mode of transportation from scratch is both an opportunity and a responsibility," said Sara Luchian, Virgin Hyperloop's Director of Passenger Experience and one of the first people to ride the hyperloop in November. "Hyperloop technology – and what

Virgin Hyperloop offers a more optimistic view of the future: a greener, smoother, safer, and more pleasant mass transit experience

it enables – is paradigm-shifting. It follows that the passenger experience should be nothing short of extraordinary."

Virgin Hyperloop worked with world-class partners across disparate industries – including Bjarke Ingels Group (BIG) for the portal designs, Teague for the pod designs, SeeThree for the video and animation, and Man Made Music for the score and sonic identity – to design a comprehensive, multi-sensory passenger experience that surpasses that of any other form of mass transit.

"Virgin Hyperloop can accelerate the future of mobility on land. The new mode of travel at supersonic speed rethinks transportation and the perception of space, landscape, time, and distance," said Bjarke Ingels, Founder & Creative Director, BIG-Bjarke Ingels Group. "In this day and age, Virgin Hyperloop taking off from our portals provides holistic, intelligent transportation for a globalized community to travel across vast distances in a safer, cleaner, easier, and faster way than airlines."

Far from a dystopian future where dark colors, stark lighting, and screens abound, Virgin Hyperloop's counter narrative is a more optimistic view of the future: a greener, smoother, safer, and more pleasant mass transit experience.

"We leveraged decades of experience designing how people and things move across various modalities – taking some of the best aspects from aviation, rail, automotive, and even hospitality to create a new and better passenger experience that is distinct to Virgin Hyperloop," said John Barratt, CEO & President, Teague. "Recessed seat wells provide a greater sense of

space, while the raised aisle is a touch of the unexpected and unique. Bands of greenery and wood textures subvert the aesthetic of typical mass transit materials with something optimistic and fresh. All lighting in the pod-including the unassuming information displays-are dynamic and adjust based on traveler activity and journey milestones."

Beyond the typical touchpoints in transportation, Virgin Hyperloop also researched and incorporated findings from more non-traditional interactions, such as sound. "Through proprietary research and a design thinking approach to creating sound and sonic solutions for Virgin Hyperloop, Man Made Music addressed a myriad of potential challenges on how to evoke a sense of privacy and space to an enhanced sense of safety and calm," said Joel Beckerman, Founder and Lead Composer at Man Made Music.

He added: "We respond to sound quicker than any other sense, so sound actually drives the multi-sensory experiences. The sonic cues of the Virgin Hyperloop identity system serves as a guide for passengers throughout their experience while instilling confidence, safety, and clarity – you 'feel' it rather than 'hear' it. Just like a great movie score, it tells you the story. We know when we've got it right when you don't notice the sound at all."

A key pillar of Virgin Hyperloop's passenger experience is accessibility, ensuring that this new form of transportation will expand opportunities for the masses. While ticket prices will vary depending on the exact route, a recent study in Ohio found that hyperloop fares would be more akin to the cost of driving, rather than flying.

"It's simple. If it is not affordable, people won't use it," said Jay Walder, CEO of Virgin Hyperloop. "Daily high-speed transport is currently not feasible for most people, but we want to change that notion. Imagine being able to commute between cities that are currently hours apart in minutes – and the endless possibilities that opens up."

On demand and direct to destination, the hyperloop system would be able to transport thousands of passengers per hour, despite the fact that each vehicle carries only about 28 passengers. This high throughput is achieved by convoying, where vehicles can travel behind one another in the tube within milliseconds, controlled by Virgin Hyperloop's machine intelligence software.

The company aims to achieve safety certification by 2025, with commercial operations beginning in 2030.

Minister of Climate Change Discusses Challenges Of Apiculture

Dr. Abdullah Belhaif Al Nuaimi, Cabinet Member, and Minister of Climate Change and Environment toured the Hatta Honeybee Garden and Discovery Centre on January 07, 2021, as part of a series of ministerial visits aimed at exploring the challenges facing sectors, particularly the food sector, and devise solutions to these challenges to boost productivity.

The Hatta Honeybee Garden and Discovery Centre is run by ANHB Group, a honey producer and beekeeping equipment supplier with a presence in six countries. The company owns 8,000 beehives and produces 20 tons of honey per season.v

Sheikh Salem bin Sultan Al Qasimi, Chairman of ANHB Group, briefed Dr. Al Nuaimi on the advanced beekeeping technologies used in the garden to produce high-quality honey. Moreover, they explored the requirements and prospects of increasing the production and improving the competitiveness of locally produced honey.

As part of its mandate to support the agricultural sector and local food production, MoCCAE has issued legislation and launched initiatives that seek to enhance food diversity and security through improving productivity in terms of variety, quantity, and quality. Given the importance of bees, the Ministry views sustaining the beekeeping practice in the UAE as a priority. According to the United Nations Environment Programme (UNEP), of the 100 crop varieties that provide 90 percent of the world's food, 71 are pollinated by bees.

In this context, MoCCAE has approved a law that allows local beekeepers to import new species of bees into the country.

Moreover, it has created sales channels for local honey through signing agreements with major retailers, and through organizing and sponsoring exhibitions where beekeepers can sell their products to consumers directly. The Ministry has also rolled out complimentary e-services for approving honeybee feed and nutritional supplements.

Singapore: The Journey To Becoming Asia's Greenest City

Measuring 17 miles long and 31 miles wide, the tiny island of Singapore is home to 5.6 million people and is one of the most densely populated countries in the world.

But with its open green spaces, boardwalks, beaches, and above all, exceptional urban planning and design, this city feels anything but overcrowded. Singapore tops Mercer's Quality

As the Garden City expands, innovation leads the country towards sustainable development

of Living ranking for Asia year after year as it continuously improves the standard of living of its residents with greater connectivity and sustainability of resources and is also, the Greenest City in Asia.

Whilst most Asian cities grapple with choking pollution, over-population, poor infrastructure and congested roads, Singapore is a model for how things can, and should be done. The country is always finding new ways of dealing with the world's urban challenges and in the process, has become a living laboratory for pioneers of smart and sustainable solutions.

The City in a Garden

Ever since declaring its independence in 1965, Singapore's strategy has been to create a garden city with abundant lush greenery and a clean environment to make life more pleasant for the

In Singapore, the solution to continue creating green spaces despite the increased population was to combine architecture and vegetation

Jewel Changi Airport Singapore

people. Singapore's vision of becoming a Garden City surfaced in 1967, while today, those plans have evolved further to become the City in a Garden, in which green space has equal importance to high-rise commercial centres.

For more than five decades now, Singapore's urban planners have been promoting biodiversity and all new developments today feature some form of vegetation such as green roofs, foliage walls or vertical hanging gardens. Taking its commitment to cleaner energy to the next level, developers are also planning to cover thousands of roofs and walls with solar panels.

"By being clean and green, our aim has been to show that our country is well-run," says Mr. Khoo Teng Chye, executive director at the Centre for Liveable Cities (CLC) — a body created by the government to share knowledge with policy makers from other countries about how best to build environmentally friendly cities.

"We take the view that environmental protection is not at odds with economic development," Mr. Khoo explains. This commitment is evident in the Sustainable Singapore Blueprint's action plan. Unveiled in 2015, the plan outlines significant sustainability goals for the next two decades, including the goal of becoming a Zero Waste Nation. The aim is to harness technology to change how the city supplies everything from clean water to fresh air, energy and transportation.

Having established itself as a global leader in sustainability, Singapore has turned into a hub for important international events such as the World Cities Summit, Singapore International Water Week, Singapore International Energy Week and Green UrbanScape Asia, to bring

together thought leaders to tackle critical urban environmental and water issues and share best practices. Sustainability guidelines developed by the Singapore Tourism Board to reduce the carbon footprint of events include a broad range of options such as recyclable badges, lanyards made of sustainable materials, on-site recycling bins and using mobile platforms.

Green buildings for sustainable development

Singapore has ambitions to have 80 percent of its buildings achieve Green Mark Certification by 2030 – a certification that enables sustainable development and quality living for its residents. For instance, Marina Bay Sands, the city's most recognisable structure, embodies this vision and is a testament and true monument to environmental sustainability. Every detail here has been carefully considered and includes:

• An advanced computerised control system that automatically dims or brightens the lights depending on the time of day and weather conditions outside.

• Air conditioning that is operated using water-cooled chillers where heat emitted from them provides the hotel's hot water.

• Downstairs in the basement, some 2,500 kgs of daily food waste is compressed by giant digesters and turned into recycled water.

• Rainwater is collected on the roof of the accompanying ArtScience Museum, which is reused in the building's washroom system.

Hydro-Hub

Water demand across the country is currently about 430 million gallons a day and is expected to more than double by 2060. Singapore's National

One of the finest examples of the union between architecture and nature on the island is the Jewel Changi airport that combines natural light, water and green spaces

Water Agency is guided by three key sustainability strategies: 1) To collect every drop of water; 2) To reuse water endlessly; and 3) To desalinate more water.

Renewable Energy

Singapore is committed to improving its energy intensity (the amount of energy consumed for its GDP) by 35 percent by 2030. Solar has been earmarked as the city-state's most reliable renewable source given the country's year-round tropical climate.

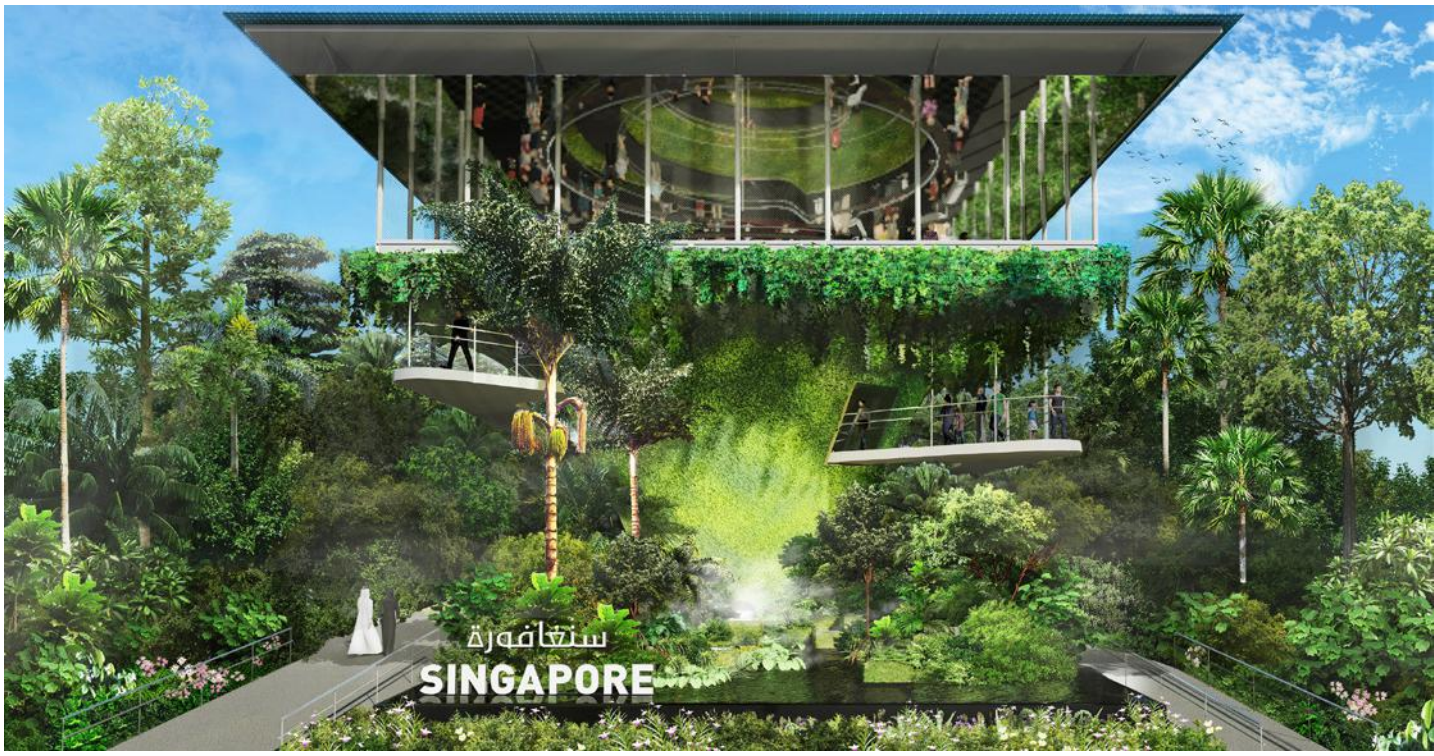
As such, Singapore is advancing research in this space through the world's largest floating solar photovoltaic test-bed, operating in the north of the island. This multi-million-dollar experiment determines the most effective way to garner energy from the sun, with the application of pioneering 'active-cooling' panels in which water is pumped into the solar cells to help cool and enhance their performance.

As Singapore continues to push boundaries, rethinking traditional ways of doing things, they have successfully managed to firmly establish themselves as an urban sustainable city. A bright example for other countries to follow.

Nature. Nurture. Future: Singapore At Expo 2020

The Singapore Pavilion at Expo 2020, to be held in Dubai from October 1, 2021 to March 31, 2022 will pay tribute to the island nation's journey towards growth, sustainability and resilience under the theme: 'Nature. Nurture. Future.'

Occupying a 1,550 sq m site within the Sustainability District of the 4.38 sq km Expo



The Singapore Pavilion will pay tribute to Singapore's journey towards growth, sustainability and resilience

2020 site, the Singapore Pavilion is designed to present a microcosm of the nation's transformed landscape to visitors and will highlight how the country continues to strive towards liveability, sustainability and resilience through innovative urban solutions. It will also showcase Singapore's strengths and expertise with the aim of creating potential business opportunities for the country.

The Singapore Pavilion will encapsulate Singapore's story of overcoming its physical limitations as a small island city-state to become a highly liveable and sustainable city.

The Singapore Pavilion is designed by the country's WOHA Architects and produced by Radius Experiential International. The pavilion features a distinctive architectural design with lush landscaping as an interpretation of Singapore's sustainability story.

The Singapore Pavilion will highlight how the country continues to strive towards livability, sustainability and resilience through innovative urban solutions

The creative vision for the Singapore Pavilion is that of a dense, multi-layered three- dimensional greening space – a city that is set in a garden. The ground level will be a welcoming space for visitors, set in a tropical garden ambience. Three large modular garden cones draped in verdant vertical greenery will form the centrepieces of the pavilion, with key exhibits housed within their interior spaces. A canopy walk will connect the three cones to lead visitors through the exhibits and up to an open platform that also allows for interaction and discourse.

The Singapore Pavilion is also envisioned as a net-zero energy pavilion that incorporates sustainability design strategies and features, such as a cantilevered roof to provide shade and thermal comfort, solar panels and water treatment technology to provide for the energy and water needs of the pavilion.

Singapore's participation in Expo 2020 Dubai emphasizes its close bilateral ties with the UAE. Expo 2020 Dubai will facilitate further expansion of Singapore's network in the Middle East region and will also deepen the engagement between the two countries.

Chief Executive Officer of the Urban Redevelopment Authority (URA) Lim Eng Hwee said: "The Singapore Pavilion is centred on our country's guiding ethos of sustainable growth where we can have both economic growth and a high-quality living environment. Through the presentation at Expo 2020 Dubai, we hope to celebrate Singapore's spirit of ingenuity and creativity by profiling Singapore's innovative urban solutions, design and capabilities through programmes and activities that will take place throughout the six-month Expo."

Abu Dhabi Outlines Bold Aspirations To Diversify Energy Sources

The Chairman of the Abu Dhabi Department of Energy (DoE), Awaidha Murshed Al Marar, has said that the emirate's investments in renewable energy has exceeded AED9 billion, and that it will continue to invest in renewable and clean energy in the future.

In an interview with the Emirates News Agency (WAM) as part of DoE's participation in Abu Dhabi Sustainability Week (ADSW) 2021, Al Marar noted that Abu Dhabi is home to four major solar power plants: Shams 1, Masdar City Solar Photovoltaic Plant, Al Dhafra Solar Photovoltaic (PV) facility, and Noor Abu Dhabi Solar PV Plant - all part of the government's strategy to diversify energy sources and utilise renewable energy to meet the growing power demand in the future.

The emirate's investments in renewable energy has exceeded AED9 billion, says Chairman of the Abu Dhabi Department of Energy (DoE)

Speaking about his department's efforts, he said, "The Abu Dhabi Department of Energy has bold aspirations to diversify the emirate's energy sources, which would lead to economic diversification. This is in line with the UAE Energy Strategy 2050, which targets an energy mix that combines renewable, nuclear, and clean energy to meet the growing demand for electricity and support the UAE's economic requirements and environmental goals."

Abu Dhabi is home to four major solar power plants: Shams 1, Masdar City Solar PV Plant, Al Dhafra Solar PV facility, and Noor Abu Dhabi Solar PV Plant

Noor Abu Dhabi Solar PV Plant

He added: "The Strategy aims to increase consumption efficiency by 40 percent, to increase the contribution of clean and renewable energy in the total energy mix to 50 percent – 44 percent of which is from renewables and 6 percent is nuclear energy. Another key objective is to cut costs by AED700 billion by 2050, all while reducing carbon emissions from electricity generation by 70 percent over the next three decades."

The Chairman of DoE further noted: "The most notable renewable and clean energy projects in Abu Dhabi are the Barakah Nuclear Power Plant, the upcoming Al Dhafra Solar PV Power Plant, which will be one of the largest independent solar power plants in the world, and the Al Taweelah desalination plant with reverse osmosis (RO) technology that will also be one of the largest of its kind in the world."

Commenting on the clean and renewable energy sector's contribution, Al Marar explained, "In 2020, Abu Dhabi produced 2.16 million MWH of electricity from renewable energy sources, bringing the share of renewable energy in the total energy produced in the emirate to about 7.2 percent. This was due to the entry of the 117-MV Noor Abu Dhabi solar photovoltaic plant into operation late 2019."

He added, "When the 2GW Al Dhafra Solar Photovoltaic Independent Power Producer project is completed by 2022, the total solar power generation capacity will be 3.2GW. If we add in the baseload nuclear energy expected upon full operation of the four nuclear reactors at the Barakah plant, we will have 8.8GW of installed clean energy capacity – this is more than 31 percent of the total energy mix in Abu Dhabi."

Scientists Uncover Genomic Differences Of Marine And Freshwater Microalgae

New York University Abu Dhabi (NYUAD) Associate Professor of Biology, Kourosh Salehi-Ashtiani, and NYUAD Senior Research Scientist David Nelson, report in a new study that they have successfully cultured and sequenced 107 microalgae species from 11 different phyla indigenous to varied locations and climates to gain insights on genomic differences in saltwater and freshwater microalgae. The researchers have also discovered that these algae genomes show widespread viral-origin gene content.

Scientists from New York University Abu Dhabi (NYUAD) reveal the driving forces of viruses in microalgal evolution from various habitats

In the paper titled 'Large-Scale Genome Sequencing', which reveals the driving forces of viruses in microalgal evolution and published in the journal Cell Host & Microbe, the researchers present the whole-genome sequencing of 107 different species of microalgae from a broad range of evolutionary groups. In addition to these newly-sequenced algal genomes, microalgal genomes from the National Centre for Biotechnology Information (NCBI) were included to investigate genomic differences between microalgae from a more extensive variety of habitats, specifically salt-water (marine) and fresh-water.

The comparison of genomes led to the conclusion that freshwater and marine species had fundamental differences in their nuclear and cellular membranes. The paper describes

Marine species contained significantly more viral-origin genes in their genomes'

differences in marine and freshwater algae to better understand how organisms deal with salt water. These results may help guide future bioengineering efforts to develop plant strains adapted to grow in salt-water, which is of local and regional food security interest.

The discovery of viral families in marine algae species shows that many genes were shared between viruses and algae in the past, likely due to viral infections, and retained by the algae to help them deal with habitat-specific challenges. These findings provide new perspectives on the positive contributions that viruses can make to the evolution of organisms they infect.

"The discovery that genes containing mainly membrane and viral proteins were shared among marine microalgae from different lineages indicates their importance for the maintenance of membrane integrity in a saline environment," said Salehi-Ashtiani. "This information can guide the development of bio-saline agriculture in regions where water has high salinity."

"Recent studies have shown that viruses frequently acquire host genes. Here, we show that the reverse has occurred repeatedly throughout algal evolution. Viruses appear to be a major driving force in microalgal evolution through widespread gene donation to diverse lineages," said Nelson.

Salehi-Ashtiani and Nelson point out that the discoveries from the genomic sequencing of microalgae species have shown that environmental sources of viruses should be more seriously considered and evaluated to anticipate future potential public health crises.

Word Scramble

Hsgueoenre

Aonrbc Unrteal

Scomtop Ngeyre Fenificiet Taicehl Rgcianoc

Becleyalr

Abiraedgedbio

_____ _____

_____ _____

_____ _____

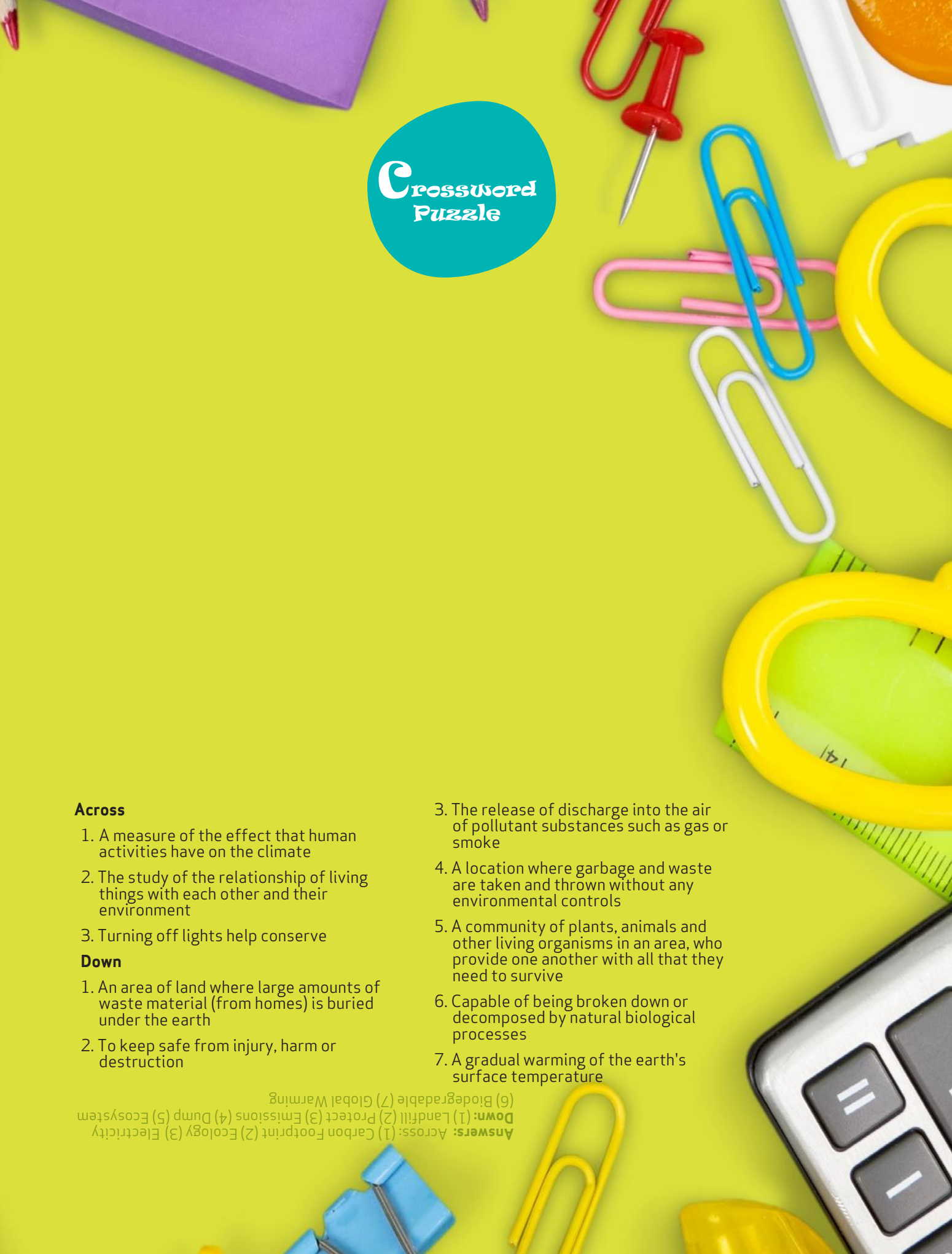
_____ _____

Answers: (1) Organic (2) Recyclable (3) Carbon Neutral (4) Greenhouse (5) Biodegradable (6) Energy Efficient (7) Ethical (8) Compost

Word Search

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

RECYCLE
CLEAN
OZONE
WASTE
RENEWABLE
NATURAL
SUSTAINABLE
CONSCIOUS
HEALTHY
COMMUNITY
DEFORESTATION
GREEN
ECOLOGICAL
ENVIRONMENT
FARM
THRIFT
GLOBE
FAIR TRADE



Crossword Puzzle

Across

1. A measure of the effect that human activities have on the climate
2. The study of the relationship of living things with each other and their environment
3. Turning off lights help conserve

Down

1. An area of land where large amounts of waste material (from homes) is buried under the earth
2. To keep safe from injury, harm or destruction
3. The release of discharge into the air of pollutant substances such as gas or smoke
4. A location where garbage and waste are taken and thrown without any environmental controls
5. A community of plants, animals and other living organisms in an area, who provide one another with all that they need to survive
6. Capable of being broken down or decomposed by natural biological processes
7. A gradual warming of the earth's surface temperature

Answers: Across: (1) Carbon Footprint (2) Ecology (3) Electricity
Down: (1) Landfill (2) Protect (3) Emissions (4) Dump (5) Ecosystem (6) Biodegradable (7) Global Warming

WORD OF THE DAY:

ECOSYSTEM

An ecosystem is a community or group of living organisms that live in and interact with each other in a specific environment. The four ecosystem types are classifications known as artificial, terrestrial, lentic and lotic. Ecosystems are parts of biomes, which are climatic systems of life and organisms. In the biome's ecosystems, there are living and nonliving environmental factors known as biotic and abiotic.

ROLE OF AN ECOSYSTEM:

Each living thing in an ecosystem has a role to play—as a producer, a consumer, or a decomposer. Green plants are producers. They make their own food through a process called photosynthesis. Animals, including humans, are consumers. They eat, or consume, plants or other animals. Bacteria and other living things that cause decay are decomposers. Decomposers break down the waste products and dead tissue of plants and animals. They return nutrients to the soil, where new plants grow. The way that producers, consumers, and decomposers provide nutrients for one another is called a food chain.

SOME EXAMPLES OF ECOSYSTEMS:

- **Tropical Rainforest Ecosystems**
  Located in tropical regions, rainforests possess a greater diversity of plant and animal life than most ecosystems.
- **Grassland Ecosystems**
  Grasslands, located in semi-arid zones, contain wide, treeless expanses often inhabited by grazing animals.
- **Tundra Ecosystems**
  Tundra ecosystems, located in polar regions or on the tops of high mountains, are frozen and snow-covered most of the year.
- **Coral Reefs**
  Coral reefs are often referred to as the “rainforests of the ocean” because these ecosystems teem with life – an estimated one-quarter of marine species rely on them for food or shelter.
- **River and Stream Ecosystems**
  Consisting of flowing freshwater, river and stream ecosystems support a variety of underwater life.

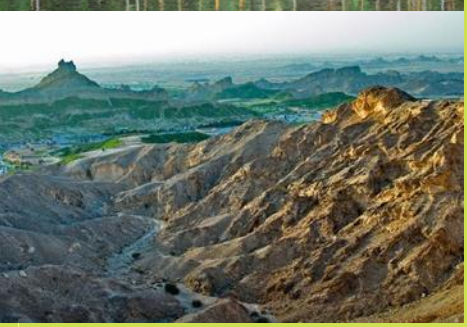
What can you do to help?

FACTS ABOUT WETLANDS

- Wetlands are the most biologically diverse of all ecosystems – they are the link between land and water, are often covered by either fresh or salty water, and can be filled with moss, shrubs, grasses or trees.
- Llanos de Moxos in Bolivia is the world's largest protected wetland.
- Wetlands are natural water filters – they replenish the groundwater acquifers by filtering, cleaning, and storing water and providing a home to thousands of animal and plant species including wildlife.
- Wetlands can store up to fifty times more carbon compared to rainforests.
- Wetlands can help prevent flooding!
- More than 19,500 animal and plant species depend on wetlands for survival globally.

Things to Do...

- ☑ Use paper on both sides!
- ☑ Take shorter showers!
- ☑ Don't waste your food!
- ☑ Pick up trash from your surroundings!
- ☑ Switch off all lights when not in use!



SOME PROTECTED AREAS IN UAE

Protected areas or conservation areas are locations which receive protection because of their recognized natural, ecological or cultural values.

- Dubai Desert Conservation Reserve: DDCR aims to conserve Dubai's inland desert original landscapes and indigenous fauna and flora. Through careful and effective management, their efforts are leading to rewilding of the desert habitat.
- Marawah Marine Biosphere Reserve: In 2019, archaeologists discovered what is believed to be the world's oldest natural pearl on the island. It follows a string of discoveries on Marawah over the past few years that also revealed evidence of a sophisticated Stone Age village that once thrived on the island.
- Jabal Hafit National Park: Jabal Hafit is the UAE's second highest peak, standing tall at 1,240 metres. It is home to some of the world's most threatened wildlife and the UAE's rarest plants. It is also where more than 500 ancient burial tombs dating back 5,000 years have been discovered in its foothills, marking the start of the Bronze Age in the UAE.
- Al Wathba Wetland Reserve: The first protected area ever established in Abu Dhabi and the first IUCN Green list protected area in the GCC, the Al Wathba Wetland Reserve's greatest and most spectacular attraction is the flamingo population.

COLOUR ME!

Exploring The Long-Standing Sociocultural Connection Between Falcons And Humans

Falcons are important birds, both biologically and culturally in the MENA region and beyond. In a new review article drawing upon more than 150 scientific papers, researchers from the Center for Genomics and Systems Biology at NYU Abu Dhabi have examined the diversity, evolutionary history and genomics of falcons in the context of their conservation and interactions with humans. The researchers offer

perspective on the remarkable potential of utilizing new genomic approaches to expand our understanding of these areas.

Over thousands of years, humans and falcons have developed unique relationships through falconry, religious rituals, conservation efforts and other interactions. Yet, from an evolutionary perspective, falcons remain an enigma. To date, researchers have likely only captured a very small fraction of genetic variation within falcon species. Most of the genes, or alleles that could be responsible for observable variation in falcons remain unknown.

In the article, published in the journal, Ecology and Evolution, authors NYUAD Postdoctoral Associate at the Evolutionary Genomics Lab Justin Wilcox, NYUAD Program Head of Biology Stéphane Boissinot, and NYUAD Assistant Professor of Biology Youssef Idaghdour write that falcons have experienced several recent adaptive radiations, or development of new subspecies, around the world. This newly developed diversity, which has resulted in many "genomic peculiarities", means there is incredible potential for genome-wide approaches to studying falcons. The high levels of diversity in falcons also makes them exceptional candidates for studying how and why new species arise at the genomics level. Collectively, this research has great potential to inform conservation efforts in other species and provide insights into the process of domestication and adaptation to humans in wild animals.

The Center for Genomics and Systems Biology at NYUAD is continuing to sequence several falcon species and subspecies, utilizing the latest technologies.

COVID-19 Fuels Malnutrition For Billions In Asia And The Pacific: Report

The economic impact of COVID-19 on the world's most populous region is threatening to further undermine efforts to improve diets and nutrition of nearly two billion people in Asia and the Pacific who were already unable to afford healthy diets prior to the pandemic, says a new report published in January 2021 by four specialized agencies of the United Nations.

More than 350 million people in Asia and the Pacific were undernourished in 2019, or roughly half of the global total

The report found that 1.9 billion people were unable to afford a healthy diet, even before the COVID-19 outbreak and the damage it has since caused to economies and individual livelihoods.

Due to higher prices for fruits, vegetables and dairy products, it has become nearly impossible for poor people in Asia and the Pacific to achieve healthy diets, the affordability of which is critical to ensure food security and nutrition for all – and for mothers and children in particular.

Food prices and available incomes govern household decisions on food and dietary intake. But the outbreak of COVID-19 and a lack of decent work opportunities in many parts of the region, alongside significant uncertainty of food systems and markets, has led to a worsening of inequality, as poorer families with dwindling incomes further alter their diets to choose

A sustainable and nutrition-sensitive food system is essential to produce diverse and nutritious foods for healthy diets

cheaper, less nutritious foods. The report, ' Asia and the Pacific Regional Overview of Food Security and Nutrition 2020: Maternal and Child Diets at the Heart of Improving Nutrition', is jointly published by the Food and Agriculture Organization, the United Nations Children's Fund, the World Food Programme and the World Health Organization.

Making nutritious foods affordable and accessible

More than 350 million people in the Asia and the Pacific were undernourished in 2019, or roughly half of the global total. Across the region, an estimated 74.5 million children under 5 years of age were stunted (too short for their age) and 31.5 million suffered from wasting (too thin for height). The majority of these children live in Southern Asia with nearly 56 million stunted and more than 25 million wasted. At the same time, overweight and obesity has increased rapidly, especially in South-Eastern Asia and the Pacific, with an estimated 14.5 million children under 5, being overweight or obese.

Poor diets and inadequate nutritional intake are an ongoing problem. The cost of a healthy diet is significantly higher than that of a diet that provides sufficient calories but lacks in nutritional value, showing significant gaps in the food system to deliver nutritious options to all at an affordable price. These costs are even greater for women and children, given their added nutritional needs.

The report calls for a transformation of food systems in Asia and the Pacific to increase the affordability of, and families' access to, nutritious, safe, and sustainable diets. To ensure that happens, the report recommends integrated approaches and policies are needed. These steps

are vital to overcome unaffordability issues, and to ensure healthy maternal and child diets.

Improving maternal and child diets requires strengthening vital systems

Nutrition is vitally important throughout a person's life. The impact of a poor diet is most severe in the first 1000 days, from pregnancy to when a child reaches the age of 2. Young children, especially when they start eating their "first foods" at 6 months, have high nutritional requirements to grow well and every bite counts.

Mainstreaming nutrition-focused behaviour change campaigns throughout these systems should lead to greater knowledge uptake and sustainability of behaviours helping people to achieve healthy diets. Education on what constitutes a healthy diet and how to create hygienic environments at home, in schools and in the community, together with investment in girl's education and infrastructure that underlines good water, sanitation and hygiene practices, are critical, stated the report.

Therefore, providing a nutritious, safe, affordable and sustainable diet for all requires coordinating with partners in the Food, Water and Sanitation, Health, Social Protection and Education systems, to collectively create an enabling environment.

Greater attention is also needed to operationalize national policies and plans to improve the delivery of health services for maternal and child diets and good nutrition outcomes. Services to improve the diets of mothers and young children should be prioritized as part of the essential package of health services needed to address undernutrition, overweight and obesity and to achieve universal health coverage.

The cost of a healthy diet is significantly higher than that of a diet that provides sufficient calories but lacks in nutritional value

Bringing everyone to the table

Food systems play a critical role in achieving food and nutrition security for all. A sustainable and nutrition-sensitive food system is essential to produce diverse and nutritious foods for healthy diets. Improved efficiency and productivity of value chains can reduce the costs of essential foods to make them more affordable. A sustainable and nutrition-sensitive food system is essential to produce diverse and nutritious foods for healthy diets

These actions are needed now more than ever because the face of malnutrition is changing in Asia and the Pacific, with highly processed and inexpensive foods readily available throughout the region. These foods are often packed with sugar and unhealthy fats and lack the vitamins and minerals required for growth and development. Consumption of these foods increases the risk of obesity, diabetes and cardiovascular disease.

Governments need to invest in nutrition and food safety in fresh and street food markets to promote healthy diets. Regulation of sales and marketing of food for consumers, especially children, is important to curb overweight, obesity and related diseases and illness.

The report also calls for action within the private sector, as it has an important role to play in supporting the transformation of the food system and its value chains for achieving healthy diets for the population.

Leveraging these systems, in a coordinated fashion that expands the opportunities to address barriers to accessing and consuming healthy diets, will help countries and the people of Asia and the Pacific recover faster from the economic impact of COVID-19, and be better prepared for future crises.

IDIA And WHO Join Forces To Support The Scale-Up Of Health Innovations

The World Health Organization (WHO) and the International Development Innovation Alliance (IDIA) have signed a strategic Collaborative Agreement to support the scaling of health innovations.

The collaboration, signed in January 2021, will see the two entities work together in support of a shared agenda to promote and facilitate the

The impactful innovations will help build a better, healthier future for people all over the world

demand, supply, assessment, and scale-up of health innovation for the benefit of low- and middle-income countries.

"This collaboration is another great example of how agencies are coming together in different ways to connect the ever-increasing supply of health innovations to the growing demand for those solutions in WHO member states", said Dr Soumya Swaminathan, WHO Chief Scientist.

He added: "The World Health Organization can support Member States' priorities by helping to link impactful innovations to where they are most needed in countries. Given IDIA's unique experience and status as a key collaboration platform for innovation funders around the world, joining forces will accelerate and deepen our collective impact in tackling the greatest challenges in global health."

The collaboration will facilitate the demand, supply, assessment, and scale-up of health innovation in low- and middle-income countries

Collaboration between IDIA members and WHO will cover the following five areas:

Innovation Demand: Jointly collaborate in support of WHO Member States to enhance the identification and articulation of demand for innovation responding to national health needs and priorities and global targets.

Innovation Supply: IDIA member agencies will contribute relevant innovations from their collective pipelines to meet the demand and innovation in health priorities articulated by WHO Member States.

Innovation Assessment: WHO and IDIA will share expertise and tools to support the efficient assessment and clustering of scale-ready innovations surfaced through the supply pipeline.

Innovation Scale-Up: Work together to identify specific opportunities to support the demand-led scale-up of health innovations for the benefit of WHO Member States in collaboration with non-state actors and members of the international development community, as appropriate.

Innovation & Scaling Skills Development: Join forces to support the continuous development of innovation and scaling knowledge and skills among WHO staff (HQ, regional and local), Member States and development partners as may be appropriate.

Plastic Litter Threatens Biodiversity

A recent study has shown that plastic litter on remote islands in the Indian and Pacific Oceans has killed hermit crabs which have been using plastic containers for shelter instead of shells. It is not just a few crabs that have died. Scientists estimate that 508,000 hermit crabs have died on Cocos Island, while another 61,000 perished on Henderson Island in the south Pacific. Cocos Island itself was found to be covered with plastic; around 414 million pieces of plastic.

The study, led by the Institute for Marine and Antarctic Studies of Tasmania University, was published in the *Journal of Hazardous Materials*. The report was also aired on *CNN* and published in *The Washington Post*.

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

Interestingly, hermit crabs must find other animals shells to protect themselves from enemies because they do not have a shell of their own. When they grow bigger, they discard their old shells for a bigger one. But, when they take shelter in plastic shells, they find themselves trapped inside and unable to escape until they die. When a hermit crab dies, it emits an odour signalling that a shell is available. This attracts more crabs towards the plastic litter, causing more deaths.

If this phenomenon is widespread worldwide, then marine ecosystems around the world will suffer because hermit crabs play an important role in the ecological balance of tropical environments. They aerate and fertilize the soil, disperse seeds and remove organic waste. Hence, they make up an important component of the marine ecosystem, especially for fishing, recreation, and tourism, leading to an economic impact.

Plastic waste is an enemy of the environment as more than 9 million tons of waste reach oceans and seas every year. It not only kills marine organisms directly but also breaks down into micro-plastic particles which are now finding its way into fish, meat, and drinking water.

Let us all therefore pledge to cut down the use of plastic for the sake of our own health and the environment.

THE FUTURE OF OUR WORLD IS IN OUR HANDS.

ACT NOW!

مؤسسة زايد الدولية للبيئة

Zayed International Foundation for the Environment