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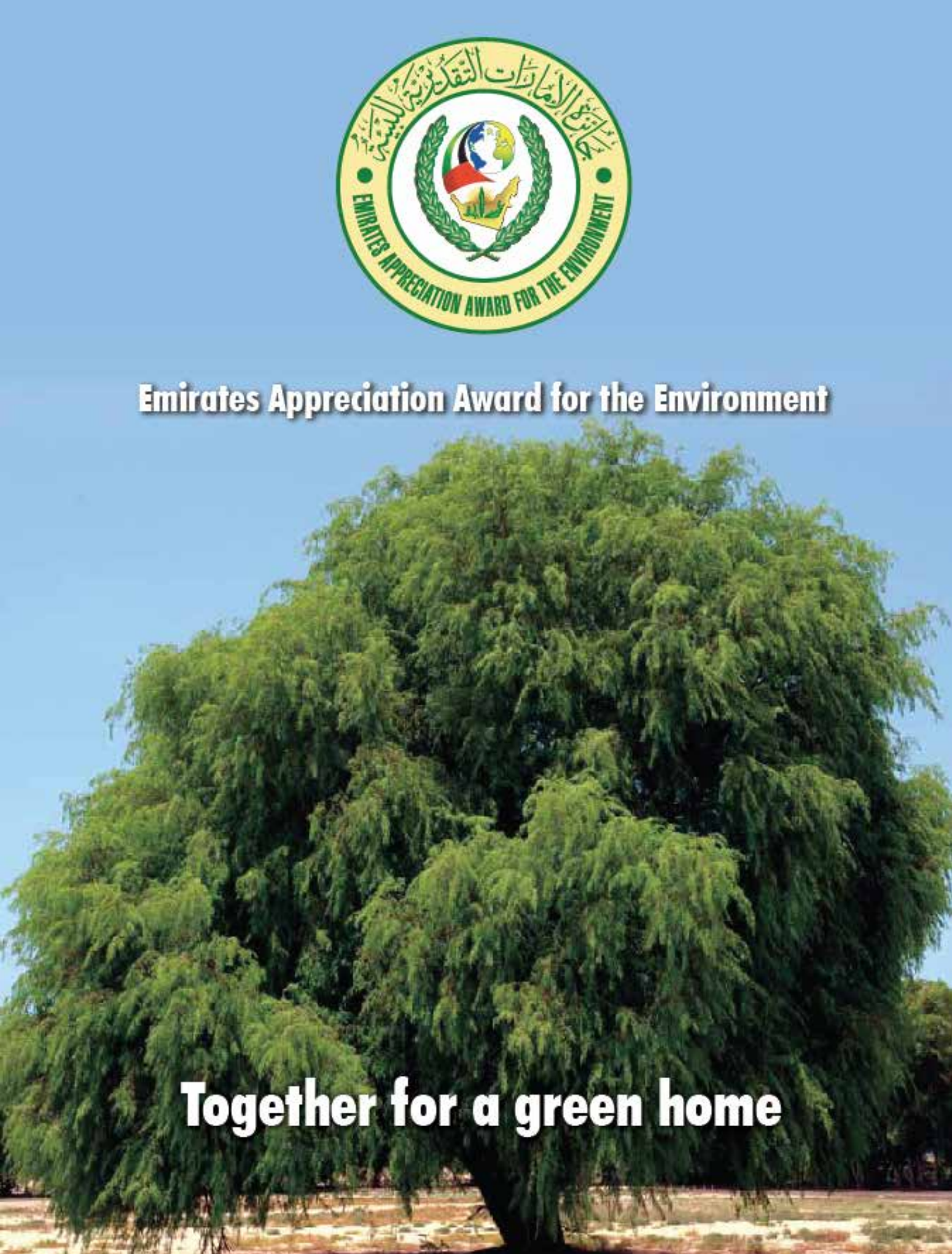
Issue 168 creating green communities for a better tomorrow

HH Sheikh Mohammed bin Rashid unveils a three-decade energy plan for the UAE

20th UAE Environment Day held under the theme 'Sustainable Production and Consumption'


جائزة الإمارات التقديرية للبيئة
EMIRATES APPRECIATION AWARD FOR THE ENVIRONMENT
Emirates Appreciation Award for the Environment
Together for a green home

Chairman's Message

Prof. Mohammed bin Fahad
Executive Editor

By announcing the first unified energy strategy for the UAE which aims to balance economic needs and environmental goals, HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai has set forth ambitious plans that boost clean energy while slashing dependence on natural gas to generate power.

The UAE Energy Plan 2050 not only reflects the strategic vision and strong commitment of the government and the nation's leadership to the renewable energy sector but also represents a future roadmap of the way forward for both developing and developed countries. This new strategy aims to spur the integration of clean energy into the total energy mix to 50%, which will generate savings of AED700 billion by 2050.

Targeting an energy mix that combines renewable, nuclear and clean energy sources, the new strategy takes into consideration the international environmental commitments of the nation while also ensuring a conducive economic environment for growth across sectors. The UAE has long been looked upon as a leader in energy diversification and its robust energy policy will transform its energy equation for the next three decades proving beyond doubt the efficacy of clean energy in urban and economic development.

As we move forward to a future where hydrocarbon pricing becomes even more volatile as the raw material starts to run out, the UAE's bold and ambitious move to become increasingly self-sufficient in energy will hold it in good stead.

What is heartening is that the UAE has shown commendable leadership in developing project structures that deliver renewable energy at scale and with the lowest costs per kilowatt hour in the world. By setting a positive example for the world to follow, the UAE will continue to remain at the forefront of innovation within the energy industry.

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es for a better tomorrow

From the **Managing Editor**

Dr. Meshgan Al Awar
Secretary General
Zayed International Prize for the Environment

The UAE marked its 20th National Environment Day this month under the theme "Sustainable Production and Consumption" to contribute to the global efforts to achieve sustainable development and efficiently manage our shared natural resources.

As one of the most important issues raised during the 1992 Rio Earth Summit, 'Sustainable Production and Consumption' today constitutes one of the 17 Sustainable Development Goals of the 2030 Agenda for Sustainable Development adopted by the UN General Assembly in September 2015.

Celebrating two decades of National Environment Day this year, the UAE was the first in the region to launch a national initiative for long-term building of a Green Economy. The country is also a leader in deploying clean energy, with pioneering projects and policies in renewable and nuclear energy, strict green building codes, energy and water efficiency and carbon sequestration, all in alignment with UAE Vision 2021. The recent launch of the UAE Food Bank is also a major step in rationalizing food consumption and reducing waste, among other notable objectives.

The UAE also became the first country in the Middle East to formally ratify the Paris Climate Agreement, and for all its laudable achievements in the environmental arena, the continuing attention and patronage provided by the UAE leadership for environmental action has to be commended. The ambitious clean energy visions of our leaders have propelled the UAE to the forefront of climate change action globally.

The Zayed International Foundation for the Environment has been drawing international attention to the need for sustainable production and consumption through global platforms such as the Global South South Development Expo it hosted last year and the Dubai International Forum on Sustainable Lifestyles that focused on the need for transitioning to more sustainable lifestyles.

As we celebrate the 20th anniversary of the National Environment Day, I look forward to putting sustainability at the heart of our lifestyles to help lay the foundations of a more sustainable tomorrow.

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Cover Story

HH Sheikh Mohammed announces UAE Energy Strategy 2050

The energy equation targeted by the 2050 strategy is as follows: 44 percent clean energy, 38 percent gas, 12 percent clean coal and 6 percent nuclear.

"Ensuring the sustainability of energy resources means ensuring the sustainability of the country's growth."
- HH Sheikh Mohammed bin Rashid Al Maktoum

The UAE has unveiled a three-decade energy plan that aims to save Dh700 billion and invest Dh600 billion in clean energy initiatives until 2050 to achieve its economic needs and reach its environmental goals.

The new UAE Energy Strategy, was announced by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai in the presence of H.H. Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, Crown Prince of Dubai, aims to increase the contribution of clean energy in the total energy mix to 50 percent, thus saving AED700 billion by 2050. It also seeks to increase consumption efficiency of individuals and corporates by 40 percent.

HH Sheikh Mohammed bin Rashid said the UAE Energy Plan for 2050 is targeting an energy mix that combines renewable, nuclear and clean energy sources to meet the UAE's economic requirements and environmental goals.

He also said that the UAE aims to invest AED600 billion

Under the new plan, 44% of the UAE's energy output will be from clean energy sources while 6% will be nuclear.

by 2050 to meet the growing energy demand and ensure sustainable growth of the country's economy.

"Our new energy plan balances between supply and demand, and takes into consideration our international commitments in term of environment. It also ensures a comfortable economic environment for growth across the sectors," he said during the launch of the UAE Energy Strategy for 2050.

The plan is a joint effort of all energy-related authorities and executive councils in the UAE, and comes under the supervision of the federal government, represented by the Ministry of Energy and the Ministry of Cabinet Affairs and The Future.

"The new strategy takes into consideration an expected annual growth of 6 percent, and will work on increasing the contribution of clean energy in the energy mix from 25 percent to 50 percent by 2050 while slashing carbon footprint during power generation by 70 percent over the next three decades. Ensuring the sustainability of energy resources is a guarantee of sustainability of growth in our country.

"The government has made an achievement by drafting the first unified energy strategy in the country based on supply and demand. He who does not think of energy is not thinking about the future," he said.

"The Gulf countries are similar in their economic structure, and we hope that we will one day have a unified GCC energy strategy in order to ensure sustainable growth for our people and global influence for our economies,"

Sheikh Mohammed added at the event.

The strategy launch was also attended by H.H. Sheikh Ahmed bin Saeed Al Maktoum, President of Dubai Civil Aviation Authority, CEO and Chairman of the Emirates Group, Minister of Cabinet Affairs and The Future Mohammad bin Abdullah Al Gergawi, Minister of Energy Suhail bin Mohammed Faraj Al Mazrouei, and Dr. Sultan bin Ahmad Sultan Al Jaber, Minister of State and CEO of the ADNOC Group, along with a number ministers and senior officials.

The energy equation targeted by the 2050 strategy is as follows: 44 percent clean energy, 38 percent gas, 12 percent clean coal and 6 percent nuclear. The strategy also aims to change the energy consumption culture through slashing residential energy consumption by 40 percent.

The new energy strategy will be implemented in three phases. The first phase aims to accelerate efficient consumption of energy as well as diversifying and securing it. The second phase will find new solutions that integrate with energy and transportation solutions. The third phase will focus on research and development in addition to innovation and creativity to supply sustainable energy.

The UAE's Emirates Nuclear Energy Corporation (Enec) is currently building four Korean-designed nuclear units at Barakah, the first of which is expected to start up later this year. When complete, the power station is expected to deliver up to a quarter of the UAE's electricity.

Speaking at the Atlantic Council Global Energy Forum in Abu Dhabi yesterday, Enec CEO Mohammed Al Hammadi said the project, now 75% complete, was one of the biggest new nuclear build construction sites in the world.

"The development of peaceful nuclear energy in the UAE has already created solid value across many strategic sectors in the UAE and internationally," he said.

7th IRENA Assembly showcases global push for renewable energy deployment

Government officials from more than 150 countries including 75 ministers, and leaders from international organisations, the private sector and civil society gathered in Abu Dhabi for the Seventh Assembly of the International Renewable Energy Agency (IRENA). The Assembly brought together energy leaders to set the global renewable energy agenda and take concrete action to accelerate the ongoing global energy transition.

"2016 was a remarkable year for renewable energy. The falling costs of solar and wind power in markets around the world highlight the increasing cost-competitiveness of renewable energy which has become the preferred option for new power generation capacity in many countries around the world," said IRENA Director-General Adnan Z. Amin.

"In addition, innovations in technology and new business models are bringing renewable solutions to people who previously had no access to energy. These developments, coupled with the entry into force of the Paris Agreement and the implementation of the 2030 Agenda for Sustainable Development, underscore growing momentum for renewable energy and give fresh impetus to the case for transitioning to a sustainable energy future. Efforts now need to turn to scaling-up renewables in end-use sectors such as transportation, industry, and heating and cooling."

Held from 14th to 15th January, the Seventh Assembly focused on the critical role of renewable energy in powering economic growth, combatting climate change, expanding energy access and meeting global sustainable development goals.

"Our annual Assembly provides a critical opportunity for high-level engagement with our Members and partners to examine how international cooperation can speed the transition to a sustainable energy future through concrete action and initiatives," said Director-General Adnan Z. Amin.

Cover Story

UAE celebrates 20th National Environment Day

Dr. Thani Ahmed Al Zeyoudi, Minister of Climate Change and Environment, has pointed out that 'making sustainability a way of life can add to enhancing the quality of life on our planet'.

On the occasion of 20th National Environment Day, which is observed annually on February 4, Dr. Thani Ahmed Al Zeyoudi, Minister of Climate Change and Environment, thanked the UAE leadership for taking special interest in the country's efforts to preserve the environment.

In a statement issued to mark the occasion, Dr. Al Zeyoudi said, "The UAE has implemented a wide variety of policies and measures to promote sustainability of production and consumption to maximise our contribution to the global efforts to achieve sustainable development."

Following is the full text of the statement: On the occasion of the 20th National Environment Day that is being held this year under the theme 'Sustainable Production and Consumption', I express my profound gratitude to the UAE President His Highness Sheikh Khalifa bin Zayed Al Nahyan for his patronage of the National Environment Day, and his continued support for environmental protection and sustainable development in the United Arab Emirates.

I also thank Vice President and Prime Minister and Ruler of Dubai, His Highness Sheikh Mohammed bin Rashid Al Maktoum, His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, and Members of the Federal Supreme Council, Their Highnesses the Rulers of the Emirates for their special interest in the country's efforts to preserve the environment.

The production and consumption patterns have been gaining massive importance on the

On the occasion of 20th National Environment, Al Zeyoudi calls for rational consumption and also stresses on sustainable production.

national and global levels. Irrational production and consumption of resources over the past decades are among the main reasons behind environmental degradation in today's world. These factors have caused or contributed to the escalation of several environmental problems, most notably climate change.

The success of the drive for sustainable development depends to a large extent on transforming the current production and consumption patterns to sustainable ones.

This topic garnered international attention with the emergence of the first negative effects on public health, resources and ecosystems. Since then, international climate conferences have repeatedly stressed the need for sustainable production and consumption.

As early as 1992, the United Nations Conference on Environment and Development in Rio de Janeiro, Brazil, held production patterns under systematic scrutiny. Following up on its efforts were the World Summit on Sustainable Development in Johannesburg, South Africa, in 2002 and the United Nations Conference on Sustainable Development (Rio+20) in Rio de Janeiro, Brazil, in 2012. Responsible consumption and production is Goal 12 of the 17 UN Sustainable Development Goals, adopted in September 2015.

Population growth and a surge in income levels due to the economic boom the UAE witnessed in the past four decades have given rise to non-sustainable production and consumption patterns. These are among the main challenges we face in our efforts to conserve

our resources and ecosystems today. Their negative impact is apparent in many areas, such as high ecological footprint per capita, high water, energy and food consumption rate, as well as high waste production and carbon emissions rate.

In the recent past, the UAE has implemented a wide variety of policies and measures to promote sustainability of production and consumption to maximize our contribution to the global efforts to achieve sustainable development.

The most prominent among them is the UAE Energy Strategy for 2050 that aims to diversify the country's energy sources. Its objectives involve bringing the share of clean energy in the national energy mix up to half by 2050, increasing energy efficiency at institutional and individual levels by 40 percent, and reducing greenhouse gas emissions related to energy production by 70 percent.

Other policies include the UAE Green Growth Strategy that focuses on transforming our national economy into a low-carbon green economy. This includes adopting a sustainable approach to architecture and transport, enhancing the efficiency of resource consumption, especially energy and water, as well as implementing carbon capture and storage (CCS) technologies. Applying climate-smart agricultural practices, preserving biodiversity, and raising awareness on the economic, social and environmental risks of non-sustainable production and consumption are also integral parts of the strategy.

The National Innovation Strategy and the UAE Strategy for the Future will significantly enhance our ability to adopt sustainable production and consumption patterns.

Although it is too soon for us to see the full impact of the policies and measures, there are many signs that testify to their efficiency, especially at the production level. For example, the country's ecological footprint per capita decreased from about

"In the UAE, we believe that sustainable production and consumption is an essential part of national responsibility for institutions and individuals alike."

12 global hectares in 2006 to less than 8 global hectares in 2014, while its carbon footprint went from about nine global hectares to less than six global hectares during the same period. Even though electricity and water consumption has gone up in the past few years, the increase is consistent with the growth of the economy and population.

In addition, the private sector is showing increasing interest in adopting sustainability measures and investing in sustainable projects. Further indications include the expansion of the recycling industry and higher awareness of sustainability issues across the country. As a government, we continue to work relentlessly towards reducing the negative effects of production and consumption through keeping the balance between growth and preservation of resources and providing high-quality healthy and environment-friendly products. However, if excessive consumption of our resources continues, our efforts to achieve sustainable development may hit an obstacle that will be very difficult to surmount.

In the UAE, we believe that sustainable production and consumption is an essential part of national responsibility for institutions and individuals alike. The consumer society is increasingly gaining importance in this regard, as it dictates production trends and influences producer responsibility. Ultimately, consumption is an individual choice that depends on a combination of factors, such as desire – often influenced by advertising, purchasing power and awareness.

I hope that the National Environment Day will inspire fundamental changes among members of society, both in attitudes and in behavior. In closing, I want to reassure each and every one of you that responsible and rational consumption does not diminish economic and social well-being in any way. Rather, making sustainability a way of life can add to enhancing the quality of life on our planet.

WFES 2017

WFES '17 registers 60% growth in buyer demand

Hosted by Masdar as part of Abu Dhabi Sustainability Week, the World Future Energy Summit aims to promote the business case for industries involved in sustainable energy, water, and waste management.

The 10th edition of the World Future Energy Summit (WFES) ended on 19th January, 2017 with strong growth in commercial activity surrounding the event and the number of hosted business meetings surging by more than 60 percent.

Hosted by Masdar as part of Abu Dhabi Sustainability Week, WFES aims to promote the business case for industries involved in sustainable energy, water, and waste management. Organizers say the rapid acceleration in the renewable energy market across the MENA and South Asian market has had a clear impact on business at the event.

Mohamed Jameel Al Ramahi, Chief Executive Officer of Masdar, Abu Dhabi's renewable energy company, said: "The success of WFES over the last decade has been built on partnership – on bringing together governments and businesses, and sharing the goal to make renewable energy successful, dependable and commercially viable. The past three days have clearly shown the benefits of collaboration, and of what can be achieved through well-coordinated and decisive action. We are delighted to have hosted an event that has encouraged such lively debate, based on shared knowledge from around the region and international markets.

"The event has also helped both new relationships to be forged, and existing relationships at home and abroad to be cultivated. Most importantly, the World Future Energy Summit has once again inspired real decision-making. We can be proud that the 10th edition of this global event has been a successful platform for

Eco-Villa will use around 72 percent less energy and 35 percent less water than a typical villa of similar size, and will bring down carbon dioxide emissions by an estimated 63 tons annually.

new agreements, partnerships and initiatives that will take the renewable energy and clean technologies sector forward."

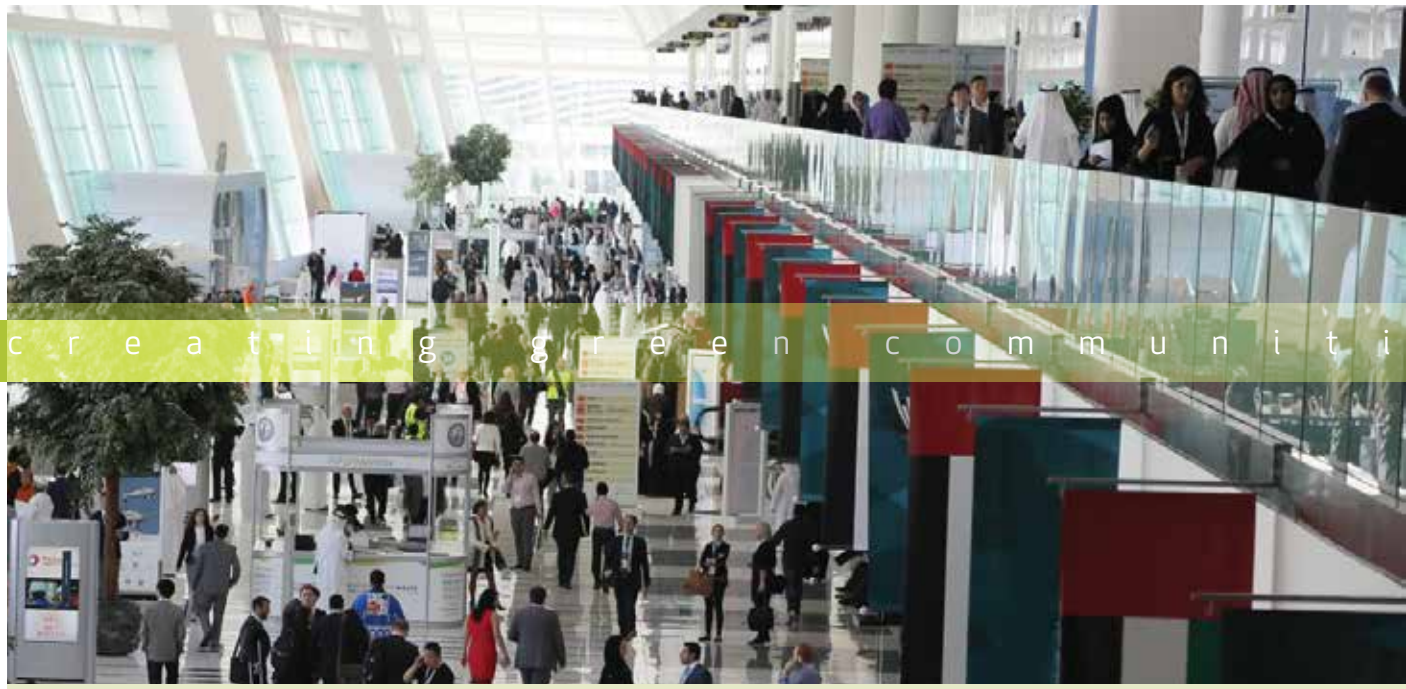
While final attendance is yet to be confirmed, early calculations show that the figures will be consistent with pre-show estimates of around 880 exhibiting companies from about 40 countries, and 38,000 attendees from 175 countries. Attendance included around 1675 CEOs from 128 countries.

In 2016, WFES hosted 850 exhibiting companies and 35,000 attendees. While the value of most deals signed during the event is confidential, growth in attendance is outpaced by the indicators of business activity. Calculated at the start of the event's final day, WFES 2017 hosted almost 8,600 business meetings as part of its Business Connect matchmaking program. This compares with around 5,300 in 2016 – a rise of almost 62 per cent year-on-year.

WFES organizers overhauled their approach to matchmaking this year, offering a dedicated hosted buyer program, a powerful digital matchmaking tool for buyers and sellers that recommended meetings and products, onsite buyer concierge, and product and exhibitor matching booth.

Those estimates do not include meetings arranged with official government delegations seeking partners for ambitious renewable energy plans.

As predicted, Saudi Arabia's plans to add almost 10 gigawatts of renewables to its energy mix offered the most immediate business opportunity. WFES organizers arranged tailored



meetings between the official Saudi delegation and around 100 developers, investors and technology suppliers. Leading the delegation, the Saudi Energy Minister, H.E. Khalid A. Al-Falih, confirmed that the first round of tenders for about USD 50 billion worth of projects would be launched in two weeks.

India's plans to add 175 gigawatts of renewables by 2022 also attracted considerable interest, with a national delegation meeting potential partners in a dedicated India Investment roundtable meeting. India's Energy Minister, Mr. Piyush Goyal, held private meetings with organizations including Masdar and DEWA, along with major players in the Indian renewable energy market such as AVAADA Energy and Mytrah Energy Limited.

Major announcements at WFES included a joint DEWA and Masdar announcement of plans to start building the third stage of the Mohammed bin Rashid Al Maktoum Solar Park, which at 800 megawatts will be the world's largest PV plant on completion; a USD 50-million UAE fund for renewable energy projects in the Caribbean; a cooperation agreement between Masdar, Qatar Electricity and Water Corporation, and Nebras Power to develop renewable and sustainable energy projects; Masdar's purchase of a 25 per cent stake in the pilot Hywind Scotland floating offshore wind farm in the North Sea; and an agreement between Masdar and Bee'ah to develop a 300,000-tonne waste-to-energy plant in Sharjah.

Masdar will also provide consultancy services for the building of a 5 megawatt grid-connected solar power plant in Seychelles.

Reflecting the maturity of the sustainable energy market, renewable sources of electricity were joined by the latest advances in storage – seen as the key to confirming the effectiveness of renewables as a consistent and reliable energy source – and innovations in fields such as carbon capture, as part of the WFES exhibition.

UAE to host major conference to tackle MENA food challenge

Abu Dhabi is set to play a leading role in coordinating efforts to meet the pressures of feeding 520 million people by 2030, one of the biggest challenges facing the Middle East today.

MENA Food Production 2030 will take place at the Abu Dhabi National Exhibition Centre on 20th and 21st March during the Global Forum for Innovations in Agriculture, GFIA. It will drive critical dialogue between government, food producers, scientists and investors to establish secure, sustainable and profitable food production systems.

"Hosting of such events, underlines the commitment of the UAE to debate a dialogue on food security and climate resilience," said Thamer Al Qasemi, Director of the Communication and Community Service Division at the Abu Dhabi Food Control Authority, ADFCA.

"Increasing levels of food production without exacerbating climate change and environmental damage requires a radical shake-up of the region's entire food system. We live in a water-constrained region and must use these forums to enhance our contribution to the development and implementation of smart solutions for sustainable food production."

In the Middle East and North Africa region, the challenge of feeding a growing population is particularly complex. The highest rate of population growth worldwide and a rapidly growing urban population adopting Western diets places enormous pressures on the environment and finite resources such as fresh water and fertile land.

During the conference, speakers from around the world will be tackling five key challenges: climate-resilient crops, growing the aquaculture industry, future-proofing animal health, smallholder farmer development, and sustainable animal production. GFIA will also feature an exhibition hosting some 300 companies, and an Innovations Programme, showcasing next-generation solutions in farming.

Conference

Dubai gears up for the future through Climate Change Adaptation Plan

The announcement was made at the C40 Dubai Adaptation Conference, organized by the General Secretariat of the Executive Council of Dubai, in partnership with the C40 Cities Climate Leadership Group.

On 23rd January, 2017, the Government of Dubai announced its intention to develop the Dubai Climate Change Adaptation Plan. The announcement was declared at Day 1 of the C40 Dubai Adaptation Conference, organized by the General Secretariat of the Executive Council of Dubai, in partnership with the C40 Cities Climate Leadership Group from 23rd to 25th January 2017 and in the presence of representatives of several world cities.

The first day of the conference was attended by representatives of the C40 cities, as well as a number of director generals and representatives of Government of Dubai bodies who will be responsible for developing and implementing the Dubai Climate Change Adaptation Plan.

The plan will involve studying the impacts of climate change in Dubai, in response to the Dubai Plan 2021 aspirations for Dubai to be a sustainable city, resistant to climate change, and help the city to adapt to the new conditions climate change is bringing about.

Led by Dubai Municipality and other parties, Dubai's plan for climate adaptation is to be developed during this year. It will determine the extent of climate change in the Gulf, and in Dubai in particular. These issues include: the temperature increase in different urban and desert regions, sea level rise, and the effect of rainfall decrease on the frequency and intensity of sand storms. Other elements of climate change are to be determined during the course of the study.

In response to the study's findings, the plan will announce initiatives designed to monitor

Led by Dubai Municipality and other parties, Dubai's plan for climate adaptation is to be developed during this year

desertification, increased salinity of the Arabian Gulf water, air quality, along with other initiatives related urban planning, environmental health, infrastructure, water and electricity supply, tourism and the economy.

Abdullah Al Shaibani, Secretary General of the Executive Council of Dubai, started his opening statement by welcoming the attendees from various cities of the world to the international conference, hosted by Dubai for the first time to share best practices and experiences of climate change adaptation.

"Since its establishment by the founding fathers, the UAE has always been at the forefront of efforts to support global environmental issues, based on its belief that any change in the elements of the environment will have major effects over a wide geographic range, affecting the global climate and the quality of life offered to the future generations.

"From this perspective, and in line with the directions of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, it has become a high priority to ensure the sustainability and protection of the environment within the UAE National Agenda and Dubai Plan 2021," he said.

Al Shaibani added, "Climate change, mainly owing to human activities, is already affecting the whole world, leading to enormous changes in the environment. In consequence, global and major cities of the world should take decisive steps towards climate change adaptation by thinking

of cities as an integral part of a global system. We all must strive to provide solutions contributing to the climate change adaptation in order to ensure happiness and quality of life for the people.

"For our part, the Government of Dubai will begin this year to develop the Dubai Climate Change Adaptation Plan as a strategic initiative within the Dubai Plan 2021. The new plan comes in line with the objectives of Dubai's membership in C40 and the UAE's signing of the Paris Agreement."

In his opening remarks, Dr. Thani bin Ahmed Al Zeyoudi, Minister of Climate Change and Environment, said: "The effects of climate change on cities are clear and climate change is also impacted by urbanization, as indicated by the United Nations Human Settlements Program. Cities are responsible for about 60% of carbon emissions. At the same time, they are the most vulnerable to the effects of climate change. In spite of the disparity of these effects between cities due to various factors, no city will be free from vulnerability.

In the UAE, cities are the backbone of life and home to the majority of population, economic and social activities and infrastructure. Therefore, our priority is to provide maximum protection and strengthen the ability of cities to adapt to the potential effects of climate change. According to the findings of recent local geographical studies, most of the cities and urban areas located on the coastal strip in the UAE may be vulnerable to the effects of climate change as a result of sea level rise.

"We are well aware of the risks posed on cities by climate change, and in line with the directives of our wise leadership and in the framework of Vision 2021, we have adopted an integrated set of policies and measures based on knowledge, innovation and best practices in past years.

"For example; policy for diversifying sources of income, diversification of energy

"The last time the planet warmed this much,
88% of life disappeared."
- Robert Devoy, Climate Scientist

and water sources, green economy, green architecture, sustainable transport, efficiency enhancement of use, in addition to a set of national policies and strategies aimed at protecting the interest of the country's ecosystems," he added.

Commenting on the Dubai Climate Change Adaptation Plan, Samira Al Rayes, Senior Director of Policies and Strategies for Sustainable Development at the General Secretariat of the Executive Council, said: "The Government of Dubai's work approach is well-defined by the constant directions of HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, for placing the people at the center of government functions, policies and strategies.

"Therefore, the Dubai Climate Change Adaptation Plan announced today reflects the Government of Dubai's commitment to develop and implement the necessary plans to create a sustainable environment that reserves the future generation's rights.

"By joining the global network of C40 Cities Climate Leadership Group, Dubai strengthens its role in achieving comprehensive development and making a real change in terms of adapting to global climate change, as well as benefiting from experiences of other cities in this regard," Al Rayes added. Commenting on the importance of the conference, she said, "The three-day conference focused on three main areas, namely: Identifying climate change impact on the urban environment; the extent to which cities can adapt to the increase in global temperature and how this affects electricity and water consumption; as well as the impact of sea level rise on coastal infrastructure.

"C40 member cities participated in breakout workshops sessions to share best practices and experiences that can be benefited from."

In his address, Eng. Hussain Nasser Lootah, Director General of Dubai Municipality stressed

that his organization was working towards making Dubai one of the most sustainable cities in the world by 2021.

He also outlined the various measures undertaken by the government body to not only reduce emission of gases but also the adoption of green building regulations and plans to raise the per capita green space for the residents of the emirate, amongst several other initiatives.

Mattar Al Tayer, Director General and Chairman of the Board of Executive Directors of Roads and Transport Authority (RTA) said: "Dubai's hosting the Climate Change Adaptation Conference featuring the participation of 47 cities, underscores the profile of Dubai and its leading role in protecting the environment and reducing carbon emissions causing negative implications on the climate.

"Safety & Environmental Sustainability are part of the strategic goals of RTA, and are aligned with the national initiative aimed at fostering a green economy across the UAE.

"They also conform to the UAE Vision 2021 and Power & Carbon Reducing Strategy adopted by the Dubai Government with the aim of rendering Dubai a model in the efficient power consumption, and reduced carbon footprint. From inception, RTA had been adopting a plethora of brilliant initiatives towards mitigating environmental impacts, saving power and supporting the green economy drive in various projects and services.

"RTA has accomplished 45 projects, initiatives related to energy and green economy, and has introduced the highest standards of green buildings aligned with the highest global standards. It is seeking to replace all conventional streetlights with lights LED by 2030, which will reduce the carbon footprint by more than 3000 tons of carbon per annum.

"RTA has also piloted the operation of a bus powered by compressed natural gas (CNG) and another project for measuring the carbon footprint

The UN Refugee Agency, UNHCR, has warned that climate change could cause the displacement of 250m people across the world by 2050.

of vehicles in the emirate of Dubai since 2008. It is also working on beefing up its fleet of hybrid vehicles by as much as 50% in 2021."

According to Saeed Mohammed Al Tayer, Managing Director and Chief Executive Officer of Dubai Electricity and Water Authority, "Dubai's hosting of the C40 Cities Adaptation Conference is especially important as climate change is one of the top priorities of Dubai's wise leadership.

"Dubai Government has a comprehensive vision for the future of sustainability and tackling climate change. DEWA plays an essential role in achieving these goals by reinforcing the renewable energy sector to meet the objectives of the Dubai Clean Energy Strategy 2050, which maps out Dubai's energy sector over the next three decades.

"This strategy aims to provide 75% of Dubai's total power output from clean energy sources by 2050. This contributes to dealing with environmental challenges the world is facing by establishing a sustainable model in energy conservation that supports economic growth without damaging the environment and natural resources, and can be exported to the whole world."

One of DEWA's largest projects is the Mohammed bin Rashid Al Maktoum Solar Park, which is the largest solar park in the world, with a total planned capacity of 5,000 megawatts by 2030. It will contribute to the reduction of approximately 6.5 million tonnes of carbon emissions annually.

"We are working to enhance Dubai's electricity and water networks, and launch initiatives and campaigns to raise awareness on the importance of using natural resources sensibly. DEWA also works to instill a culture of conservation in society and to achieve the Demand Side Management strategy to reduce consumption by 30% by 2030, and the Carbon Abatement Strategy to reduce carbon emissions by 16% by 2021," Mohammed Al Tayer added.

Dubai to observe 8th Car-Free Day on February 5

Dubai will observe the 8th Car-Free Day on February 5 with an estimated participation of a record 1,500 entities from the government and private sectors.

Tens of thousands of employees of the participating entities are expected to participate in Dubai Municipality's biggest environmental awareness campaign.

Senior officials and employees of the participating departments and companies will be walking, cycling or using any of the public transport modes to work.

Keeping the tradition of leading by example, directors of many participating government departments will set aside their luxury cars for the day and ride on the Dubai Metro.

Outlining the activities for the day at a press conference last month, Hussain Nasser Lootah, Director General of Dubai Municipality urged more government and private entities to take part in the initiative.He urged establishments to provide mass transport modes like buses to facilitate individuals to go to work without cars.

"Each vehicle, with a full tank fuel size of 15 gallons, emits nearly 140 kilograms of carbon dioxide into the air, thus the amount of total emissions annually would be about 4 tons and these emissions contribute towards global warming," said Lootah. He said the campaign will contribute to achieve the objectives of the emirate through the UAE National Agenda 2021 in the field of preservation of air quality and reducing carbon footprint.

Lootah said in total some 30,000 vehicles belonging to officials and employees from 1070 government and private organisations were off the road as part of the initiative in 2016.

It was in 2010 that Dubai joined the global Car-Free Day campaign, devoting a day to ditch cars and opt for public transport in an attempt to reduce carbon emission and environmental pollution.

Masdar and Bee'ah to build 300,000 ton waste-to-energy plant in Sharjah

Masdar, Abu Dhabi's renewable energy company, signed an agreement with Sharjah Environment Company (Bee'ah), to develop a cutting-edge waste-to-energy plant in Sharjah.

The agreement was signed on 19th January at Abu Dhabi Sustainability Week 2017, in the presence of Dr. Sultan bin Ahmad Sultan Al Jaber, Minister of State.

Diverting as much as 300,000 tons of solid waste from landfill each year, the project will help Sharjah reach its "zero waste-to-landfill" target by 2020, and the UAE deliver on its 2021 goal of diverting 75 percent of solid waste from landfills.

The facility will incinerate up to 37.5 tons of solid waste per hour to create 30 megawatts (MW) of energy. This will add more power to what is produced by Bee'ah's auxiliary waste-to-energy project, which will eventually produce a total of 90 MW and will be supplied to the Sharjah electricity grid.

Khaled Al Huraimel, Group CEO of Bee'ah, said: "The cutting-edge Waste-to-Energy plant in Sharjah is a concrete example of what this strategic partnership will deliver to the UAE and the communities that we serve."

"The partnership with Bee'ah will both diversify our clean energy portfolio and help commercialize sustainable solutions to Sharjah's and the UAE's waste management challenges," said Mohamed Jameel Al Ramahi, CEO of Masdar.

"With GCC countries having among the highest rates of per-capita waste production in the world, sustainable waste management solutions are both critically important and a clear business opportunity.

"Masdar will combine its proven expertise in renewable energy project development over the last ten years with Bee'ah s track record in environmentally responsible waste management, to deliver a project that will catalyze further investment in waste-to-energy infrastructure in the UAE and beyond," he added.

Initiative

UAE launches first-of-its-kind endowment to support environment

The endowment is a joint initiative by Mohammed Bin Rashid Global Centre for Endowment Consultancy and Emirates Wildlife Society-WWF.

As the UAE officially marks 2017 as 'The Year of Giving', The Mohammed Bin Rashid Global Centre for Endowment Consultancy (MBRGCEC) and the Emirates Wildlife Society in association with WWF (EWS-WWF) - part of the world's leading conservation organization – started off the year with the launch of a first-of-its-kind initiative to support environment through endowment.

This initiative follows the 'Global Vision for Endowment', which was launched by His Highness Sheikh Mohammed bin Rashid Al Maktoum, UAE Vice President and Prime Minister and Ruler of Dubai, to revive the practice of endowment through innovative applications.

It is aligned with the vision declared by the UAE President His Highness Sheikh Khalifa bin Zayed Al Nahyan to promote the culture of giving back to the community and enhance the spirit of loyalty to one's country in 2017.

The environment endowment initiative aims at strengthening public awareness of the importance of environment programmes, and encouraging companies to initiate their corporate social responsibility to support initiatives, studies, and research in the field of environment. Positive participation of the private sector and social figures are expected so as to translate the vision of Sheikh Khalifa which marks 2017 as The Year of Giving in the UAE.

Laila Mostafa Abdullatif, Deputy Director General at EWS-WWF said: "The UAE has a rich natural heritage as well as a history of protecting it. It is our collective duty as residents to help preserve

The innovative endowment supports studies, research, and programmes in the field of environment.

our environment so our children and future generations can enjoy good and healthy lives. We will work in the coming period to attract supporters to be part of our innovative endowment and thus to contribute to the development of society through environmental support.

"We encourage companies willing to participate to reach out directly to us, and help us bring to life the first pillar of The Year of Giving which aims at creating a sense of community responsibility in the private sectors so as to fulfil their role in serving the community and contribute in the developmental march of the country."

Dr. Hamad Al Hammady, Secretary-General of the Mohammed bin Rashid Global Centre for Endowment Consultancy stated: "The innovative endowment, part of the Global Vision for Endowments launched by His Highness Sheikh Mohammed bin Rashid Al Maktoum has opened a wide door to the development of communities. Thus, we are keen to search for social needs that can be supported by endowment. We hope that the environment endowment will attract lots of companies willing to support environment programs and research."

The Secretary General of the Centre said that the website - www.MBRgcec.ae is ready to receive enquiries from all interested individuals and organizations wishing to make a positive difference for our environment. To contact EWS-WWF directly, visit http://uae.panda.org/ or email Dima Najim, Project Manager – Sustainable Funding, on dnajim@ewswwf.ae

Sustainability

Dubai Lamp to be mandatory for new buildings under construction

Dubai Lamp offers many tangible benefits, most notably the savings in electricity use by up to 90%.

Under the directives of Vice President and Prime Minister of the UAE and Ruler of Dubai, His Highness Sheikh Mohammed bin Rashid Al Maktoum, to transform Dubai into one of the smartest and most sustainable cities in the world, Dubai Municipality has signed a contract with Philips Lighting for the design, manufacture and supply of Dubai Lamp, to be made available in the Dubai market by the end of this year.

Dubai Lamp offers many tangible benefits, most notably the savings in electricity use by up to 90%. As well as raising light and energy efficiency to new levels, Dubai Lamp is extremely durable with an average lifespan up to 15 times longer than conventional lamps, based upon typical usage of 1,000 hours per year.

The lamp is characterised as environmentally friendly as it does not contain mercury or generate heat and thus saves cooling costs and does not spread ultraviolet light.

The contract is the culmination of the launch of the world's most energy efficient commercially available LED lamp during WETEX exhibition in October last year. The Dubai Lamp Initiative is the fruit of a unique research partnership between Philips Lighting and Dubai Municipality, resulting in the development of the world's first commercially available 200 lumen per Watt LED lamp, which will be available in widely used shapes and colours.

Hussain Nasser Lootah, Director General of Dubai Municipality, signed the contract on behalf of the municipality, while Philips Lighting was represented by Paolo Cervini, President, Philips

The initiative is a first of its kind in the world and has set a new benchmark in energy efficiency and sustainable development in Dubai.

Lighting, Middle East & Turkey. "We have plans to replace 80% of the traditional lamps used in Dubai with the new Dubai Lamp. Dubai Municipality and Philips Lighting are preparing for the supply of two million Dubai Lamps for residential and professional use across the city in 2017. This could increase to 10 million lamps by 2021," said Lootah.

"To begin with, we will make it mandatory for new buildings under construction to use Dubai Lamp. It will be made the basic requirement for getting the Building Completion Certificate."

He said the Dubai Lamp Initiative aims to raise public awareness of the need for energy saving and for reduction of carbon emissions.

"It is in line with the government directives and Dubai Municipality Vision and also supports the Dubai Integrated Energy Strategy which targets a 30% reduction in energy consumption by 2030 and the Dubai Carbon Abatement Strategy aimed at reducing carbon emissions by 16% by 2021, in addition to promoting clean energy practices to protect the environment and achieve sustainability in all walks of life, and contribute to Dubai Municipality's share of the proceeds to support the Green Fund to be used in innovative initiatives," said Lootah.

The manufacturing and supply of lamps will start during March 2017, and will be available in four models, both in cool daylight and warm white colours: 1W Candle Lamp to replace 25W incandescent lamp, 2W Bulb to replace 40W incandescent lamp, 3W Bulb to replace 60W incandescent lamp, and 3W MR16 Spot to replace 50W halogen spots.

EcoWASTE 2017

EcoWASTE 2017 eyes the waste management sector development

EcoWASTE highlights the business opportunities available by adopting the latest solutions and technologies in the waste management sector in the Middle East region.

The fourth edition of EcoWASTE 2017, a leading conference and exhibition on sustainable environment, was officially inaugurated on 16th January at the Abu Dhabi National Exhibition Centre. The event was held as part of Abu Dhabi Sustainability Week, ADSW, from the 16th to 19th of January 2017.

EcoWASTE 2017 is a platform which showcases the latest practices, solutions and technologies in the waste management sector. The event has attracted more than 48 local, regional and global companies with an anticipated attendance of over 5,500 specialists and decision makers in the waste management and recycling sector, one of the fastest growing sectors in the Middle East region.

During his inaugural tour of the exhibition, Eisa Saif Al Qubaisi, General Manager of Tadweer, the Centre of Waste Management - Abu Dhabi, said, "Tadweer's ultimate objective is to showcase Abu Dhabi as the global capital of future energy and a leading destination for sustainability. Today, we are successfully attracting a substantial number of local, regional and international organizations specialized in waste management and recycling.

"This is a testament to the tremendous efforts Tadweer is making to maintain a healthy sustainable environment, which comes in line with the vision of Abu Dhabi."

Al Qubaisi added that Tadweer, as a government entity responsible for the waste management services, aims to contribute to achieving Abu Dhabi's vision by adopting safe, efficient and economic practices across Abu Dhabi.

Leading international experts shared practical experiences to create a cleaner, healthier, and more sustainable environment at EcoWASTE 2017.

A key feature of EcoWASTE 2017 was the Waste Management Solutions Forum; a day-long programme of discussions with leading industry speakers. Numerous important topics were discussed on waste management, including the Finnish waste management experience, strategies for successful waste management in the Middle East and North Africa, sustainable waste tyres management, segregating waste at source, managing medical waste, turning used oil into biofuel, strategies for developing waste-to-energy facilities, delivering sustainable hotel waste strategies and reducing construction and demolition landfill waste.

"Whether it is the unused food and packaging we dispose of from household kitchens, through to construction and demolition waste, or consumer products at the end of their useful lives, how we deal with waste has an immediate impact on the quality of our environment and our quality of life," said H.E. Eisa Saif Al Qubaisi.

His Excellency presented the keynote address during the Waste Management Solutions Forum, speaking on the development of efficient waste management strategies to encourage sustainable approaches, and the positive economic impact this can have. Among other high-level speakers, Kai Mykkänen, Minister for Foreign Trade and Development of Finland, offered a presentation on the Finnish waste management experience – the country recognised as a leader in sustainability for innovations such as large-scale use of waste-to-energy technology.

"We need to be as forward-

thinking in our approach to these issues as we are with other aspects of sustainability, such as energy and water security," said H.E. Eisa Saif Al Qubaisi.

"From waste collection, through to re-use and recycling, and in the appropriate handling of different types of waste, EcoWASTE drives innovation and helps us strive towards best practice."

Worldwide, the World Bank has predicted the volume of municipal solid waste collection would double in the 15 years from 2010 to 2025, reaching 2.2 billion tonnes. In the GCC, analysis by Frost and Sullivan has found that waste volume is growing at a compound 11 per cent each year.

EcoWASTE takes a comprehensive view of waste management, including construction and demolition waste management, environmental service providers, and facilities management, as well as hazardous and organic waste management, pest control, and advanced innovations in waste-to-energy and waste treatment systems.

EcoWASTE 2017 also included an educational awareness stand for the event's visitors, with the aim of educating the public on Tadweer's mission and processes, in addition to a children's workshop set to underline the importance of cleanliness and safety of environment, and the role of the green and black containers. The activities also included teaching the optimal ways of making use of waste and the proper use of natural resources in order to encourage reducing waste production.

Retrofit projects in Dubai save energy worth over Dhs 34 million

Etihad ESCO's retrofit projects have successfully saved 54GHW of energy in 2016, through five major projects, implemented for DEWA, JAFZA, Dubai International Financial Centre (DIFC) and Mohammed Bin Rashid Housing Establishment (MRHE), which equates to AED 34 million in monetary terms.

The energy service provider said that it will be working towards achieving the goals of Demand Side Management Strategy (DSM Strategy) and Dubai Integrated Energy Strategy (DIES), by undertaking a number of projects and activities in 2017 as well. DSM Strategy and Dubai's electricity aims to reduce energy consumption by 30% by 2030.

Commenting on the energy savings achieved, Ali Al Jassim, CEO of Etihad ESCO said, "2016 saw positive growth for ESCOs in Dubai. Most of our projects and programmes enabled a considerable amount of energy savings while advancing into more extensive phases of implementation. We have successfully completed retrofitting of 2,178 buildings. In general, buildings comprise a huge amount of the total consumption in Dubai, and thus make an important component in the DIES and DSM Strategy 2030."

He added that in line with its objective to build a platform and facilitate the ESCO market in the Emirate, Etihad ESCO will continue to accredit ESCOs to participate in ESCO tenders. The organisation is also working closely with accredited ESCOs in the UAE to bring in best practices into the energy sector.

"We are also working on an updated standard contract which will become an integral part of the ESCO accreditation process in 2017. We encourage ESCOs to keep developing and improving themselves to benefit from the rapidly increasing energy retrofit market," Al Jassim said.

Amongst the important future projects of Etihad ESCO are Energy Management Service works for the Dubai Civil Defence, Hatta solar project, Dubai International Airport (Phase 2), and Drydocks (Phase 2).

Forum

Over 100 international experts to attend Conservation Forum in Sharjah

منتدى الشارقة الدولي لصون التنوع الحيوي
Sharjah International Conservation Forum For Arabian Biodiversity

The 18th Sharjah International Conservation Forum for Arabian Biodiversity to discuss ways to protect the vultures from going extinct and develop a Red List for Arabia's trees.

The Environment and Protected Areas Authority (EPAA) is gearing up to organize the 18th Sharjah International Conservation Forum for Arabian Biodiversity (previously known as the International Conservation Workshop for Arabia's Biodiversity), which will be held this month, under the generous patronage of H.H. Dr. Sheikh Sultan bin Mohammed Al Qasimi, Supreme Council Member and Ruler of Sharjah.

The forum is aimed at highlighting the dangers faced by species of vultures, developing a Regional Red List assessment of the trees of the Arabian Peninsula and organising a series of workshops on veterinary medicine.

The Sharjah International Conservation Forum for Arabian Biodiversity helps experts and professionals identify the nature of wildlife in the UAE and the Arabian Peninsula due to the biodiversity in this area.

According to studies and research conducted by the EPAA, the Arabian Peninsula is home to a wide variety of fauna and flora affected by the urban expansion in the region.

The forum will facilitate the development of biodiversity conservation plans for the Arabian Peninsula, through the exchange of theoretical and practical experiences during the workshops. The forum will also update the existing wildlife database in the Arabian Peninsula.

The event will boost the role of Sharjah in consolidating the principles of sustainable biodiversity, as Sharjah's protected areas are home to old

The forum will facilitate the development of biodiversity conservation plans for the Arabian Peninsula, through the exchange of theoretical and practical experiences.

mangrove trees and rare species of birds. This means that there should be conservation and breeding programmes without human intervention. International participants will discuss the economic, environmental, veterinary and nutritional benefits of biodiversity, for the vegetation and species of animals and birds.

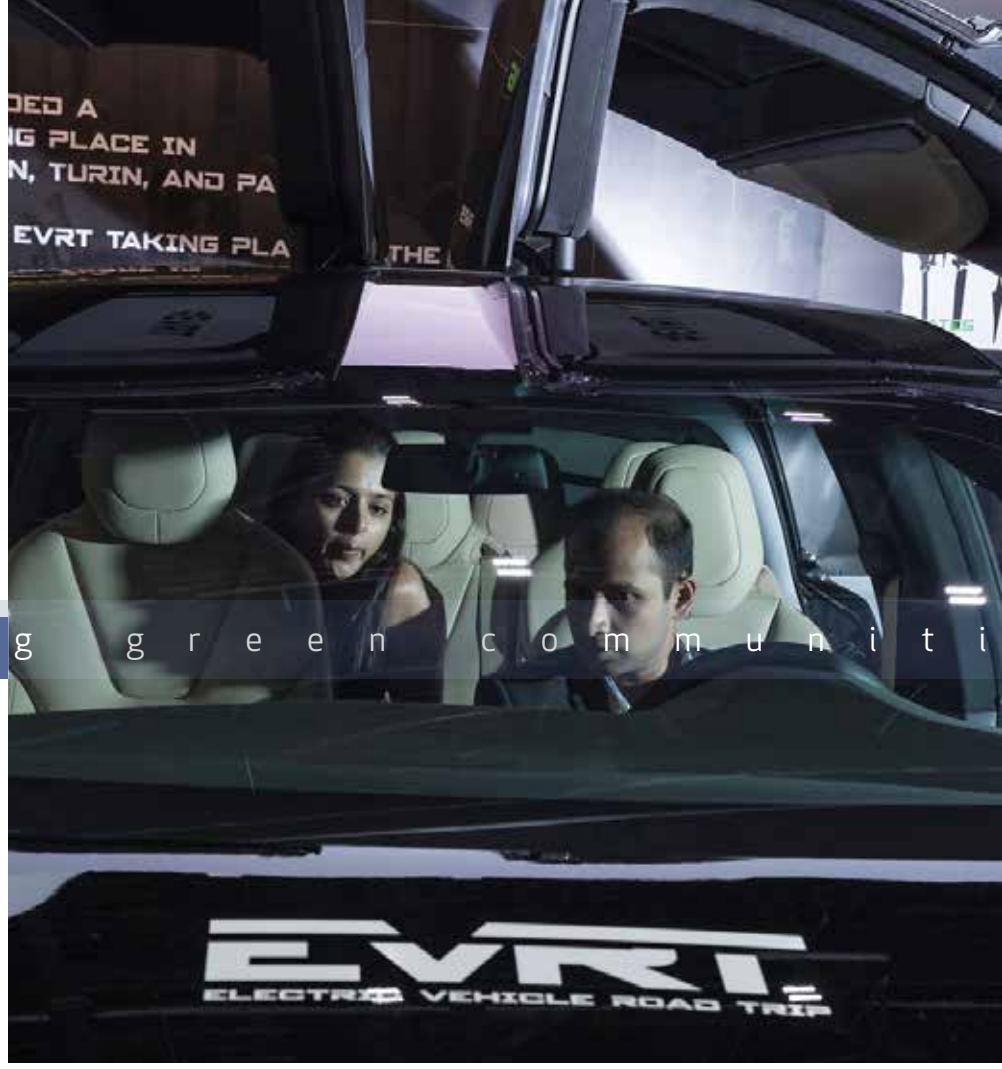
A vulture multi-species action plan will also be held under the Convention on Migratory Species (CMS) Raptors Memorandum of Understanding on the Conservation of Migratory Birds of Prey in Africa and Eurasia. Various experiences from the KSA, Oman and the UAE will be presented during the workshops. The Arabian Peninsula is home to natural treasures such as fauna and flora which should be protected from going extinct. Therefore, experts will share experiences with the aim of improving the biodiversity not only in Sharjah, but also in the Arabian Peninsula.

According to EPAA, the UAE desert is rich in organisms and vegetation, which are characterized by tolerance to drought, salinity and high temperature, in similar properties to the tropical plants. The UAE desert's vegetation are easily adapted to harsh climate and seen as true assets to existing and future generations.

The Sharjah International Conservation Forum for Arabian Biodiversity, which will be held at the Breeding Centre for Endangered Arabian Wildlife in Sharjah, will discuss ways to protect the vultures from going extinct, with the participation of more than 100 international experts and researchers.

Technology

UAE's electric car road trip to stress on future of travel



The UAE's first Electric Vehicle Road Trip saw a fleet of over 10 electric vehicles cover over 700km of terrain, showcasing the best of electric vehicle technology and the region's clean-tech innovations.

A convoy of nearly a dozen electric vehicles set out on a 700km long road trip through all seven Emirates of the UAE on Sunday, 29th January 2017, to mark the start of the first Emirates Electric Vehicle Road Trip (Emirates EVRT), further driving the UAE towards a more sustainable future.

The four-day trip showcased the best of electric vehicle technology, with three new charging stations, supplied by ENGIE, which was unveiled at the Marjan Island Hotel in Ras al-Khaimah, the Novotel Hotel in Fujairah and the Sofitel Corniche Hotel in Abu Dhabi.

Ben Pullen, Founder and Managing Director of Global EVRT – the company which has brought the road trip to the Emirates for the first time – says that an event such as the Emirates EVRT is important for the development of the electric vehicle industry.

"The UAE is at a very early stage when it comes to the electric vehicle industry, when compared to other countries in Europe, for example. Aspects like the number of dealers selling electric vehicles in the UAE needs to increase, insurance options need to be developed, banks and financing options need to be improved, and buying and installing charging stations needs to become more coherent for the consumer.

"Through our event we have strategically selected partners to accelerate the development of the industry, to enable the transition to a sustainable future which is long overdue. ENGIE as our green mobility and charging station partner, The Sustainable City as our sustainable living partner and AXA, Emirates NBD, and

The fleet includes Tesla Model X and Model S's, and other electric vehicles such as Renault Zoe and a Volkswagen Retrofitted Electric Car.

AccorHotels, amongst our other partners," says Pullen.

Shayne Nelson, Group CEO, Emirates NBD, official bank partner of Emirates EVRT, says, "As a signatory to the United Nations Environment Programme Dubai Declaration on Sustainable Finance, Emirates NBD is committed to transforming the UAE into a green, low-carbon economy.

"We are thus proud to sponsor the Emirates EVRT, a remarkable initiative aimed at galvanising the adoption of electric vehicles in the country. Being the largest auto-finance provider in the region, we fully endorse a platform that pushes forward the sustainable agenda of the UAE Vision 2021, and represents a greener future for the residents of the nation."

The journey began at Burj Al Arab Jumeirah in Dubai on Sunday, 29th January. The fleet that took off on the trip comprised state-of-the-art Tesla Model X and Model S vehicles, Renault Zoe models and a Volkswagen Retrofitted Electric Car. The vehicles transported 40 individuals around the UAE until Wednesday, 1st February.

The event drew to a close at The Sustainable City with a Grand Finale including an electric vehicle conference and parade.

The aim of the inaugural trip was to drive electric vehicle adoption in the UAE and accelerate the transition towards a sustainable low-carbon future. Pullen explains, "We believe there are many potential driving forces out there that will enable the UAE to fast-track their exposure to this industry, and that the country will certainly jump to the level of its peers across the world in the very near future."

Solar Expo

Rooftop solar to shine through in the Middle East

The region is already setting the agenda for utility scale projects, with bids for projects in the UAE bringing below 3 US cents per kilowatt-hour during 2016.

Rooftop solar energy will help drive renewable energy to the next stage of its development in the Middle East and South Asian markets, according to leading industry figures at the World Future Energy Summit and the Solar Expo in Abu Dhabi.

Renewable energy, particularly solar, is making rapid progress in the region, with organisers estimating that buyers at WFES have more than 200 gigawatts of planned capacity to be added within the next decade. The region is already setting the agenda for utility scale projects, with bids for projects in the UAE bringing below 3 US cents per kilowatt-hour during 2016.

The industry expects to see similar progress in rooftop solar, driven by initiatives such as the Shams Dubai programme by Dubai Electricity & Water Authority (DEWA), which encourages PV systems on residential, commercial and industrial buildings. The projects themselves can vary in size from just a few solar panels to thousands. One of the initiatives under the Shams Dubai programme is the installation of 88,000 solar panels on buildings belonging to port operator, DP World, which will produce energy to power around 3,000 homes.

"We are at a point where solar energy is clearly at the centre of the UAE's electricity plans, and we are beginning to see rooftop solar play an important part in this growth," said Sami Khoreibi, CEO of Abu Dhabi-based Enviromena. "Official targets are being set for installing rooftop solar panels, and policies allowing customers to sell electricity back into the network are in place. This will fundamentally

Solar Expo, launched for the 2016 event, is one of four co-located shows now held alongside WFES.

change the way we think about electricity in the region."

Enviromena has constructed 42 solar projects in nine countries throughout the region, including rooftop solar installations at Yas Marina Circuit and solar carpark shades at Masdar City. It sees rooftop solar as an important growth market. Rooftop and other small, localised solar projects have multiple benefits. Allowing property owners to invest in solar panels spreads the cost of expanding the electricity supply, while locating generation and consumption in the same place reduces the burden on distribution infrastructure.

Particularly where residential and community projects are concerned, a sense of personal ownership can create an increased appreciation of the resource. "This has been one effect that has been observed internationally, and there is evidence that it helps build public support for renewable energy," said Sami Khoreibi.

Held under the theme of 'Sustaining the Clean Energy Consensus; Empowering New Players', WFES 2017 brought together the world's leading technology providers, government delegations, innovators, and thought leaders in Abu Dhabi.

"Within the growing renewable energy market, the falling cost and increasing efficiency of solar energy has particular relevance in the UAE, which is why, together with Masdar, the event's host, we created a dedicated Solar Expo as part of WFES," said Naji El Haddad, Group Event Director at Reed Exhibitions, which organises WFES in partnership with Masdar. "The region is rich in sunlight, and solar energy is a growth industry."

Water Summit

International Water Summit focuses on clean energy desalination

The world uses almost 87 million cubic metres of desalinated water every day, and the MENA region accounts for 44% of that figure.

A review of recent research into water security, conducted ahead of the International Water Summit (IWS) in Abu Dhabi that concluded in January 2017, has demonstrated significant potential for innovative desalination technology to improve sustainability in the UAE's water supply.

The UAE and other GCC states are global leaders in desalination, and have proved the value of the technology in underpinning water security worldwide. Historically, the region has used thermal processes using waste heat from electricity generation. The IWS 2017 Market Report, compiled by Frost and Sullivan, found the UAE uses thermal processes for around 88 per cent of its desalination needs, based on figures from Global Water Intelligence.

Now Masdar is leading efforts to link desalination to renewable energy, investigating the latest advances in technologies such as reverse and forward osmosis, which use a high-tech membrane to filter seawater, and integrating this with solar power generation. The aim is to find the best, most advanced solution, tailored to the region's environment.

"Innovative desalination technologies have the potential to make a significant contribution to the energy goals of the UAE and MENA region," said Mr. Mohamed Al Ramahi, CEO of Masdar. "This region has led the way in proving desalination as a viable and secure source of fresh water, and we are now at the forefront of researching new solutions which are both sustainable and commercially viable." Held from 16 to 19 January as part of

GCC leads world in desalination, now aims to link water supply to sustainable energy.

Abu Dhabi Sustainability Week, IWS is dedicated to closing the sustainability gap in the region's water supply.

Clean energy desalination was a key topic on the IWS conference agenda, including discussion of progress from Masdar's Renewable Energy Desalination Pilot Programme. As part of the pilot programme, Masdar has been operating four small-scale desalination plants since 2015, with each plant testing a different desalination process. Three are based on reverse osmosis, while one uses forward osmosis.

With more than a year's worth of data now to be studied, the results will help identify the most efficient technologies to be coupled with solar energy, offering policy makers and industry a path forward to achieve environmentally sustainable water security.

"The region is seeing heavy investment in solar energy, and there will be less use of fossil fuels in future expansion of the electricity supply across the region," said Mr. Abdullah Musleh Al Ahbabi, Chairman of ADWEA. "That will make new desalination technology absolutely essential to maintaining future water supplies, and we need to make decisions based on information that is reliable and which is based on local conditions."

The world uses almost 87 million cubic metres of desalinated water every day, and the MENA region accounts for 44% of that figure, according to the International Desalination Association.

In the GCC alone, Saudi Arabia, the UAE, Kuwait and Qatar are all among the world's 10 largest users of desalination.

Conservation

Culmination of efforts in protecting local plant species

Abu Dhabi succeeds in the propagation of the Little Dwarf Palm, one of the rarest and most threatened native plant species in the emirate.

A specialist team at the Environment Agency – Abu Dhabi (EAD) has succeeded in propagating the Little Dwarf Palm (Nannorrhops ritchieana) which is considered to be the one of rarest and most threatened native plant species in the emirate of Abu Dhabi. Only one individual of this species was recorded at the Jebel Hafeet mountain during an extensive survey undertaken by EAD's Terrestrial Biodiversity Division over recent years, with a few others scattered throughout the Emirates.

EAD started a propagation plan for the species in its Native Plant Nursery and thanks to team efforts; they have successfully propagated 50 Little Dwarf Palms.

This plan is part of EAD's continuous efforts in conserving biodiversity in Abu Dhabi's natural habitats. Jebel Hafeet, one of the two highest mountains in the UAE, is a habitat teeming with life.

EAD has established and managed a network of protected areas and undertaken ex-situ conservation at the Abu Dhabi Native Plant nursery. The Ex-Situ conservation programme has managed to successfully propagate many other rare and threatened plant species such as Caralluma, a small succulent plant and the White Saxaul, both indigenous to the United Arab Emirates.

Dr. Shaikha Salem Al Dhaheri, Executive Director, Terrestrial and Marine Biodiversity Sector at EAD said, "The success in the propagation of the Little Dwarf Palm is the fruit of the continuous guidance and support of the leadership, and is a great demonstration of the objectives of EAD's strategy, which aims

The protection of Jebel Hafeet Mountain is vital in ensuring that rare and threatened species are conserved.

towards the conservation and sustainable use of the Emirates' natural resources."

Dr. Al Dhaheri added: "This successful propagation came after three years of trials that started in 2013 and after setbacks and early failures. Individuals were propagated from the freshly collected seeds from the Northern Emirates. Seed collection itself is not an easy mission given the species' distribution and fruits being eaten by different wild life birds. This adds to the burden of selecting some good fruiting shrubs."

She also highlighted that "the success in the propagation of the Little Dwarf Palm is an instant milestone towards the conservation and sustainability of the Emirates' flora. Jebel Hafeet has been accorded great attention by EAD since 2011 and needs immediate protection to preserve the rich biodiversity of this unique ecosystem."

Maher Kabshawi, Unit Head, Terrestrial Threatened Species & Habitats at EAD said, "The Little Dwarf Palm is one of the most unique biodiversity elements in the Emirate, and there are very few individuals in the country. It is a native plant that grows within small wadis in the mountains, usually in clusters and rarely as individuals. It is locally and traditionally used for making baskets, fans, ropes, nets and has some other medicinal uses for healing wounds. It is considered a candidate for outdoor landscaping due to its beautiful fan shaped leaves and fruiting clusters that last from March to June.

The expert added that the current stock of 50 Little Dwarf Palm will be used in rehabilitation within Jebel Hafeet National Park.

Conference

WiSER calls on women to be drivers of innovation

Women in Sustainability, Environment and Renewable Energy (WiSER) is an initiative that aims to empower and inspire women to be catalysts of innovation and the drivers of commercial solutions.

Leaders from government, business and academia convened on 18th January, 2017 in Abu Dhabi for the second annual Women in Sustainability, Environment and Renewable Energy, WiSER, conference under the theme 'Practical steps towards sustainable innovation.'

The event was organised by Masdar in partnership with the Zayed Future Energy Prize.

The conference, a key event at Abu Dhabi Sustainability Week, sought to discuss the collaborative role that governments and businesses can play in fostering sustainable innovation, and the critical importance of including women in this dialogue.

Dr. Nawal Al-Hosany, WiSER Programme Director, Executive Director of Sustainability and Brand at Masdar, and Director of the Zayed Future Energy Prize, said: "At WiSER, we seek to ensure that women are the drivers of change for a sustainable future, enabling them to positively impact innovation and breakthroughs in policy, technology and business. Today's event helps us understand the way forward to achieving this laudable goal."

"With greater mentoring and collaborative opportunities, our knowledge of the issues that uniquely impact women can be harnessed to deliver sustainable growth and innumerable societal benefits. Innovation in sustainability is critical to our future prosperity, and women have a central role to play in this regard," Dr. Al-Hosany continued.

Speaking at the event Dr. Behjat Al Yousuf, Interim Provost, Masdar Institute, said, "Creating

Initiatives such as WiSER are critical for women to have access to the skills needed to be future leaders of innovation and sustainability.

opportunities for women in sustainability will allow us to unleash a wealth of knowledge and creativity within this industry. Particularly through our partnerships with private companies, Masdar Institute remains dedicated to nurturing the next generation of women to become sustainability leaders.

"Our public-private partnerships allow more women to gain the hands-on experience they need to join the ranks of innovators. With women playing an equitable role in the industry we can continue the momentum behind our transformation towards a fairer, more secure, and more sustainable future."

The event in Abu Dhabi was designed as a platform so that participants could learn from experts who have dedicated their life to sustainability and furthering women's participation in innovation.

In the UAE, there has been an emphasis placed on education and training as a way to ensure more women are working in sustainability. In the fall enrollment of students at Masdar Institute, 68 per cent of the UAE nationals were women. Over 70 percent of the UAE government university students are now women and among post-graduates, UAE National women account for 62 per cent in government universities.

Founded by Masdar, Abu Dhabi's renewable energy company, and the Zayed Future Energy Prize, WiSER aims to empower and inspire women to be catalysts of innovation and drivers of commercial solutions that will address climate change and secure access to food, energy and water.

Honor

Mohamed bin Zayed honors winners of Zayed Future Energy Prize 2017

Nine pioneers in renewable energy and sustainability across five categories became the latest awardees to join the prize's growing international community of winners.

His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, presented the Zayed Future Energy Prize to nine winners during the 2017 awards ceremony in Abu Dhabi on 16th January, 2017 in the presence of six heads of state.

Speaking at the event, HH Sheikh Mohamed said: "The legacy of our founding father Sheikh Zayed bin Sultan Al Nahyan has led our nation on a path to sustainable development and prosperity. Through this prize, which bears his name, the UAE empowers others to embark on that same path. Today, we celebrate the success of this vision through improved access to energy, technology and water, which in turn presents opportunities for better education, health and employment for women, children and those in need."

His Highness continued: "Launched with the foresight of the President His Highness Sheikh Khalifa bin Zayed Al Nahyan and with the direction of Vice President, Prime Minister and Ruler of Dubai, His Highness Sheikh Mohammed bin Rashid Al Maktoum, the spirit embodied in the UAE's 'Year of Giving' is equally demonstrated in the Zayed Future Energy Prize, which encourages others to give on a global scale. These winning organisations, individuals and schools are giving with the impact, innovation, leadership and long-term vision that can overcome today's challenges and make the most of tomorrow's opportunities."

Nine pioneers in renewable energy and sustainability

The Zayed Future Energy Prize is now open for submissions and nominations for its landmark 10th year.

across five categories became the latest awardees to join the prize's growing international community of winners. The 2017 recipients of the prize span a wide range of industry expertise, from breakthrough photovoltaic manufacturing to government policy advisory.

The Zayed Future Energy Prize has so far recognized 57 individuals and organizations since it was founded in 2008.

Li Junfeng, Director General of China's National Center of Climate Strategy Research, won the Lifetime Achievement award for his unwavering commitment to the adoption of renewable energy in China. In a career spanning more than 30 years, Mr. Li has been instrumental in advancing the country's renewable energy policies, which have spurred record levels of clean energy investment in China.

General Electric (GE) won the Large Corporation award for leadership in the wind and solar energy markets. GE's wind business alone has commissioned 41.3 GW of total generating capacity and installed more than 30,000 wind turbines to date.

Sonnen, the German smart home and commercial energy storage system manufacturer, was awarded the prize in the Small and Medium Enterprise (SME) category for leadership in providing battery storage technology solutions.

In the Non-Profit Organisation (NPO) category, UK-based Practical Action was recognised for its work in providing deprived communities with clean energy in Africa, Asia and Latin America. Joining them were the winners

in the Global High Schools category, five schools spanning five regions of the globe.

The five winners in the Global High Schools category are: Starehe Girls' Center, Kenya for the Africa region; Green School Bali, Indonesia for the Asia region; Bolivia's Unidad Educativa Sagrado Corazón 4 for the Americas; Belvedere College in Ireland for Europe; and Huonville High School, Tasmania for the Oceania region.

Now in its ninth cycle, the Zayed Future Energy Prize has positively impacted more than 289 million people through its international community of winners. This includes providing over 25 million people in Africa and Asia with access to modern, clean energy, off-setting over 1 billion tons of carbon emissions, and ensuring 17 million children of school age can study at night using innovative solar-powered utilities.

His Excellency Ólafur Ragnar Grímsson, Former President of the Republic of Iceland and Chair of the Zayed Future Energy Prize Jury, said: "Through the sustainable actions of its winners, the Zayed Future Energy Prize is a model example for how far the world has come in the last nine years. It is extraordinary that, through the impact of each winner and the lives they continue to improve, we now see a growing strength in being able to deliver a sustainable future."

His Excellency Dr. Sultan Ahmed Al Jaber, UAE Minister of State, said: "The Zayed Future Energy Prize continues to honor the legacy of sustainability advocated by the UAE's late founding father Sheikh Zayed bin Sultan Al Nahyan. With each awards ceremony, the UAE leadership accelerates the pursuit of innovation, reinforces the significance of sustainability at the top of the global agenda, and gives opportunities and far-reaching benefits to communities around the world."

"During the last nine years, the Zayed Future Energy Prize has demonstrated the UAE's commitment to encouraging and rewarding innovation on a global scale," he added.

Geopolitics of energy highlighted at Atlantic Council Global Energy Forum

The Emirates Nuclear Energy Corporation (ENEC) has participated in the inaugural Atlantic Council Global Energy Forum in Abu Dhabi, held by The Atlantic Council and in partnership with the UAE Ministry of Energy, ADNOC, Mubadala, and IPIC.

ENEC CEO, Mohamed Al Hammadi, addressed participants during the official opening of the forum, highlighting ENEC's ongoing contribution to many strategic sectors within the UAE and internationally.

The two-day forum concentrated on the geopolitics and geo-economics of energy transformation. Attendees reflected on the role that oil, gas, nuclear, and renewables will play in supplying the world's growing energy needs in the context of global challenges.

Al Hammadi said: "The development of peaceful nuclear energy in the UAE has already created solid value across many strategic sectors in the UAE and internationally. Our participation in the Atlantic Council Global Energy Forum highlights ENEC's important contribution to the well-being of the country, our economy, and the sophistication of the UAE energy sector."

"We continue focusing on our three goals for the future; ensuring the sustainability of the Barakah project, developing local capability and an industrial supply chain and supplying the UAE with safe, clean and reliable nuclear energy.

"Working to the highest international standards of safety and security, under the guidance of our regulator, the Federal Authority for Nuclear Regulation (FANR), our Barakah project is one of the biggest new nuclear build construction sites in the world, with four identical reactor being built simultaneously," added Al Hammadi.

Overall, construction of Units 1 to 4 at the Barakah Nuclear Energy Plant is now over 75% complete. The project is scheduled for substantial completion in 2020.

Report

REthinking Energy 2017 released at seventh IRENA Assembly

New IRENA report details how renewables can decarbonise the energy sector and improve the lives of billions.

Falling costs, driven by innovation in technology and policy, is spurring renewable energy deployment and with it a myriad of socioeconomic benefits, according to the new publication released by the International Renewable Energy Agency (IRENA). REthinking Energy, now in its third edition, was released on 15th January, 2017 at IRENA's seventh Assembly.

"Renewables are gaining ground by nearly every measure. Accelerating the pace of the energy transition and expanding its scope beyond the power sector will not only reduce carbon emissions, it will improve lives, create jobs, achieve development goals, and ensure a cleaner and more prosperous future," said IRENA Director-General Adnan Z. Amin.

The publication highlights how global investment in renewables has steadily grown for more than a decade, rising from less than USD 50 billion in 2004 to a record USD 305 billion in 2015. Despite this enormous growth, current investment and deployment levels are making headway to meet international carbon reduction targets.

"As we advance deeper into a new energy paradigm, we need to pick-up the pace of our decarbonisation efforts. Policies and regulations continue to remain crucial to this end and to develop the renewables market," explained Mr. Amin.

The publication provides insights on the innovations, policy and finance driving further investment in sustainable energy system, including that:

• Renewable energy auctions are gaining popularity in developed and developing countries,

REthinking Energy was released at IRENA's seventh Assembly, which seeks to advance the global renewable energy agenda and make concrete steps to accelerate the global energy transformation.

generating record-breaking low energy prices;
• Demand for battery storage is increasing rapidly and playing a larger part in integrating variable renewables;
• New capital-market instruments are helping increase available finance by offering new groups of investors access to investment opportunities;
• Institutional investors are moving into renewable energy as it offers stable returns over the long term;
• New business models promise new ways to finance renewable energy.

The publication states that solar PV will grow the fastest in terms of capacity and output, and new ways to store electricity will be a game changer for growing variable renewable energy generation.

Off-grid renewables provide electricity to an estimated 90 million people worldwide, and enable people to climb the energy ladder. They are cost-effective and can be installed in modular fashion, linked to grid extension plans. REthinking Energy describes how off-grid solutions can provide modern energy access to hundreds of millions of more people and achieve development goals.

"Achieving universal electricity access by 2030, will require us to boost global power generation — nearly 60 per cent of that will have to come from stand-alone and mini-grid solutions," said Mr. Amin. "Meeting this aim with off-grid renewables depends on the right combination of policies, financing, technology and institutional capacity. Accelerating its deployment will allow countries to address global issues in sustainability, education, gender equality, health, water and food."

Sustainability

Eco-Villa sets new standards in sustainability

Fully equipped with 87 rooftop solar panels, the four-bedroom property is capable of supplying as much as 40,000 kWh of electricity to the national grid.

Masdar City's Eco-Villa, a pilot project incorporating water- and energy-saving technologies, has been completed, and a UAE national family will soon live in the sustainable dwelling prototype - it was announced last month at the Abu Dhabi Sustainability Week 2017.

The Eco-Villa was launched in the presence of H.H. Sheikh Dhiyab bin Mohamed bin Zayed Al Nahyan; Suhail Mohammed Al Mazrouei, the UAE Minister of Energy; Dr. Sultan Ahmed Al Jaber, Minister of State and Chairman of Masdar; Sheikh Abdullah bin Mohammed Al Hamed, Head of the Energy Council and Member of Abu Dhabi's Executive Council, and Mohamed Jameel Al Ramahi, Chief Executive Officer of Masdar, Abu Dhabi's renewable energy company.

The prototype spanning 405 sq. m. is the first such dwelling to get a 4 Pearl rating as per Abu Dhabi Urban Planning Council's Estidama Pearl Building Rating System.

Eco-Villa will use around 72 percent less energy and 35 percent less water than a typical villa of similar size, and will bring down carbon dioxide emissions by an estimated 63 tons annually.

The cost of construction is similar to that of a conventional home of the same size. However, its energy and water efficiency will substantially reduce running costs. The four-bedroom property is expected to consume just 97 kilowatt hours (kWh) of electricity per square metre.

Fully equipped with 87 rooftop solar panels, the prototype is capable of supplying as much as 40,000 kWh of electricity to the national grid. A suite of passive

Eco-Villa will use around 72 percent less energy and 35 percent less water than a typical villa of similar size, and will bring down carbon dioxide emissions by an estimated 63 tons annually.

energy and water-saving design features further reduce its impact on the environment.

"People expect a sustainable design option to be more expensive, but our Eco-Villa concept challenges this misconception," said Yousef Baselaib, Executive Director of Sustainable Real Estate at Masdar.

"The Eco-Villa stays true to Masdar City's principles of sustainable urban development in that it is cost-efficient, environmentally sensitive and culturally appropriate in both its design and function. Because of its energy and water-efficient design, residents of the Eco-Villa will receive significantly reduced power and water bills," he added.

Once a family moves in, Masdar's sustainability team will monitor the villa's energy, water and waste management performances. The data collected will enable the design of Eco-Villa to be further refined, supporting the eventual commercialisation of the building concept.

"Our Eco-Villa prototype shows that sustainable design can be implemented according to specific environmental, social and economic demands of the Gulf region," added Masdar's Baselaib.

Innovation

NYU Abu Dhabi researchers develop cost-efficient solution to tackle water contamination

CalP is a super-absorbent, re-useable material that can potentially be used to make cleaner fuel in the future.

Researchers at New York University Abu Dhabi, NYUAD, have developed a new technique to remove toxic contaminants from water.

CalP, as it has been named, is a calix[4]arene-based super-hydrophobic porous material that acts as a water purifier by repelling water and attracting toxins like oil and dye.

"CalP is a light brown powdered material which can absorb up to seven times its weight of oil from an oil and water mixture," said Dinesh Shetty, lead researcher and chemist at NYUAD. "While the basic material itself has been around for decades, this is the first porous organic calix[4]arene-based polymer to be synthesised in the lab for the purpose of purifying water," he explained.

CalP has the ability to remove oil from water efficiently and quickly. Ali Trabolsi, Assistant Professor of Chemistry at NYUAD, said, "CalP floats, has high surface area, and low density. It also has pores both from calix[4]arene cavity and hyper-crosslinked 3D structure that collects toxins. The material is super-hydrophobic, which means it repels water, while also containing the ability to absorb a range of pollutants."

The researchers tested CalP in the lab using both engine oil and commercial grade crude oil.

"After being placed on top of an oil-water mixture, the light brown powder quickly absorbed the oil and turned dark brown," said Shetty. "Complete absorption of the oil happened in about five minutes."

Further experiments were conducted replacing oil with

Researchers at New York University Abu Dhabi, NYUAD, have developed a new technique to remove toxic contaminants from water.

different types of dyes and yielded the same impressive results. In one experiment, toxic dye was poured into a glass of water and within five minutes of its interaction with CalP, 80 percent of the dye was absorbed by the material and all of it was separated from the water after 15 minutes. This, in spite of dyes being chemically designed to withstand degradation.

In addition to acting as a quick and efficient solution to absorbing pollutants from water, one of CalP's most useful properties is that it is re-useable, making it a potentially cost-effective solution to cleaning oil spills. "This was an important part of our discovery," added Ilma Jahovic, student researcher and chemistry major at NYUAD.

Currently, CalP is not developed enough to use on large oil spills, as it is being worked on at gram scale in the lab environment. The research will now focus on further improving its absorption efficiency of oil products, and to find ways to make its production cheaper.

"Once developed further, CalP could potentially also be used to further other areas of petroleum research such as gas separation, to make cleaner fuel," added Jahovic.

Nuclear Energy

UAE nuclear project enters next phase of construction

The Barakah Nuclear Energy Plant project continues outstanding progress towards 2020 completion with units 3 and 4 now more than 50 percent complete.

The Emirates Nuclear Energy Corporation (ENEC) has announced a new phase in the construction of Units 3 and 4 at the Barakah Nuclear Energy Plant, with completion of these units now more than 50 percent complete.

The recent progress significantly advances ENEC's goal of delivering safe, clean, efficient and reliable nuclear energy to the UAE through its Peaceful Nuclear Energy Program.

The construction achievements include the successful setting in place of Unit 3's Reactor Containment Building (RCB) Liner Dome section, effectively installing the roof of the structure which now houses the Reactor Vessel (RV). Further, the completion of Unit 4's Turbine Generator Operating Deck and the setting of the last Reactor Containment Liner Plate Rings mark important progress for the units.

"All construction milestones for the Barakah Nuclear Energy Plant project have been achieved in accordance with the highest standards of quality and safety. The latest successful achievement of these milestones for Units 3 and 4 is a result of many months of hard work by all those involved," said Mohamed Al Hammadi, ENEC CEO.

"These milestones are a result of ENEC's extensive collaboration with its prime contractor and joint venture partner, the Korean Electric Power Corporation (KEPCO)," he added.

"Peaceful nuclear energy will bring many benefits, from the creation of high-value job opportunities to the emergence of a new

The Barakah Nuclear Energy Plant is scheduled for completion in 2020, with construction having started in 2012.

sophisticated industrial sector to support operations in Barakah," Al Hammadi concluded.

With the successful setting of Unit 3's RCB Liner Dome section, it is now more than 62 percent complete and work to pour the concrete and complete the RCB is progressing steadily. The RCB is expected to be completed in the first quarter of 2017, roughly a year after similar work was concluded on Unit 2, in line with ENEC's construction schedule.

"The completion of the Turbine Generator Operating Deck and the setting of the final Reactor Containment Liner Plate Rings on Unit 4 has allowed work to begin on erecting the Turbine Building and the interior and exterior concrete for the Unit's RCB is now being poured. Once completed, we will be ready for the installation of Unit 4's Reactor Pressure Vessel in mid-2017," said Ahmed Al Rumaithi, ENEC's Deputy CEO.

"The construction of Unit 4 is now 35 percent complete and is ahead of schedule, with the completion of the deck and rings having occurred roughly 10 months after similar work were concluded on Unit 3."

The Barakah Nuclear Energy Plant is scheduled for completion in 2020, with construction having started in 2012. With four reactors online, the facility will deliver up to a quarter of the UAE's electricity needs and save up to 12 million tons in carbon emissions every year.

The project at Barakah is progressing steadily. Overall, construction of Units 1 to 4 is around 75 percent complete. All four units will deliver safe, clean, reliable and efficient nuclear energy to the UAE grid, pending regulatory reviews and licensing.

Report

New research predicts the future of coral reefs under climate change

If current trends continue, severe bleaching will occur every year on 99% of the world's coral reefs within this century

New climate model projections of the world's coral reefs reveal which reefs will be hit first by annual coral bleaching, an event that poses the gravest threat to one of the Earth's most important ecosystems.

These high-resolution projections, based on global climate models, predict when and where annual coral bleaching will occur. The projections show that reefs in Taiwan and around the Turks and Caicos archipelago will be among the world's first to experience annual bleaching.

Other reefs, like those off the coast of Bahrain, in Chile and in French Polynesia, will be hit decades later, according to research recently published in the journal Nature Scientific Reports. "These predictions are a treasure trove for those who are fighting to protect one of the world's most magnificent and important ecosystems from the ravages of climate change," said Erik Solheim, head of UN Environment.

"They allow conservationists and governments to prioritize the protection of reefs that may still have time to acclimatize to our warming seas. The projections show us where we still have time to act before it's too late." If current trends continue and the world fails to reduce greenhouse gas emissions, then severe bleaching will occur every year on 99 per cent of the world's reefs within the century, according to the study.

The Paris Agreement's aspirational target of limiting global temperature increase to 1.5 degrees Celsius provides a safer, but not an entirely safe space for coral reefs. Even if emission reductions exceed

More ambitious emissions reductions may give reefs an average of 11 extra years before annual bleaching strikes.

pledges made by countries to date under the Paris Agreement more than three quarters of the world's coral reefs will bleach every year before 2070.

It takes at least 5 years for a reef to recover from a single bleaching event. "Bleaching that takes place every year will invariably cause major changes in the ecological function of coral reef ecosystems," said study leader Dr. van Hooidonk of NOAA and the University of Miami. "Further, annual bleaching will greatly reduce the capacity of coral reefs to provide goods and services, such as fisheries and coastal protection, to human communities."

The need to act is clear. Between 2014 and 2016, the world witnessed the longest global bleaching event ever recorded, which killed coral on an unprecedented scale. In 2016, bleaching hit 90 per cent of coral on the Great Barrier Reef and killed more than 20 per cent of the reef's coral.

The new study shows that, on average, the world's reefs will start suffering annual bleaching in 2043. About 5 per cent of them will be hit a decade or more earlier, while about 11 per cent will suffer annual bleaching a decade or more later.

If emission reductions exceed pledges made by countries to date under the Paris Agreement, coral reefs would have another 11 years, on average, to adapt to warming seas before they are hit by annual bleaching. If such emissions reductions become reality, many high and low latitude reefs in Australia, the South Pacific, India, Coral Triangle and the Florida Reef Tract will have

at least 25 more years before annual bleaching occurs, buying time for conservation efforts.

However, reefs near the equator will experience annual bleaching much sooner, even if emissions reductions pledges materialize. "It is imperative that we take these predictions seriously and that, at the very minimum, we meet the targets of the Paris Agreement. Doing so will buy time for coral reefs and allow us to plan for the future and adapt to the present," said Mr. Solheim.

Predicting when and where annual bleaching occurs will help policymakers and conservationists decide which reefs to prioritize. "Reefs that will suffer annual bleaching later - known as climate "refugia" - are top priorities because they have more time to respond positively to efforts that seek to reduce bleaching vulnerability", said Dr. van Hooidonk. Such efforts include reducing land-based pollution, halting overfishing and preventing damage from tourism.

Coral reefs, which are already under threat from overfishing and tourism, are especially vulnerable to climate change because they are easily affected by warm water. When sea temperatures rise, the algae that give coral its bright colours leave their host, causing it to look white, hence the term 'coral bleaching'. The loss of algae, which provide coral with much of its energy, make corals vulnerable to starvation and disease.

Known as the world's underwater cities, coral reefs provide hundreds of millions of people with food, income and coastal protection. They are home to at least one quarter of all marine life and they generate an estimated $375 billion per year from fisheries, tourism and coastal protection.

"We are going to need to be much more innovative and proactive for coral reefs to thrive into the next century," said World Wildlife Fund lead marine scientist and study co-author Dr. Gabby Ahmadia. "We need to embrace the new climate reality to guide efforts to save our oceans."

f o r a b e t t e r t o m o r r o w

Rewards programme launched to encourage recycling culture

To encourage a culture of recycling among the public, Bee'ah, the Middle East's leading and award-winning environmental management company, launched Bee'ah Rewards at the recently concluded World Future Energy Summit (WFES) and Eco Waste that was held in Abu Dhabi from 16th to 19th January.

It is the first CSR programme of its kind that will reward the UAE people for their recycling efforts and lucky recyclers will win valuable prizes.

Open to the general public as well as potential partners, Bee'ah Rewards will raise awareness about the positive impact of recycling on society and the crucial role it plays in protecting the environment. In addition, Bee'ah's initiatives have been specifically designed to help fulfil the CSR mandate of corporate entities that are interested to adopt the programme.

Bee'ah Rewards will run in conjunction with the Reverse Vending Machines, RVMs, which connect consumers to the rewards system. The simple act of recycling has the opportunity to win numerous prizes, including getaways and holiday packages, Apple TVs, iPads, Nespresso machines and more.

Participants will be able to deposit plastic bottles and aluminium cans using RVMs that are strategically placed in malls, government institutions, universities and airports in Sharjah and Dubai. Once the recyclables are deposited, the RVMs will print receipts with a unique barcode.

Next, a user will have to use the Bee'ah Rewards tab in Bee'ah's mobile application to create an account and enter the receipt codes. Monthly winners will be selected through a random draw and announced on Bee'ah's social media accounts.

With the introduction of Bee'ah Rewards, the company is confident of increasing recycling rates exponentially in the short and the long term as the programme grows in scale.

INTERPOL launches new project targeting African-Asian wildlife crime links

INTERPOL has launched a new project to identify and dismantle organised crime networks that make billions through illegal wildlife trade between Africa and Asia.

Targeting high-profile illegal traders in Asia who source wildlife products from Africa, the project will provide a strengthened law enforcement response in source, transit and destination countries, particularly those linked to illicit trade in ivory, rhinoceros horn and Asian big cat products.

With environmental crimes estimated to be worth up to USD258 billion and linked to other criminal activities, including corruption, money laundering and firearms trafficking, the project led by INTERPOL's Environmental Security Programme will draw on the expertise of other specialised units.

These include the Anti-Corruption and Financial crime unit, the Digital Forensics Lab for data extraction from seized equipment, the Firearms Programme for weapon tracing and ballistics analyses and the Fugitive Investigations unit to assist the countries in locating and arresting wanted environmental criminals.

INTERPOL Secretary-General Jurgen Stock said the project embodied the added value of INTERPOL to help countries more effectively target specific crime threats.

"Protecting the world's wildlife heritage is our collective responsibility. It is essential that decisive action is taken to combat environmental crime and this project targeting the organised crime links between Africa and Asia will enable all involved actors to unite in their efforts, and provide a blueprint for future actions elsewhere in the world," Stock said.

A recent INTERPOL-UN environment report showed 80 percent of the countries consider environmental crime a national priority, with the majority saying that such criminal activities threatens peace and security.

PepsiCo highlights importance of partnerships, innovation in water management

PepsiCo, the global food and beverages company, highlighted the company's commitment to responsible water stewardship in the Asia, Middle East and North Africa (AMENA) region and across the world at the International Water Summit (IWS) held in Abu Dhabi in January.

According to Sanjeev Chadha, CEO, PepsiCo AMENA, "Water is critical for our world - and for us at PepsiCo - as an ingredient in our products, as a key enabler in our agricultural programs and in the manufacturing processes of our snacks, foods and beverages. We are committed to contributing to Positive Water Impact in and near the communities where we work. This includes our efforts to replenish the total water we consume in high water-risk areas, and to provide access to safe drinking water for under-served communities.

Countries, especially in water-stressed regions, are realizing that demand caused by population growth is increasing pressure on scarce water resources. According to the Water Resources Institute, 14 of the world's 33 likely most water-stressed countries in 2040 will be in the Middle East.

In 2015, PepsiCo globally improved operational water-use efficiency by 25.8% since 2006. That exceeded the company's goal of 20% by the end of the same year. By the end of 2015, the PepsiCo Foundation and its partners had provided safe water access to more than nine million people since 2006, significantly exceeding PepsiCo's goal of six million people by 2015.

In the beverages and snacks operations in AMENA, PepsiCo uses effective water conservation practices in line with the company's global commitments. As a result, PepsiCo increased its water-use efficiency in AMENA by 50% between 2006 and 2015.

In the GCC snacks business alone, PepsiCo has reduced its water use by an average of 69% per unit of production in the past decade.

Report

Setting standards for financing sustainable development

Financial institutions, including19 banks and investors worth $6.6 trillion in assets set new criteria for sustainable financial instruments.

Nearly 20 leading global banks and investors, totaling $6.6 trillion in assets, have launched the Principles for Positive Impact Finance - a first of its kind set of criteria for investments to be considered sustainable, on 30th January in Paris, France.

"The Principles are a timely initiative from the finance sector. They demonstrate the willingness of financial institutions to go beyond current practices and to contribute to foster a more sustainable development," said French Finance Minister Michel Sapin. "They should provide strengthened foundations for a positive cooperation between public and private actors."

"Achieving the Sustainable Development Goals is expected to cost $5 to 7 trillion every year through 2030," said Eric Usher, head of the UN Environment Finance Initiative.

"The Positive Impact Principles are a game changer, which will help to channel the hundreds of trillions of dollars managed by banks and investors towards clean, low carbon and inclusive projects." The Principles provide financiers and investors with a global framework applicable across their different business lines, including retail and wholesale lending, corporate and investment lending and asset management.

"With global challenges such as climate change, population growth and resource scarcity accelerating, there is an increased urgency for the finance sector both to adapt and to help bring about the necessary changes in our economic and business models. The Principles for

An estimated $5 to 7 trillion a year is needed to achieve the global sustainable development goals.

Positive Impact Finance provide an ambitious yet practical framework by which we can take the broader angle view we need to meet the deeply complex and interconnected challenges of our time," said Séverin Cabannes, Deputy CEO of Société Générale, a founding member of the group.

The four Positive Impact Principles provide guidance for financiers and investors to analyse, monitor and disclose the social, environmental and economic impacts of the financial products and services they deliver. The innovation of the Principles lies in the requirement for a holistic appraisal of positive and negative impacts on economic development, human well-being and the environment.

The Principles do not prescribe a single method for achieving positive impact, but they require that appraisal processes and methodologies be transparent.

The Principles are part of a broader process under the Positive Impact Manifesto, launched in 2015 to call for a new, impact-based financing paradigm to bridge the gap in financing for sustainable development.

"The Principles are the tool that is needed to enable the business and finance community to work and innovate together, and to address the challenge of the UN Sustainable Development Goals. The financial sector has already moved forward in that direction and we hope that the Principles as well as the Paris Green and Sustainable Finance Initiative we launched last year will help marking a new stage," said Gérard Mestrallet, Chairman of Paris EUROPLACE and Chairman of the Board of ENGIE.

Green Flash

The Coming Mini Ice Age?

The global media have highlighted new research predicting a Mini Ice Age during 2030-2040 as the sun's solar activity slows down for a prolonged period, similar to the 1646-1715 period when Europe experienced very harsh winters. According to Prof. Valentina Zharkova of Northumbria University, the magnetic waves causing sunspots exist as two divergent and competing frequencies which will soon cancel each other out, leading to a reduction in radiation reaching the Earth. She also believes the sun's fluctuating output plays a greater role in influencing temperature than does the greenhouse gas effect.

Not surprisingly, climate change deniers have jumped to the conclusion that we no longer need to fight global warming as the Earth will cool down by itself.

However, according to a report by Brooks Hays of the United Press International, Zharokova is mostly isolated in her conclusions on the sun's climatic effects, and her results have not been published in a peer-reviewed journal.

Secondly, it is counter intuitive to compare this postindustrial era to the 17th century when solar activity was the dominant factor influencing Earth's surface temperatures. Recent studies suggest that a slowdown in solar radiation will have little cooling effect on global warming which is raising Earth's temperature at a fast rate.

"Any reduction in global mean near-surface temperature due to a future decline in solar activity is likely to be a small fraction of projected anthropogenic warming," another study published in Nature predicted.

"The effect is a drop in the bucket, a barely detectable blip, on the overall warming trajectory we can expect over the next several decades from greenhouse warming," Michael Mann, professor of meteorology at Pennsylvania State University, told The Washington Post. A number of recent studies also suggested that the previous Mini Ice Age was quite small in size and stature, resulting in only small temperature reductions isolated to Europe.

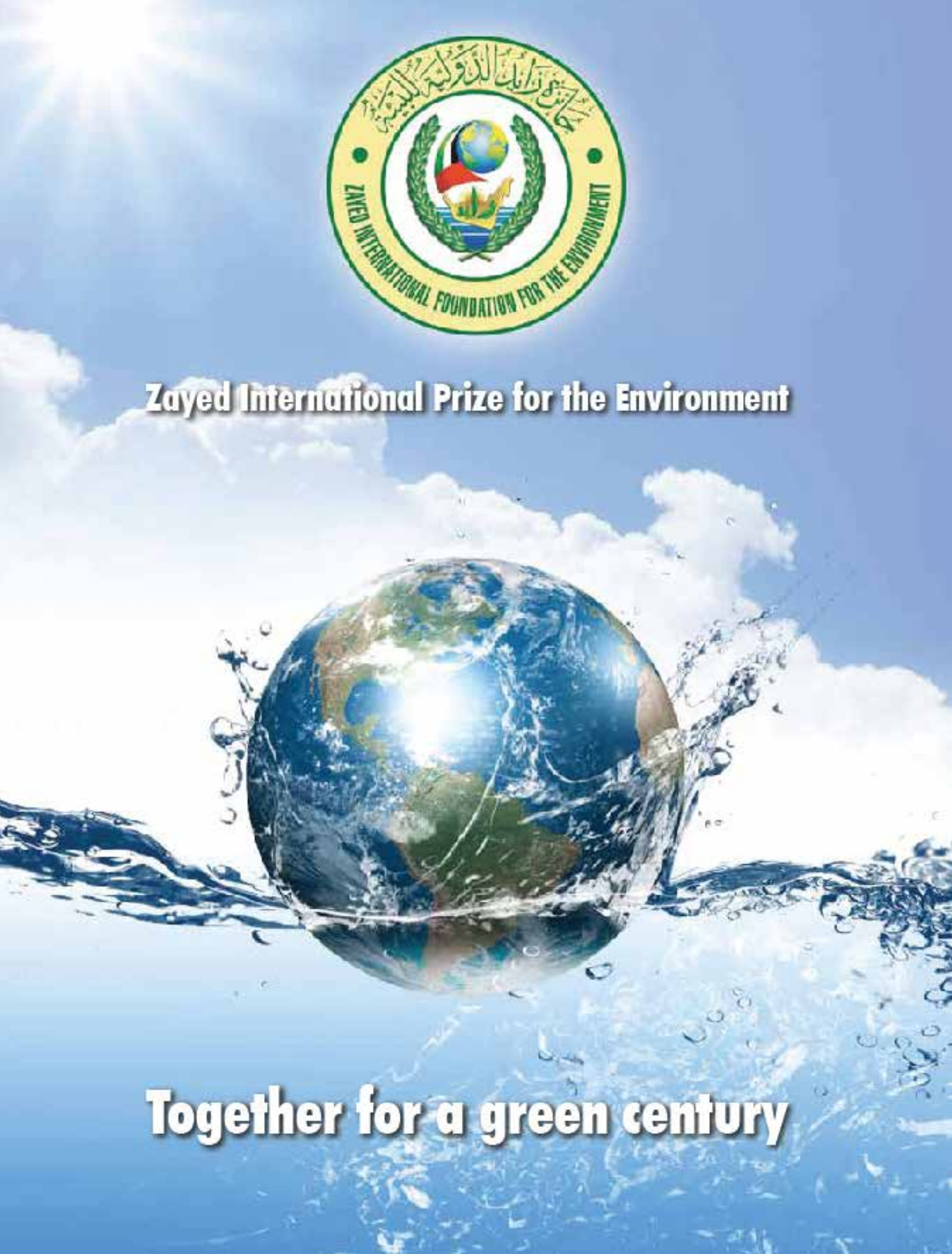
Thirdly, climate instability due to global warming has already been causing debilitating disasters destroying human settlements, infrastructure and life supporting ecosystems, especially in poor countries with little or no ability to cope. Hence, it will be unfair to ignore all this hoping that an ice age could solve our problem.

The Arctic and Antarctic ice sheets are already destabilized by global warming and when they eventually break up to become a part of the ocean's volume, a dramatic sea level rise will occur. Studies by University of Florida researchers suggest that unprecedented levels of greenhouse gases in the Earth's atmosphere are disrupting normal patterns of glaciation. Current levels of greenhouse gases are trapping too much heat in the atmosphere to allow the Earth to cool as it has in its prehistoric past in response to changes in Earth's orbital pattern. Research teams from the University College London, University of Cambridge and University of Florida have also indicated that the next ice age will likely be delayed by tens of thousands of years.

Let us all therefore join hands in implementing the Paris Accord and ignore such unproven theories.

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

Zayed International Prize for the Environment



Together for a green century

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