



DEWA SUSTAINABILITY REPORT 2018







VISION

A globally leading sustainable innovative corporation

MISSION

We are committed and aligned to Dubai's 8 Principles and 50-Year Charter supporting the UAE's directions through the delivery of global leading services and innovative energy solutions enriching lives and ensuring the happiness of our stakeholders in a sustainable manner.

MOTTO

For generations to come



Sheikh Zayed bin Sultan Al Nahyan
Founder of UAE, 1918-2004



No matter how many buildings, foundations, schools and hospitals we build, or how many bridges we raise, all these are material entities. The real spirit behind the progress is the human spirit, the able man with his intellect and capabilities.

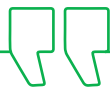




His Highness

Sheikh Khalifa bin Zayed Al Nahyan

President of the United Arab Emirates



We emphasise our determination to make more efforts to ensure a clean and safe environment that contributes to ensuring the well-being and happiness of our generations to come.

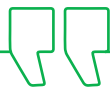




His Highness

Sheikh Mohammed bin Rashid Al Maktoum

Vice President and Prime Minister of the UAE and Ruler of Dubai



The diversification of resources is a legacy passed down through my family. It is the guarantee that the lessons of our arduous journey over the past 185 years haven't been taken for granted.





His Excellency

Saeed Mohammed Al Tayer

Managing Director and Chief Executive Officer

Dubai Electricity and Water Authority

MESSAGE FROM MD & CEO OF DUBAI ELECTRICITY AND WATER AUTHORITY

Dear Stakeholders,

DEWA's global success is based on sustainability as an essential part of our vision and at the heart of our business strategy. We are proud to share with our stakeholders DEWA's sixth Sustainability Report, prepared in accordance with the Global Reporting Initiative (GRI) Standards to ensure transparency in our administrative practices in sustainable development, energy, water, and climate change as well as in our dealings with key stakeholders that include customers, employees, and society.

The steps taken by DEWA coincide with our commitment to protecting the environment and preserving natural resources and sustainable development and are in line with the aspirations of our wise leadership. All our strategies and business plans are guided by the vision and directives of HH Sheikh Khalifa bin Zayed Al Nahyan, President of the UAE, and HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai. We also seek to implement ambitious national strategies and plans, including UAE Centennial 2071, which is a long-term government plan to prepare the UAE and young Emiratis for the future, and Dubai Plan 2021 to position Dubai as a global destination across various fields. We are committed and aligned to Dubai's eight principles of governance and the 50-Year Charter, supporting the UAE's direction through the delivery of globally leading services and innovative energy solutions, enriching lives and ensuring the happiness of our stakeholders in a sustainable manner.

Our vision to become a globally leading, sustainable, innovative corporation is aligned with the objectives of the UN's 17 Sustainable Development Goals (SDGs) 2030. As members of the United Nations Global Compact (UNGC), we support the substantial role played by the UN in encouraging sustainable progress and SDGs by aligning our work plans, initiatives, programmes, and projects with them.

To achieve our vision and SDG goals, we implemented an integrated strategy to raise awareness about conservation and the reduction of electricity and water use. This supports our efforts to protect the environment, preserve its natural resources, and reduce our carbon footprint to achieve the goals of the Dubai Clean Energy Strategy 2050 to provide 75% of Dubai's total power output from clean energy sources by 2050, and make Dubai the city with the lowest carbon footprint in the world, where we are on track with the Mohammed bin Rashid Al Maktoum Solar Park, which will produce 5,000 megawatts by 2030. DEWA also supports the Carbon Abatement Strategy to reduce carbon emissions by 16% by 2021, and the Demand Side Management Strategy to reduce energy and water use by 30% by 2030.

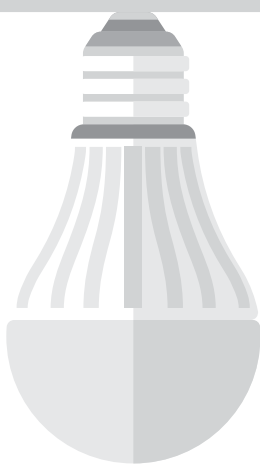
We prioritised innovation in our strategy to support sustainable development and are committed to using the disruptive technologies of the Fourth Industrial Revolution. These technologies include the use of Artificial Intelligence (AI), Unmanned Aerial Vehicles (UAVs), energy storage, data protection, blockchain, and big data. Key areas for sustainability and innovation are in our main operations, clean energy projects, research and development, smart city initiatives, diversification of income, digital services, supporting emerging tech start-ups, and cybersecurity.

DEWA achieved world record results in the Sustainability Culture Indicator, achieving 90.17% in 2018, exceeding the global average achieved by multinational organisations. The indicator is based on several pillars, including leadership in achieving sustainability, strategic commitment to sustainability, innovation in sustainability, effectiveness of training, and raising awareness of sustainability.

Our conservation programmes and initiatives over the past 10 years have achieved significant savings in electricity and water use within all stakeholder groups. Cumulative savings between 2009 and 2018 reached two terawatt-hours of electricity and 7.4 billion gallons of water, equivalent to a total saving of AED 1.2 billion. These savings were achieved in the residential, commercial, and industrial sectors as well as in educational facilities, governmental and semi-governmental organisations, which contributed to reducing one million tonnes of carbon emissions.

This report is not only an account of our major sustainable and innovative achievements. It is also a tribute to the role accomplished by all stakeholders who strive to make DEWA a global role model in energy efficiency and reliability, providing state-of-the-art infrastructure for our transition into a green economy.

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ABOUT DUBAI ELECTRICITY AND WATER AUTHORITY



ABOUT THIS REPORT

This is DEWA's sixth annual sustainability report. It presents our economic, environmental and social performance and focuses on our commitments, results and future goals, enabling us to communicate our sustainable performance to our stakeholders.

SCOPE

The data and statements contained in this report relate to and include all of DEWA's core operations and processes under DEWA's management control unless otherwise stated. Data from subsidiaries, joint ventures and suppliers have not been included in this report, unless otherwise stated.

The performance data provided in the report covers the reporting period from January 1st to December 31st, 2018. Ongoing initiatives commenced in earlier years as well as information deemed significant from our previous reports have also been included in this report. Note that there have not been any restatements or major changes to data measurement used compared to those employed in the previous report.

DEFINING THE CONTENT

DEWA's 2018 Sustainability Report provides information on our sustainability performance in a reasonable and balanced manner and it is addressed to all our stakeholders. DEWA is committed to reporting on its sustainability performance annually, and this report follows the 2017 Sustainability Report. This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards: Core option. GRI provides the world's most widely used standards on sustainability reporting and disclosure, enabling organisations around the world to communicate their sustainability performance and impacts.

This report also aligns with the GRI G4 Electric Utilities Sector Disclosures and the Sustainable Development Goals. In addition, it meets the requirements of the United Nations Global Compact Communication on Progress and follows Task Force on Climate Related Financial Disclosures (TCFD) recommendations. The principles of inclusiveness, materiality, sustainability and completeness were implemented as well as those of the Accountability AA1000 Standard on inclusiveness, materiality and responsiveness.

EXTERNAL ASSURANCE

Believing that transparency is the result of providing comprehensive, credible and comparable information, we have again submitted the 2018 Sustainability Report for external assurance (at a limited level of assurance) to an independent assurance provider in accordance with the International Assurance Standard 3000 (ISAE 3000).

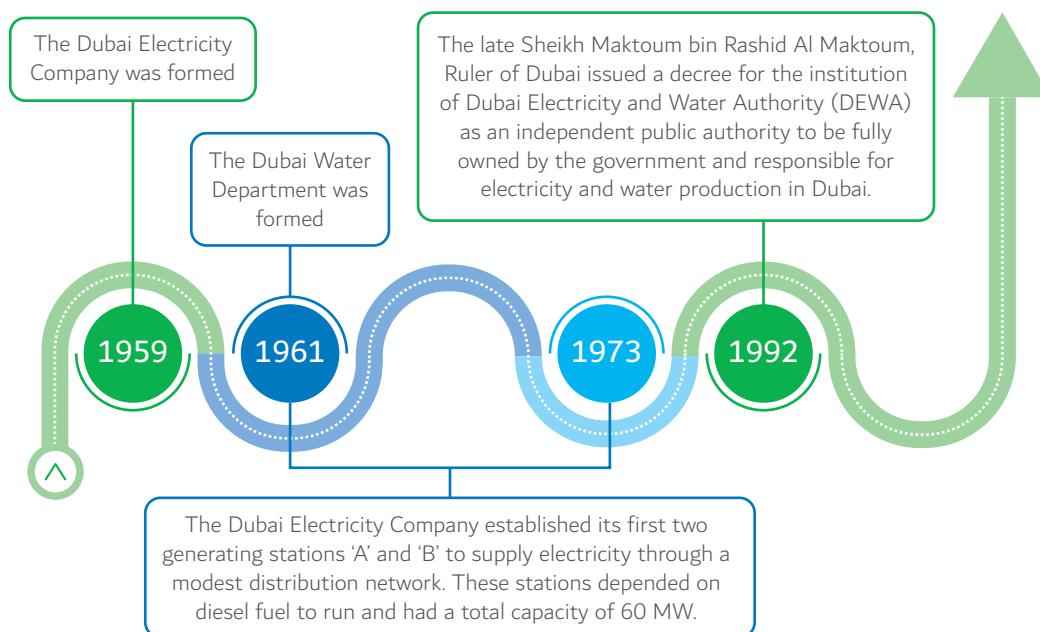
COMMENTS

At DEWA, we constantly seek to evolve and improve our sustainability performance. Therefore, we greatly value our stakeholders' feedback. We welcome your comments, questions, or suggestions for improvement with regards to our sixth sustainability report at: sustainability@dewa.gov.ae

Please note that an electronic version of this report can be found on our website:

<http://www.dewa.gov.ae>

HISTORY OF DEWA



DEWA AT A GLANCE

Dubai Electricity and Water Authority (DEWA) is a Dubai government owned utility and is the sole provider of electricity and water in the Emirate of Dubai. DEWA's core business is to operate and maintain its power stations, and desalination plants, aquifers, power and water transmission lines, and power and water distribution networks in Dubai. Our power generation and water desalination stations are mainly fuelled by natural gas. We buy gas exclusively from the Dubai Supply Authority (DUSUP), which is responsible for procuring, transmitting, storing and delivering to end customers all natural gas in the Emirate of Dubai. DEWA operates as an independent authority, regulated by the Dubai Supreme Council of Energy, which is responsible for energy policy development, planning and coordination in Dubai and has broad regulatory powers including the power to set the water and electricity tariffs charged by DEWA.

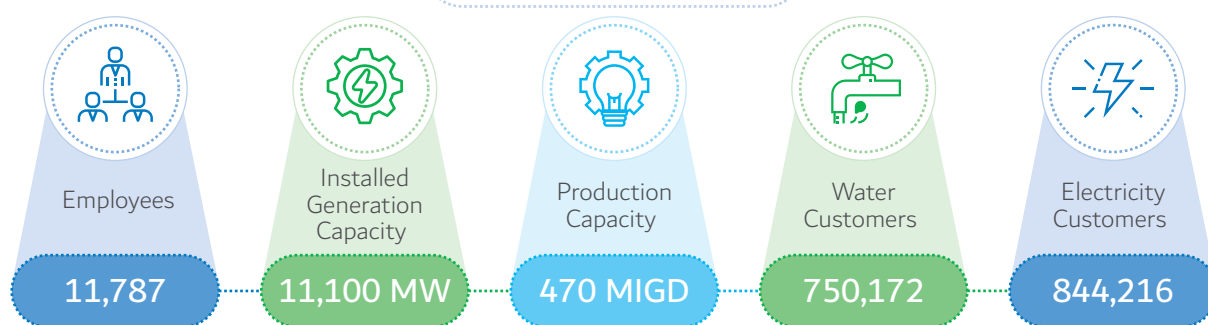


Although our main business activities are in the production and supply of electricity and water, we also have a number of other related business interests:



The above related business interests are excluded from the reported data found within this report.

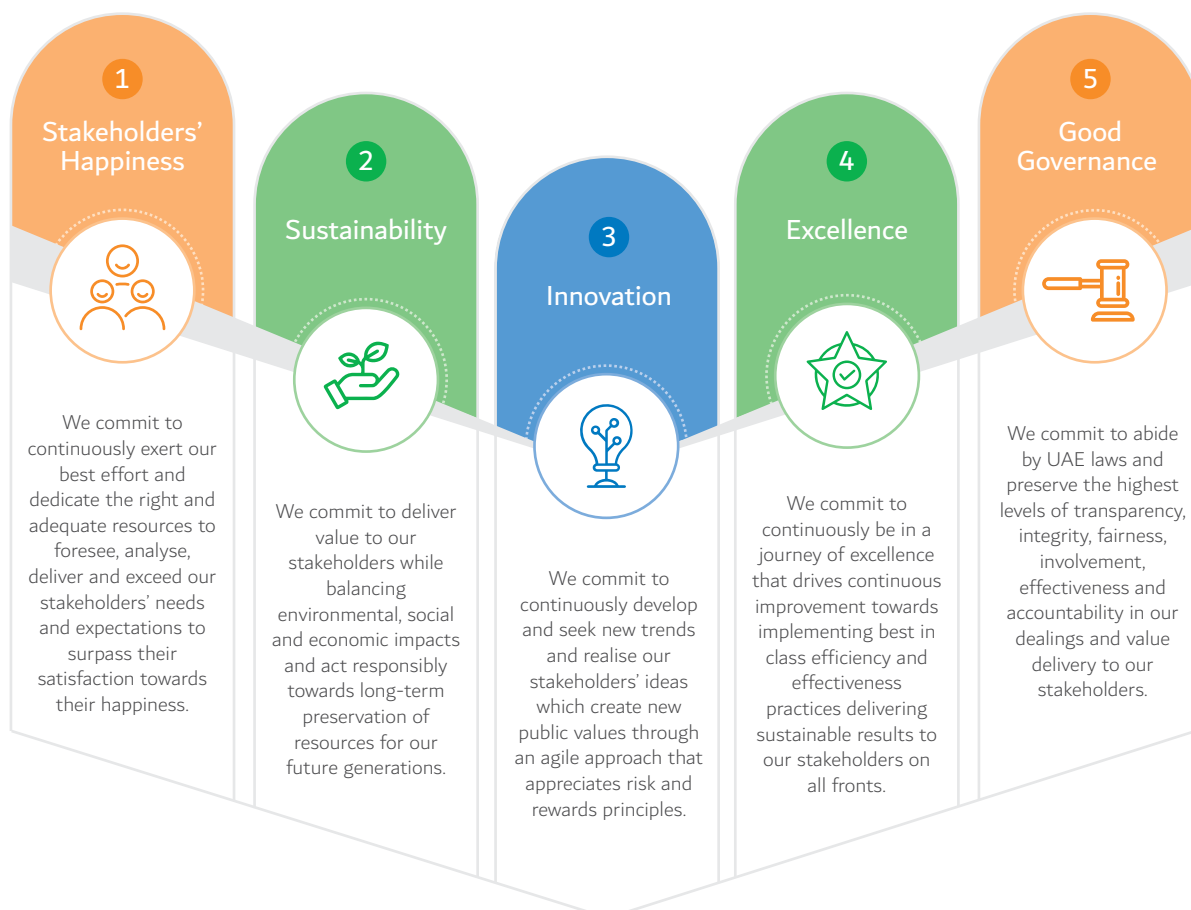
Key Facts About DEWA



OUR VALUES

At DEWA, we have clearly defined a set of corporate values that reflect our priorities and what we stand for. Our values serve as a roadmap for how we interact within the organisation and with others. Each value has a detailed definition, key behaviours and actions, to enable our workforce to incorporate those values in their daily work. These corporate values are reflected in our Code of Conduct, which is shared with all our employees in their employee handbook upon joining. The handbook is also accessible through our internal portal.

The importance of applying our values in practice is frequently emphasised by senior management, as we firmly believe in leading by example. This is also supported by several means of communication and feedback systems, which enable our workforce to raise their opinions and provide feedback related to any breaches of the Code of Conduct, the work environment and customer service among others.



CORPORATE GOVERNANCE

DEWA is a fully government owned, prime utility organisation engaged in the production and supply of two life forces, namely electricity and water in Dubai and ' Good Governance' is at the core of DEWA's functioning. DEWA has implemented in letter and spirit the best principles of good Corporate Governance by adopting globally leading principles of governance. Benchmarks and standards followed by DEWA include the OECD, the World Bank, UN organisations and leading utilities worldwide.

DEWA has adopted the four classic pillars of good governance, those being Trust, Transparency, Accountability, and Fair practices. Thereafter, building upon the four pillars of DEWA's governance drivers have evolved with changing technology and expectations over the last three decades. The scope of good governance in DEWA now spans IT Governance, Project Governance, Sustainability Governance, Water Governance, Procurement Governance, eGovernance and the dynamic governance requirements of the Fourth Industrial Revolution, which includes digital transformation. While the digital age requires agile and sustainable governance, it also requires that governance is embedded in all the facets of the organisation to enable it to respond and adapt with the speed of the digital age. Therefore, DEWA's governance is based on trust and a promise of sustainability "For Generations to Come" as expressed in DEWA's corporate motto. The Board, which has been established by the major shareholder and by a decree along with the Managing Director and CEO sets the tone at the top for an ethical organisation. The Board and Management lead governance best practice by example.

DEWA's nine member Board of Directors are nominated by the 100% shareholder, the Government of Dubai and appointed for an initial term of three years (extendable) by the Government of Dubai by a statute issued by the Ruler of Dubai. The nine members are chosen after a thorough evaluation process. The members are qualified and experienced in Engineering and Technology; Accounting and Finance; Administration, Management and Business. They all have extensive standing on the boards of organisations and corporates. They represent responsible oversight of the organisation and the working of DEWA. Proclamation and resolution of conflicts of interests, clear related party disclosures and an established Code of Conduct are enablers of DEWA's board governance principles.

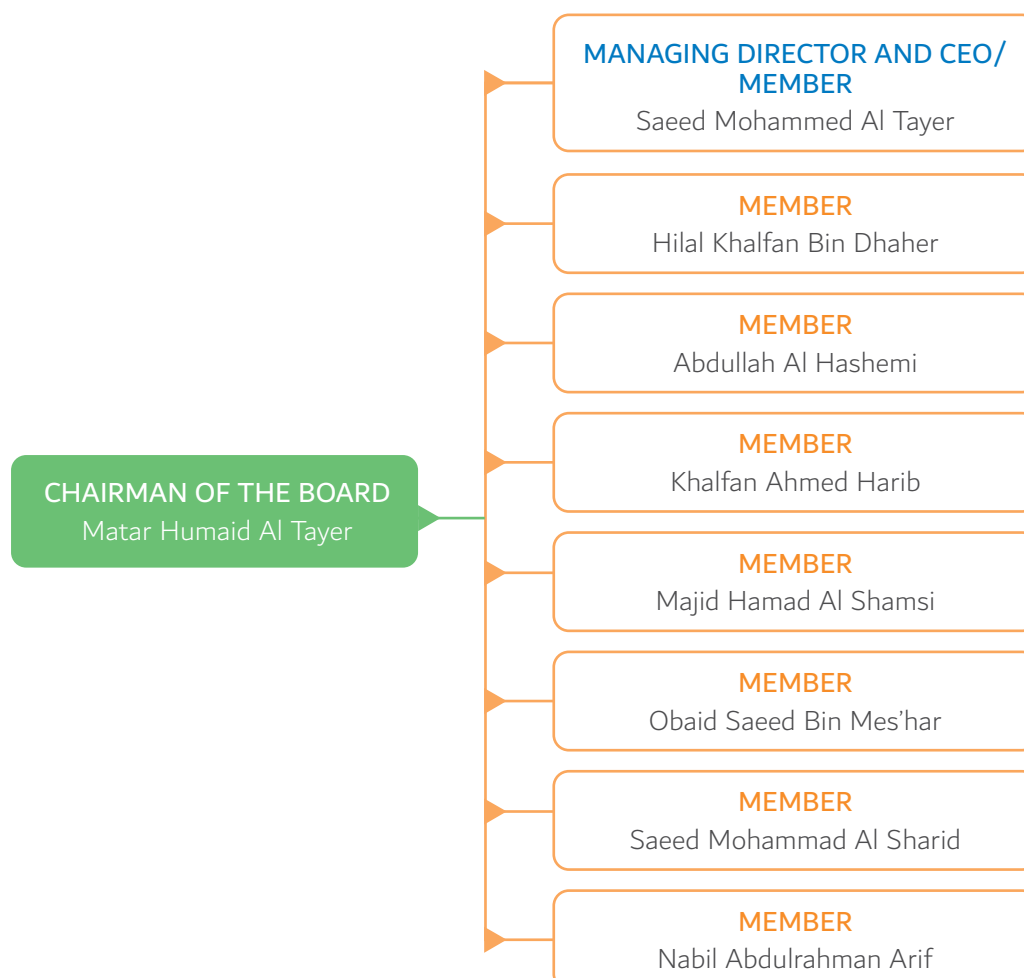


The Board has adopted a novel committee approach whereby committees are not fixed and demarcated but are dynamic and are established to address key concerns that come up such as Finance and Budgeting, Risk and Audit, Technology issues etc. The committees are thus formed by the Board drawing upon the skills of the board members. The Board and its committees can seek the advice of any reputed external experts and resources in enabling their decision-making. There is a qualified Board Secretary who arranges for the meetings of the Board with a comprehensive agenda and minutes. The Board is required to meet at least four times a year but meets more often if necessary. The MD and CEO constantly informs the Board of developments and consults them in crucial decisions. Board dissent is respected.

Considering the principle of corporate governance excellence followed by DEWA over the years, there have been numerous awards conferred on DEWA for its governance excellence.

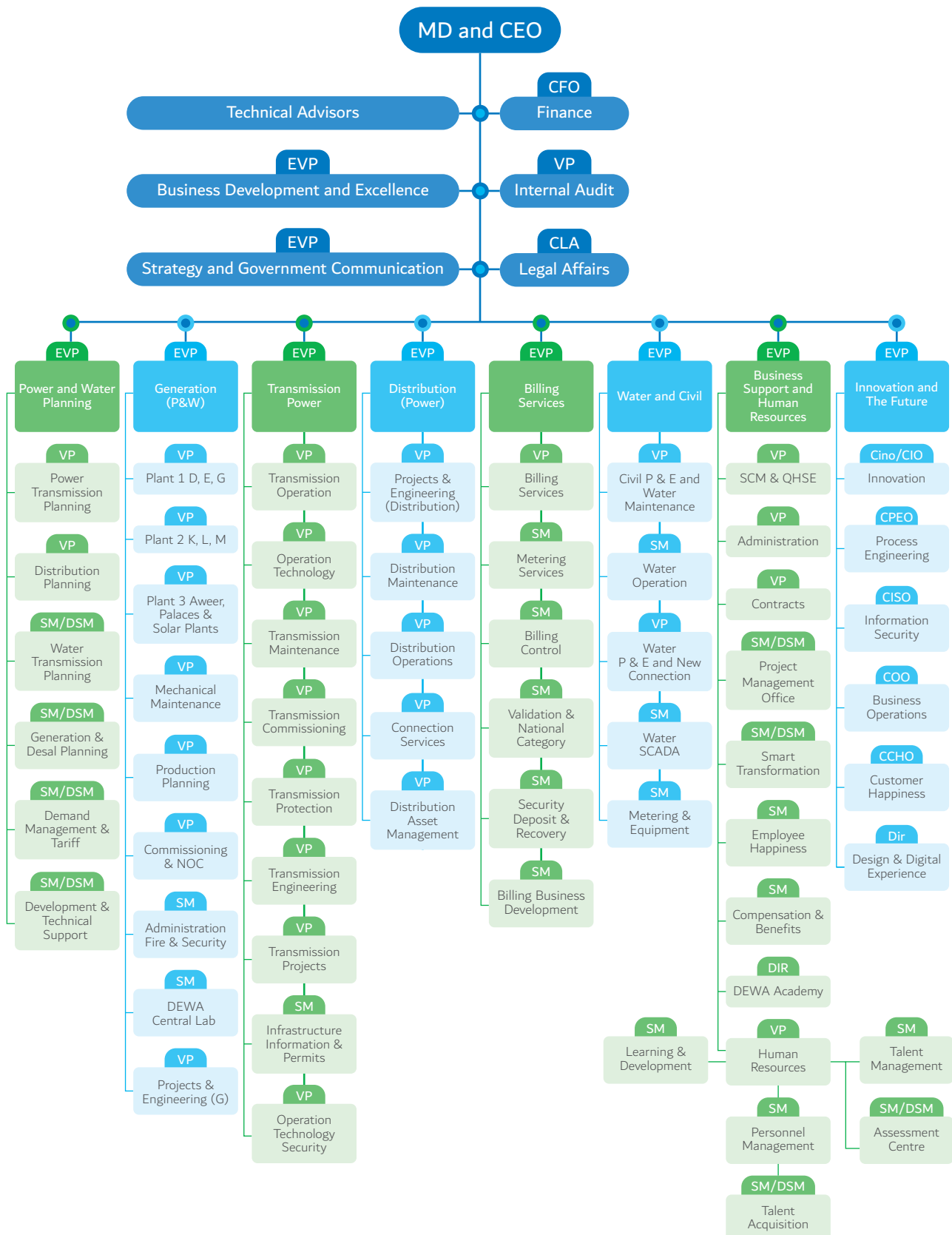
BOARD OF DIRECTORS

The Board of Directors of DEWA monitors all corporate activities, serving as the top decision-making body. The fundamental roles of the Board are to ratify DEWA's annual budget, approve electricity and water supply services and authorise and enter into agreements with external parties. The Board furthermore approves administrative, financial and technical affairs and issues governing regulations. As Dubai Government is DEWA's sole owner, the Board and its top officials are appointed directly by a government decree. The current Board was appointed in 2018 and consists of 9 members. Matar Humaid Al Tayer currently serves as Chairman of the Board, while Saeed Mohammed Al Tayer is DEWA's Managing Director and Chief Executive Officer and a Member of the Board.



DEWA'S ORGANISATIONAL CHART

DEWA operates through both primary and supportive specialised divisions, and each sector includes its own organisational departments, sections, and units that manage the sector's operations in accordance with key performance indicators, objectives and plans, which support DEWA in delivering its services competently and efficiently.





COMMITTEES

The management team is supported in its activities by a range of other committees, which consist of either management team members or other individuals from DEWA's divisions. There are a number of other committees in DEWA such as the Grievance Committee, Personnel Committee, Women's Committee, DEWA Youth Council, Investment Committee, Tender Opening Committee, Local Purchase Committee, Corporate Risk Management Committee, Takaful and Theqa Committee, Admin Violation Committee, Scrap Verification Committee, Liquidated Damage Committee, DEWA Excellence Award Committee, Crisis Management Committee, Operation Committee, Engineering Committee, Enterprise Risk Management Committee, Health, Safety & Environment Committee, Corporate Governance Committee, Cyber Security Emergency Response Committee, ISO 50001 Energy Management System-Top Management Committee, Drones Robotics Committee and others.

ASSOCIATIONS/ ORGANISATIONS

DEWA plays a major role in various national and international organisations, councils and committees that lead to successful partnerships in the energy and industrial sectors. The aim of such collaborations is to ensure adopting the best global sustainability practices. These organisations include but are not limited to:



STRATEGICALLY DRIVEN

OUR STRATEGY

DEWA is strategically driven, continuously aligning its strategy with major global developments and national strategies, to ensure its effective contribution to the long-term prosperity of Dubai. Our strategy map is the road map realising our vision, mission, motto and values, and consists of themes and strategic objectives. The DEWA 2021 Strategy aims to achieve stakeholders' happiness and enhanced competitiveness, by providing smart and innovative services at the highest levels of efficiency, while adopting best international practices. With DEWA 2021, we have included more focus on agility and governance, excellence and innovation, to enable us to look ahead for a sustainable future. Sustainability remains at the heart of our business and strategy. Our understanding of sustainability extends beyond our own operations, into our supply chains, our communities, the wider society, and Dubai's economy.

DEWA STAKEHOLDERS' HAPPINESS STRATEGY

DEWA is amongst the first utilities to develop a happiness strategy: The Stakeholders' Happiness Framework. To ensure an optimal and comprehensive outcome, the strategy has been developed along 3 design principles:

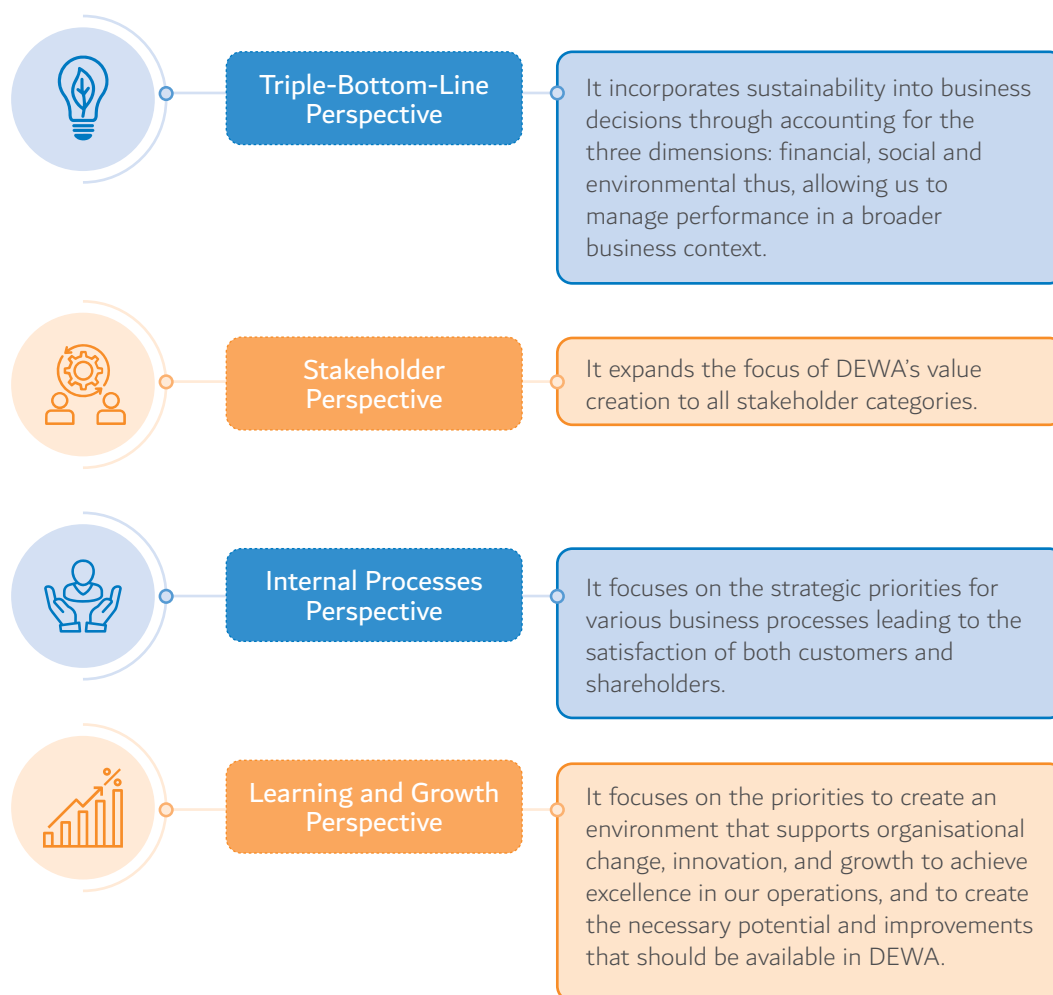
- Deliver against ambitious happiness mandates from UAE and Dubai and ensure that DEWA is the best place to work in the UAE, has the best customer experience and is also the most admired community member and a society role model.
- Incorporate the current assessment, and position DEWA as a role model in exceeding global best practices.
- Ensure the strategy makes robust business sense, as it is driven by both impact and ease of implementation to deliver the most beneficial solution and allow DEWA to extract financial benefits.

OUR STRATEGY MANAGEMENT SYSTEM

Our strategy management process is implemented annually at DEWA. The process is broken down into strategic objectives, corporate Key Performance Indicators (KPIs) and initiatives split across the four perspectives.

Our strategy map is annually updated to keep pace with Dubai's ever-growing plans and objectives. In 2018, we refined our objectives to transform into a leading innovative organisation that aims towards the happiness of our employees and stakeholders, while maintaining our commitment to achieving the Dubai Plan 2021. This 2018 update of our strategy also includes an optimised version of our Corporate Balanced Scorecard that enhances our focus on measuring progress towards achieving crucial strategic targets. At DEWA, we acknowledge that achieving our strategic objectives requires agile strategic management for optimal decision making that focuses on top priorities.

The four perspectives, which ensure that our strategy has a balanced focus on both enablers and results, are:



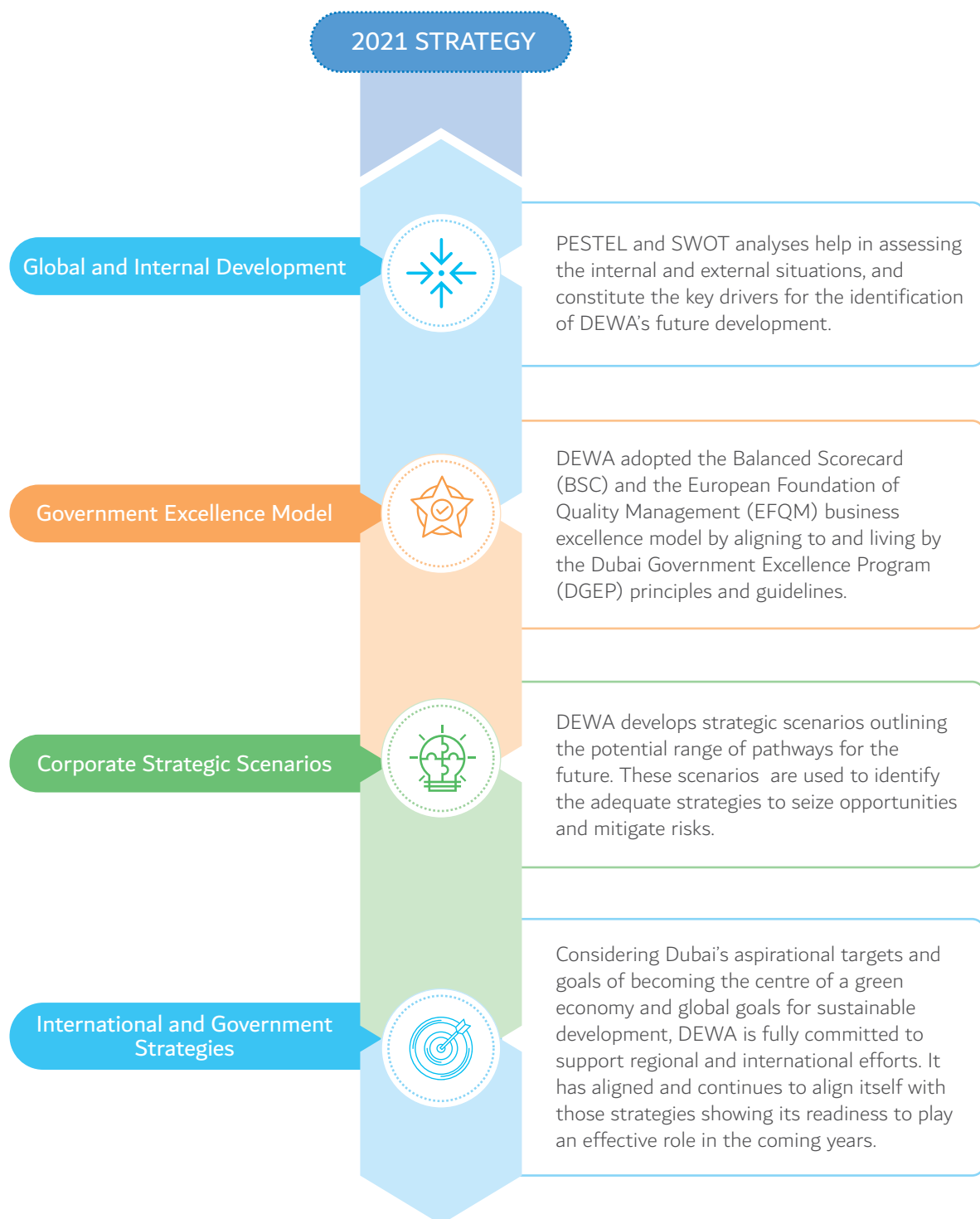
STRATEGIC PLANNING APPROACH

At DEWA, we understand that sustainability is a journey, not a destination. As part of our strategic planning approach, we conduct thorough research and analysis, which provides us with a holistic inside-out view of our operational context that delivers a sustainable roadmap of the organisation.

We examine major emerging political, social, environmental, technological, legal, industry and market trends; as well as our historical performance to identify our strengths, weaknesses, threats and opportunities. We consider a number of scenarios based on emerging trends and underlying drivers. We then identify the strategic implications over the specified time frame.

Two major contributing factors that play a critical role in formulating our strategy are:

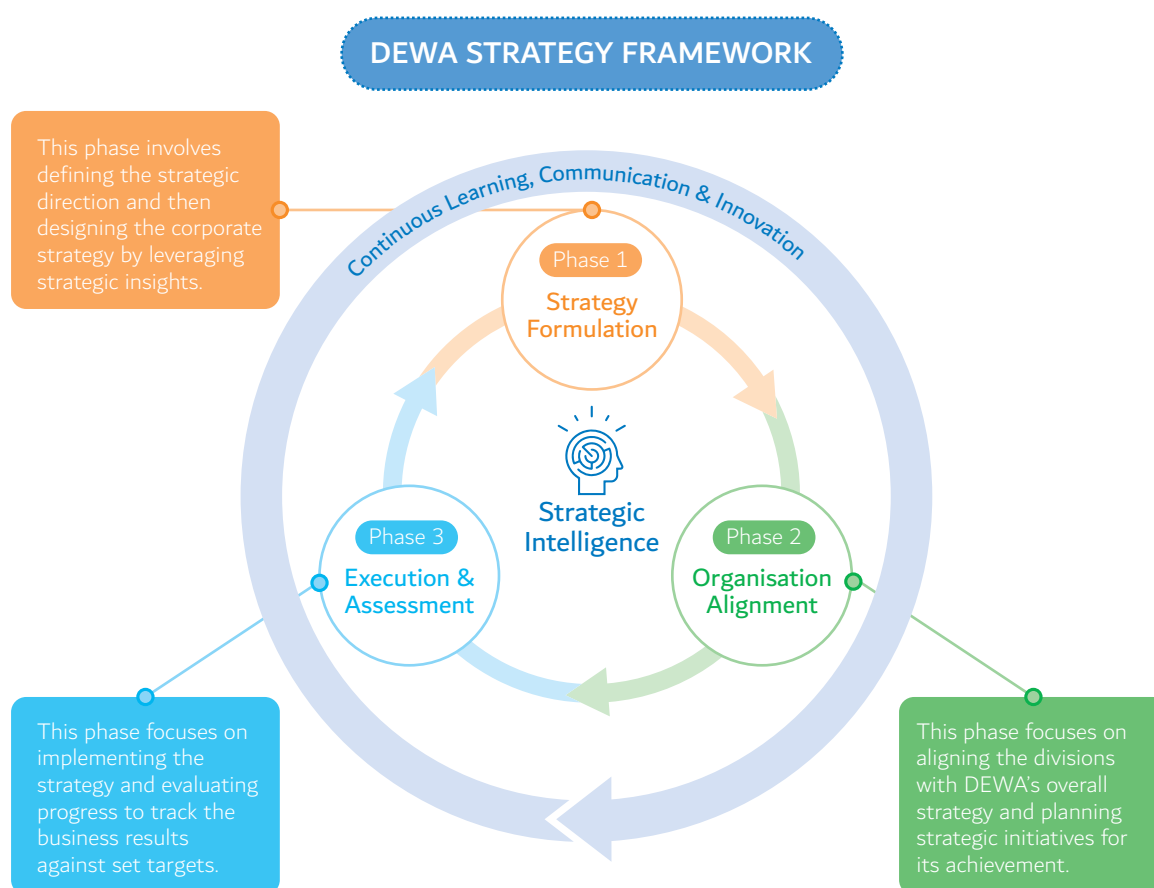
1. Alignment with Dubai and UAE strategies to help achieve the vision of Dubai and the nation, and with international initiatives supported by the UAE.
2. Alignment with external and internal developments and scenario planning to tackle uncertainty to ensure that DEWA is future-proof in order to achieve its objectives.



STRATEGY FRAMEWORK

DEWA has pioneered in the adoption of strategic planning and performance management processes into its operations since the early 1990s and has always been at the forefront in that domain.

DEWA applies an international best practice framework for developing, updating and executing its strategy. DEWA's Strategy framework consists of 3 consecutive phases leveraging the right input from strategic intelligence and powered by innovation.



STRATEGIC AMBITIONS INTO 2021

There are five themes in our 2021 strategy through which DEWA will achieve its long-term sustainability goals:

- **Sustainable Growth:** Our strategy is rooted in reinforcing sustainability in all of our activities. Sustainable growth is our higher order goal that will allow us to mobilise our capabilities to contribute to the ambitious local and federal development plans, conserve our natural capital and ensure our lasting economic prosperity.
- **Operational and Smart Service Excellence:** Through our commitment to continuously improve Enterprise Asset Management, diligently work on safeguarding individuals through leading health and safety practices and continuously improve the quality and values of the services we provide, we aim to deliver services that surpass the expectations of our stakeholders.
- **Agility and Governance:** We aim to support the transformative journey of DEWA2021 and its strategic direction by capitalising on our well-established good governance practices and further develop our corporate resilience framework.
- **10X the Future:** In the fast-moving energy and water sector, our ability to innovate is critical for preparing DEWA and Dubai for the future. This theme of our strategy will keep us focused on finding enduring and more appropriate solutions to the current and future challenges facing our business by investing in research and development and innovation.
- **Enablers of Success:** Underlying our entire strategy are our people and capabilities - these are the foundations upon which we implement our strategy. We remain committed to investing in our people and ensuring a happy, safe and productive work environment to support our business growth and success while reinforcing and safeguarding the national identity of the UAE and building future leaders.

DEWA STRATEGY ALIGNMENT

Our strategy and road map are aligned to plans at a global, UAE federal and Dubai Emirate level.



UN SUSTAINABLE DEVELOPMENT GOALS

The Sustainable Development Goals (SDGs) came into effect in January 2016 and are a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity. Each of the 17 Goals has specific targets to be achieved over the next 15 years.



UAE VISION 2021 & NATIONAL AGENDA

The UAE is on a journey to position itself among the leading countries in the world. This journey will find its climax in the golden jubilee in 2021. To achieve its Vision 2021, a set of national KPIs grouped in six themes was developed to track progress.



UAE AND DUBAI INNOVATION STRATEGY

The Dubai Innovation Strategy focuses on ten sectors that are aligned to the National Innovation Strategy, and aims to improve living standards in Dubai. For DEWA, innovation is a priority for improving our services and initiatives, and a key element in developing our strategies and work plans.



UAE CENTENNIAL 2071

The plan focuses on human development through educational programmes with a concentration on Information Technology and Engineering, promoting the UAE's image and soft power globally, enhancing community cohesion and respect while strengthening Emirati values and ethics and lastly, building a diversified and competitive economy.



UAE WATER SECURITY STRATEGY 2036

The aim of the UAE Water Security Strategy 2036 is to sustain access to water under both regular and emergency conditions in keeping with national regulations and international standards set by the World Health Organisation. Some of the main targets for the strategy include: reducing the demand for water by 21 percent, increasing the reuse of treated water to 95 percent and increasing the national water storage capacity up to two days.



UAE STRATEGY FOR THE FUTURE

Launched under the directives of HH. Sheikh Khalifa bin Zayed Al Nahyan, President of the UAE, the long-term strategy will steer the nation's growth by identifying the needs and challenges of the future, addressing them through impactful long-term plans, and successfully leveraging new opportunities for all-round development. The strategy is centred on three main pillars: new operational model for the government, building national capacity and setting strategic priorities for the future.



UAE STRATEGY FOR ARTIFICIAL INTELLIGENCE

Launched in October 2017, this strategy is the first of its kind in the world and it aims to achieve the objectives of the UAE Centennial 2071, boost government performance at all levels, use an integrated smart digital system that can overcome challenges and provide quick efficient solutions. In addition to make the UAE the first in the field of AI investments in various sectors, and create a new vital market with high economic value.



THE UAE STRATEGY FOR THE FOURTH INDUSTRIAL REVOLUTION

This strategy aims to achieve customer happiness and to position the UAE as a model for interactive cities using artificial intelligence to achieve sustainability.



UAE GREEN GROWTH STRATEGY

This strategy is a long-term national initiative to build the green economy of the UAE under the slogan 'A Green Economy for Sustainable Development'. It aims to maintain a sustainable environment to support long-term economic growth.



8 PRINCIPLES OF DUBAI

The 8 Principles of Dubai were launched by HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai. The Principles ensure sustainability of economic growth, make Dubai a global hub for creating economic opportunities, and attract the best minds and ideas.



THE 50-YEAR CHARTER

The 50-Year Charter marks HH Sheikh Mohammed bin Rashid Al Maktoum's 50 years of service to the country and includes what will be undertaken to improve the quality of life, develop the community of Dubai and ensure the future of generations to come.



دبي الذكية
SMART DUBAI

SMART DUBAI

Smart Dubai is a strategy for transforming Dubai into the smartest city in the world by 2021. It includes 100 initiatives transforming 1,000 government services into smart services. DEWA as a key stakeholder is actively participating in the development of Dubai's Smart City vision.



DUBAI CLEAN ENERGY STRATEGY AND DEMAND SIDE MANAGEMENT STRATEGY

The Dubai Clean Energy Strategy (DCES) 2050 sets targets for 79% of clean energy in the generation mix by 2020, 25% by 2030 and 75% by 2050, while the Demand Side Management Strategy 2030 aims to reduce energy and water demand by 30% by 2030. DEWA plays an essential role in achieving these goals by reinforcing the renewable energy sector and fuel diversification to meet the objectives of the DCES 2050, which maps out Dubai's energy sector over the next three decades.



DUBAI 10X

DUBAI 10X INITIATIVE

The Dubai 10X initiative mandates the Government of Dubai to be a global leader that is 10 years ahead of all other cities through government innovation and reformulation of traditional work mechanisms. His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai called on all Dubai Government entities to embrace disruptive innovation, which is exploiting available technologies to deliver new or existing services in radically different ways that are design thinking based and customer-focused. The disruptive innovation should be adopted by all government entities as the basis of their operations and to seek ways to incorporate its methodologies in all aspects of their work.



المجلس الأعلى للطاقة
Supreme Council of Energy

CARBON ABATEMENT STRATEGY 2021

This Strategy sets the course of actions to be adopted by Dubai Government in order to manage Dubai's GHG emissions until 2021. It aims to reduce carbon emissions by 16% by 2021. DEWA covers power and water contributing to the overall reduction target by 8% in 2021, equivalent of 5.15 MtCO_{2e}.



مجلس دبي للحكومة
DUBAI GOVERNMENT EXCELLENCE PROGRAM

DUBAI GOVERNMENT EXCELLENCE PROGRAM

DGEP creates an environment that encourages government organisations to adopt excellence and innovation, respond to the challenges and enhance performance. Towards that, DEWA provides world-class government services and adopts international best practices.



HAPPINESS
METER

UAE AND DUBAI HAPPINESS

The UAE launched the visionary ambition of becoming the happiest country in the world. It appointed a Minister of State for Happiness and launched the National Programme for Happiness and Positivity. This happiness ambition is reflected both in the UAE Vision 2021 as well as Dubai Plan 2021.



خطة دبي
2021
DUBAI PLAN

DUBAI PLAN 2021

Dubai Plan 2021 describes the future of Dubai through holistic and complementary perspectives that were divided into six themes. Each highlights a group of KPIs for Dubai that is aligned with DEWA's 2021 Strategy.



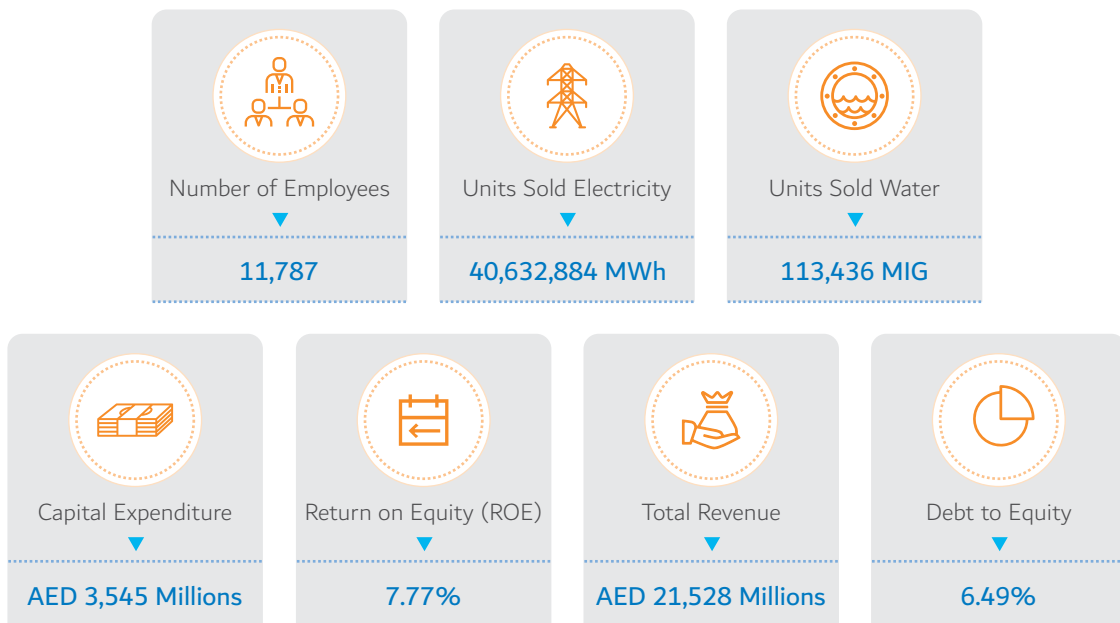
دبي الذكية
SMART DUBAI

DUBAI PAPERLESS STRATEGY

The Dubai Paperless Strategy aims to build a perfectly integrated paperless government framework, and an administration that sets solid plans and strategies to secure people's happiness and develop their communities to meet the requirements of the cities of the future. The strategy will eliminate over one billion papers annually used today in Dubai government transactions.

OUR ECONOMIC PERFORMANCE

DEWA is committed to long-term financial sustainability, which is showcased by our continuous efforts to optimise costs and investments, and generate a consistent return for our sole shareholder, the Government of Dubai. In line with the UAE Vision 2021, Dubai Plan 2021 and Dubai Clean Energy Strategy 2050, DEWA has rolled out several initiatives to invest in a green economy, promote an innovative and knowledge-based environment and establish a smart and connected city. DEWA has achieved great success in attracting international investment into Dubai in its solar power projects through the IPP model. DEWA leads international benchmarks in technical, operational and financial sectors and is among the select utilities in the region with investment grade ratings from International Credit Rating Agencies in recognition of its strong financial profile, progressive management, consistent growth and efficiency.



YEAR OF ZAYED

The year 2018 marks 100 years since the birth of the late Sheikh Zayed bin Sultan Al Nahyan, the Founding Father of the UAE, who passed away in 2004. To commemorate this historic national occasion, His Highness Sheikh Khalifa bin Zayed Al Nahyan, President of the UAE declared that 2018 would officially be known in the UAE as the Year of Zayed. The Year of Zayed focused on four core values which are wisdom, respect, sustainability and human development.

In line with the Year of Zayed, DEWA adopted several programmes and humanitarian initiatives. These included: Zayed Al Khair Exhibition, Umrat Zayed, Eidyat Zayed and Ajyal Zayed Al Khair. A Higher Committee, chaired by HE Saeed Mohammed Al Tayer, MD & CEO of DEWA was established for the purpose of approving and monitoring the progress of all programmes for the Year of Zayed at DEWA.

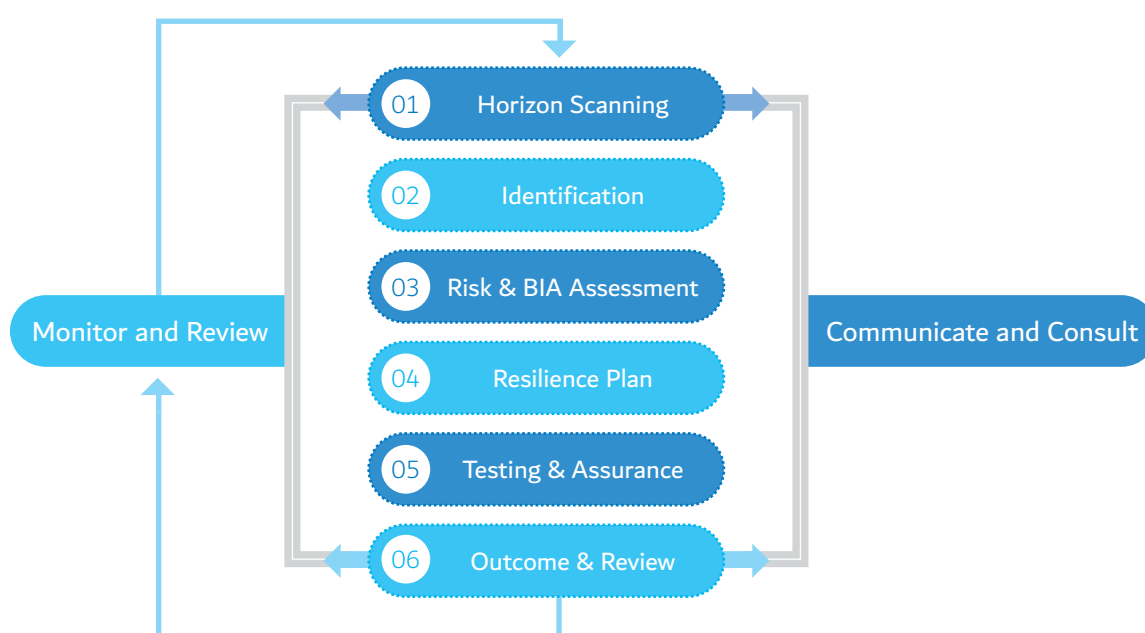
To support our initiatives and promote volunteerism among our employees, DEWA launched a volunteerism website where employees can keep up to date with the latest initiatives and volunteering opportunities. The site provides a dedicated page for each volunteer that calculates his or her volunteering hours. In 2018, 662 employees registered through DEWA's Volunteering Programme (DVP). Another channel of volunteering was through the DEWA 911 Mobile, which is through sharing SMS messages about any upcoming events that involve volunteering. In 2018, 253 employees were registered in the DEWA 911 channel.

ENTERPRISE RESILIENCE

In a period of increasing complexity and uncertainty, DEWA recognises the need to be resilient, to anticipate and react to change in order to ensure the continuous supply of electricity and water to the Emirate of Dubai.

DEWA plays a critical role in Dubai's infrastructure and requires the ability to build a situational awareness capability that can swiftly respond to threats and crises at the enterprise level.

DEWA's Enterprise Resilience Framework demonstrates DEWA's commitment to embedding resilience across the enterprise so DEWA becomes and remains a resilient utility. Adherence to the Enterprise Resilience Framework and Policy is the responsibility of all DEWA Divisions. Enterprise Resilience is essential for strong corporate governance, better-informed decision making and fostering a positive resilience culture across the organisation. DEWA's Enterprise Resilience Framework is supported by the Resilience Process shown in the diagram below:



Enterprise Resilience comprises of the following three areas:

1. ENTERPRISE RISK MANAGEMENT (ERM)

Enterprise Risk Management involves systematically understanding the risks appropriate to DEWA's activities and operating environment. The approach is compliant with the principles and guidelines set out in ISO 31000:2009; the International Standard for Risk Management. Progress on the status of mitigation plan implementation for the top risks facing DEWA are reported to the Group Risk and Resilience Committee twice a year.

DEWA is further demonstrating its commitment to Enterprise Resilience by developing the first industry-specific risk management standard for the Power and Utility Sector in collaboration with the British Standards Institution (BSI). The development of this standard will enable and support consistently applied risk management practices across the Power and Utility Sector.

2. BUSINESS CONTINUITY MANAGEMENT (BCM) AND CRISIS MANAGEMENT

DEWA's Business Continuity Management System seeks to identify the critical processes, associated risks and the impact they could have on DEWA's most critical operations. DEWA operates in compliance with the National Emergency Crisis and Disasters Management Authority (NCEMA) 7000:2015; the National Standard for Business Continuity and was the first power and utility entity in MENA to be certified in ISO 22301: 2012.

Closely aligned to BCM is the Crisis Management system in which comprehensive contingency plans are developed in the unlikely event of a crisis or incident occurring. Periodic audits and mock drills are performed to stress test and, where required further strengthen performance and operations.

DEWA's emergency planning capabilities cover on-site and off-site emergencies. This is achieved through a detailed Business Impact Analysis (BIA) which forms the basis of DEWA's Business Continuity Plans (BCP) and is developed for critical processes and systems across all Divisions. BCP's detail these critical processes and systems, the owners of the plans and the necessary crisis communication, failure scenarios, and chronological procedures to contain and continue the delivery of critical services until the incident is resolved. The BCP's and Crisis Management plans operate in tandem to ensure a quick and effective response, containment, continuity and resumption of any interruption to DEWA's power and water supply.

DEWA has multiple communication methods for on-site and off-site communication. These include TETTRA devices and SCADA devices both of which are segregated from normal telecommunication infrastructure and are tested regularly to ensure availability and functionality during emergencies. DEWA includes and involves the relevant external authorities during simulations and training events to ensure preparedness and readiness for real-life situations.

DEWA's Crisis Management and Business Continuity Management training programme targets all Divisions, and is provided by BSI certified trainers and instructors.

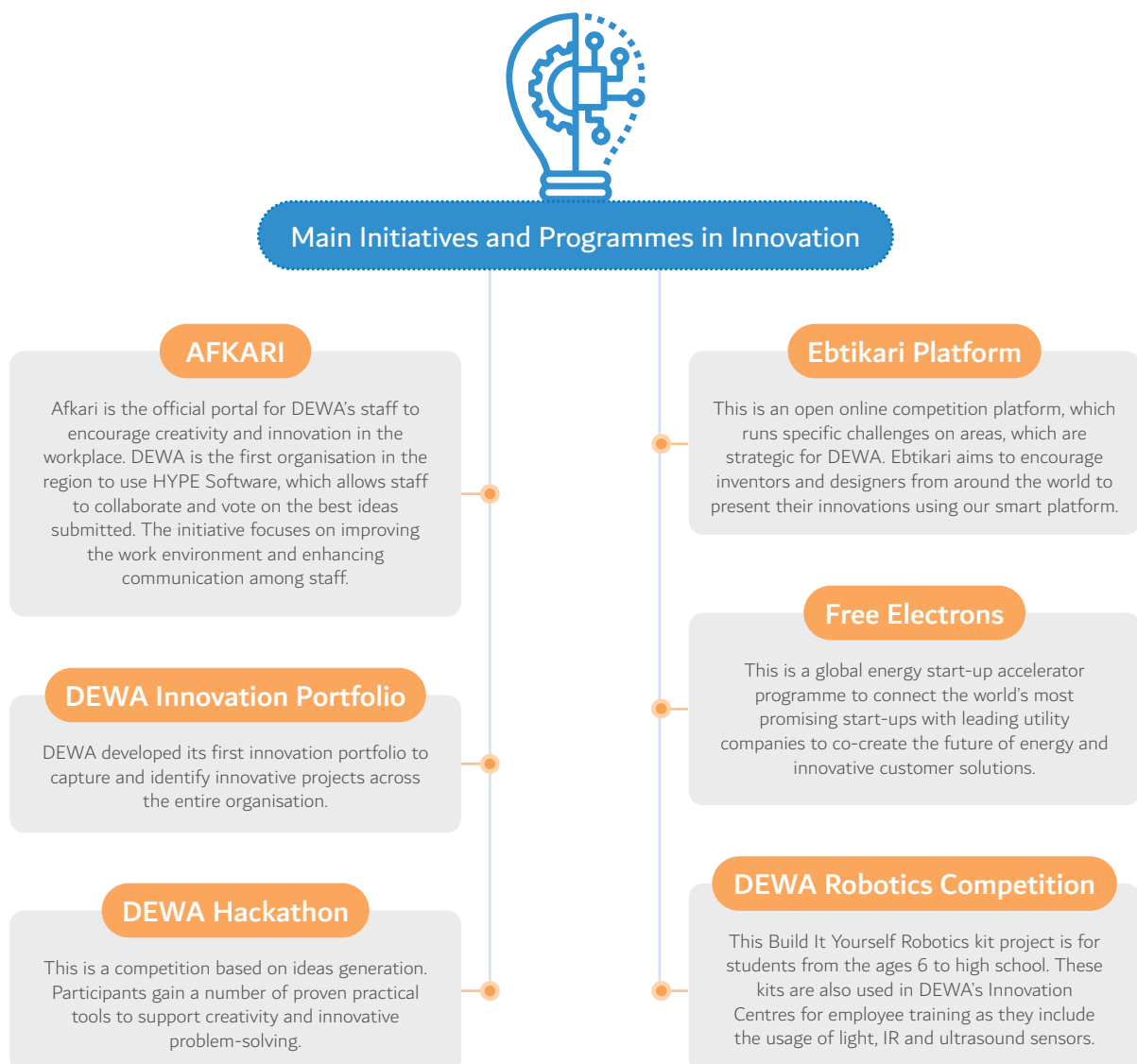
INNOVATION AND THE FUTURE

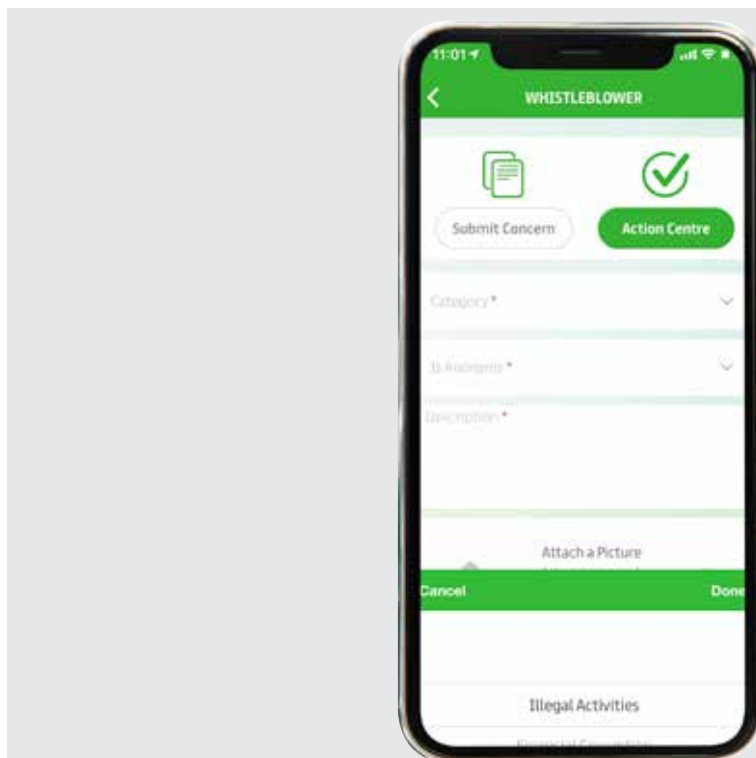
DEWA has adopted innovation as one of its five core values and embedded it within its vision and mission. Since 2016, DEWA established its Innovation and The Future Division that merged multiple operating branches including, the Creativity and Innovation Department, Information Technology, Digital Business, Customer Happiness, and Information Security.

DEWA embedded strategic innovation in its vision, mission and values, and its importance as a theme in the strategic map and included strategic objectives with a focus on innovation in sustainability, stakeholders' happiness, operations, and technology. In addition to using innovation to drive business model changes and using innovation tools to encourage employees to innovate.

DEWA has obtained the European Specification Certificate on Innovation Management Systems (CEN/ TS 16555-1-2013), since 2016 from British Organisation Lloyds Register, for its preparation and application of an integrated system for innovation management. DEWA is one of the first government entities to adapt and acquire this accreditation. It provides guidance on establishing and maintaining an Innovation Management System (IMS) and further strengthens DEWA's commitment towards promoting innovation and creativity in adherence with the directives of the wise leadership, national objectives, and its vision.

DEWA also partnered with Dubai Future Accelerators which facilitates partnerships between entrepreneurs, private sector organisations and government entities to co-create solutions. Dubai Future Accelerators was launched in 2016 by His Highness Sheikh Hamdan bin Mohammed bin Rashid al Maktoum, Crown Prince of Dubai and Chairman of Dubai Future Foundation under the directives of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai.





CASE STUDY

WHISTLEBLOWER SMART APP

The Whistleblower smart app provides all DEWA staff with an additional channel for reporting to the Management any misconduct, administrative or financial irregularities in connection with DEWA businesses. The objective behind the initiative is to protect the legitimate rights and interests of DEWA as well as those of its stakeholders.

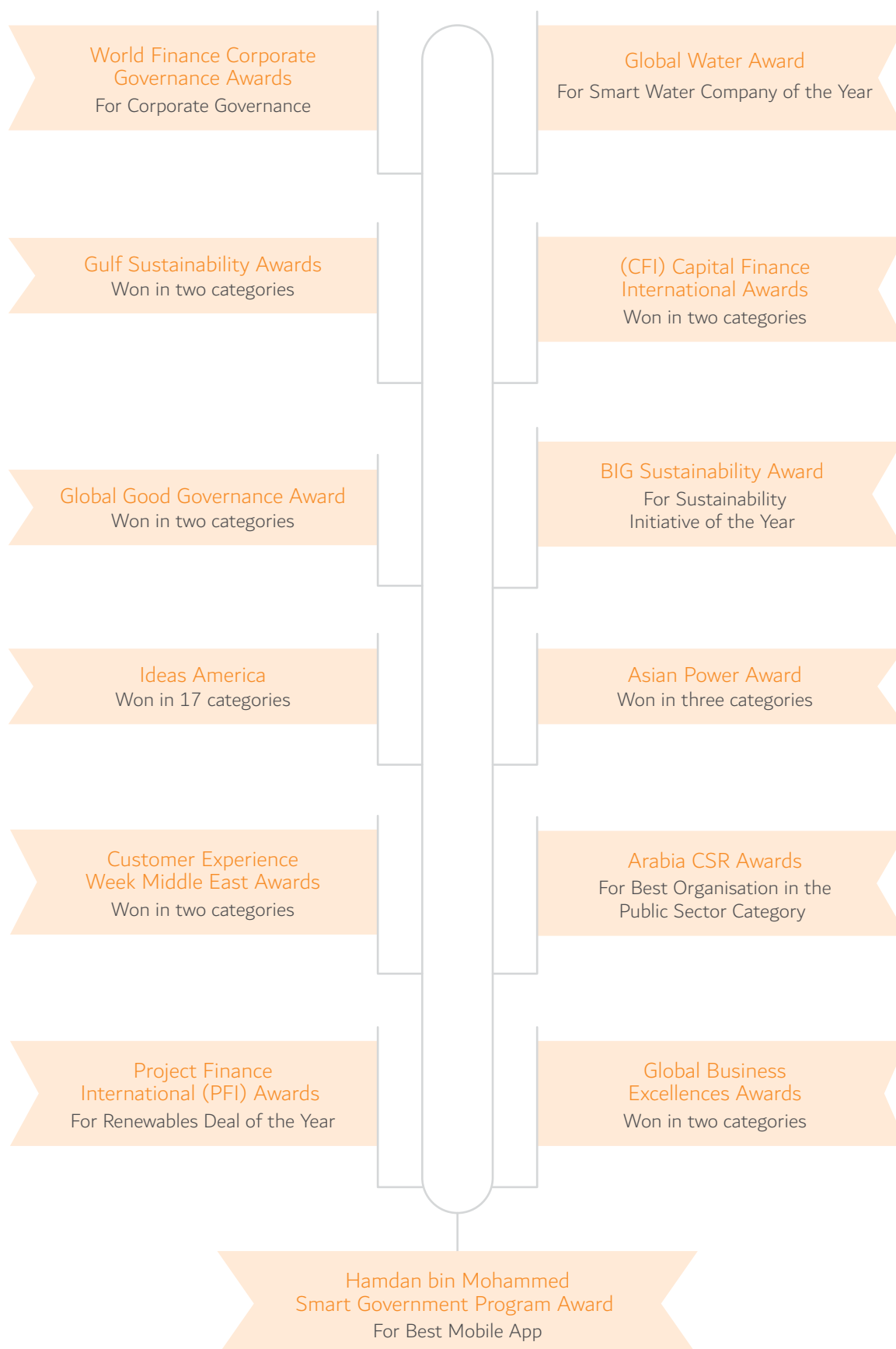
DEWA had issued a whistleblowing policy with the objective of supporting its values on corporate governance by providing a confidential process for handling concerns related to DEWA's operations, functioning, and business. It was designed to encourage a climate of open communication and trust that serves the interest of DEWA and its stakeholders alike. The Policy as drafted allowed various channels for whistleblowing such as, submitting anonymous letters to the mailbox attached to MD & CEO office, anonymous reporting through a whistleblowing hotline, or reporting to concerned Divisions or Departmental heads. The Legal Affairs Department came up with this innovative initiative for a smart app, which makes the process easier and smarter.

The initiative supports the implementation of Corporate Governance and it is aligned with the SDG number 16: Peace, Justice, and Stronger Institutions. The initiative not only protects the interest of the organisation but also serves to keep the informer's identity confidential. Moreover, it greatly helps to identify malpractices and helps in controlling and reducing its occurrences. The reporting mechanism and subsequent action reduces misconduct or corruption and helps promote best business practices. The app is also a sustainable method to file a misconduct, as it is paperless, electronic, and efficient.

As a next step, DEWA is contemplating processing the complaints registered through the smart app until the closure of each case, which will make the action faster, efficient and more sustainable.

DEWA AWARDS AND CERTIFICATES

DEWA has won the below awards and certificates in 2018:



SUSTAINABLE DEVELOPMENT





15 LIFE ON LAND
الحياة في البر

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
الاستهلاك والإنتاج المسؤولان

5 GENDER EQUALITY
المساواة بين الجنسين

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
الاستهلاك والإنتاج المسؤولان

IV عقد الشراكات لتحقيق الأهداف
الأهداف

I القضاء على الفقر

أهداف التنمية المستدامة

13 العمل المناخي

MANAGEMENT APPROACH

As the leading utility in the region, we consider sustainability to be the definition of our identity. It is reflected in our operations and strategy and is embedded in our workforce. We continuously strive to improve our performance in all aspects related to sustainability and align our strategic plans and operating model with the latest industry and market trends. We regularly update our strategies to align with the local, federal and international strategies such as the UN Sustainable Development Goals, the UAE Centennial 2071, the UAE National Agenda 2021, the UAE Vision 2021, the Dubai Clean Energy Strategy 2050, Dubai Plan 2021, the National Innovation Strategy and, HH Sheikh Mohammed bin Rashid Al Maktoum's initiative, 'A Green Economy for Sustainable Development'. This commitment will lead to the long-term success of our organisation and ultimately the prosperity of Dubai.

As the sole provider of electricity & water in Dubai, we recognise our responsibility in terms of supporting all national and local development strategies and the impact that our operations have towards the success of these strategies. As such, we undertake all necessary steps towards making DEWA an industry leader, by creating an equilibrium between our financial results, environmental performance, and our commitment to the wellbeing of the community of Dubai and the UAE; thus creating sustainable value for all.

Emiratisation is one of our vital strategic objectives. It not only contributes to the economic and social security of the UAE but also forms an integral part of our commitment to the community to achieve the strategic objectives of the Government of Dubai.

As one of Dubai's larger employers, we have a commitment to support the sustainable development of the UAE and increase the participation of Emirati nationals in this effort. In 2018, UAE nationals held approximately 86.44% of our top management and leadership positions. We recruit and train UAE nationals at all levels of our organisation aspiring to enrich Emirati skills and ensure their continuous development.



SUSTAINABILITY GOVERNANCE

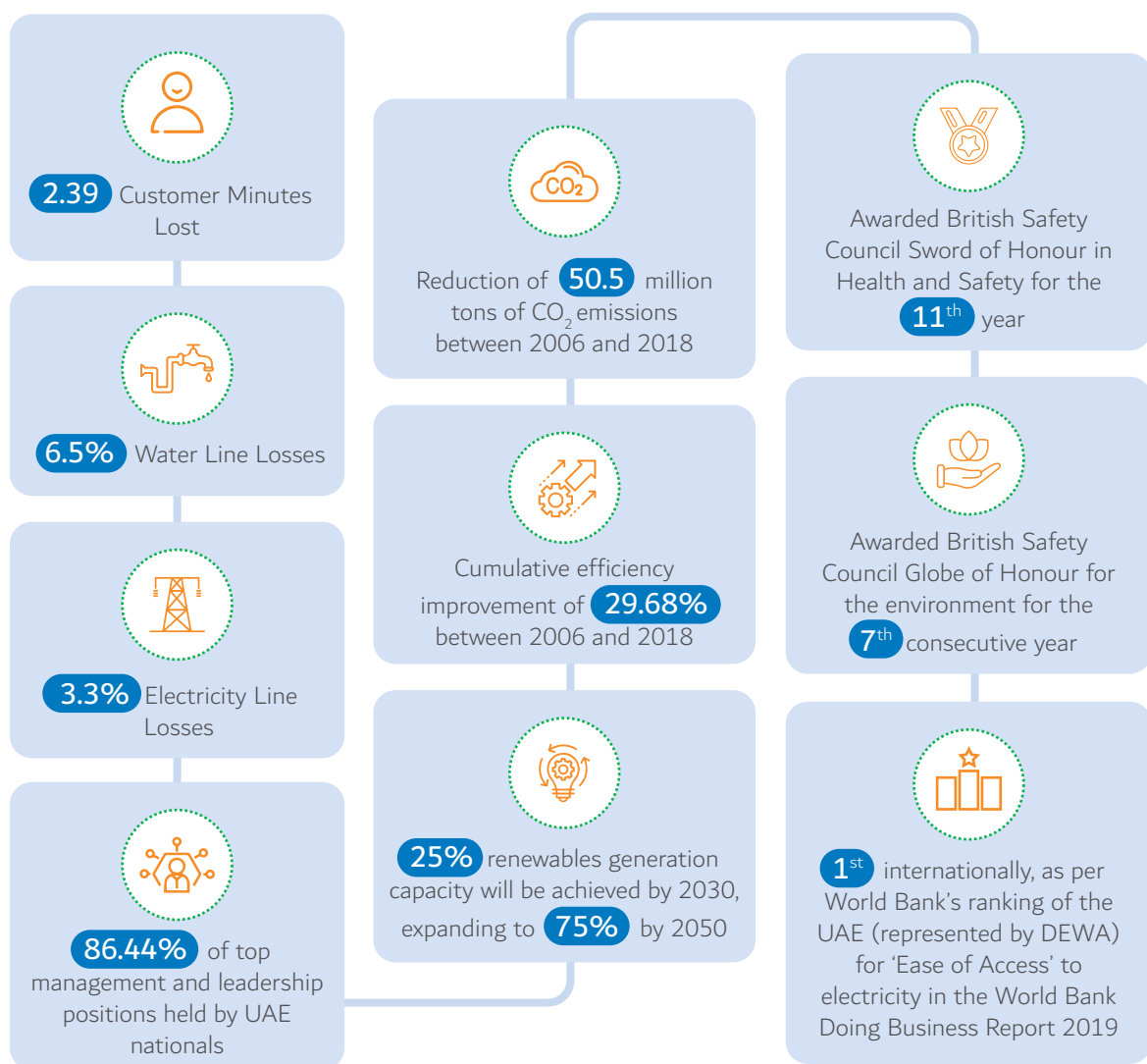
Our commitment to sustainability comes from the top of our organisation. Our Board considers sustainability issues an integral part of its business oversight, as sustainability topics are integrated into, and not separate from, our corporate strategy. The Climate Change & Sustainability Department (CC&S) is under the Business Development & Excellence Division. Its mission is to establish, develop and manage DEWA's corporate sustainability programme that aims at meeting the needs of stakeholders in a balanced manner, while highlighting the actions and practices that showcase DEWA's sustainability approach.

The department works to align DEWA's strategy & objectives with international trends and goals to reflect the organisation's journey towards achieving sustainable development. We are committed to the UN Sustainable Development Goals (SDGs) and make sure that through our services, innovations and projects we contribute to overcoming some of the biggest global challenges. In addition, we underline our mission as a government entity that acts sustainably through our commitment to the 10 principles of the UN Global Compact. The CC&S Department also manages and implements our Sustainability Reporting, Stakeholder Engagement, awareness campaigns, Emissions Reduction Programme, Carbon Offsetting, Climate Change Risks, impacts on operations and relevant Climate Change Resilience Plans, Mitigation and Adaptation Programmes within the Power and Water Sector and ISO 50001 Energy Management System (EnMS) of DEWA.



DEWA's Sustainability Leading Team (SLT) was established in 2013 to coordinate with other departments & divisions to obtain, review and verify data and information. The members of the SLT include representatives from every division who are nominated by their respective Division Heads. Their role also complements the CC&S team in raising awareness about the importance of sustainability, the effects of climate change and our mega projects. The SLT is chaired by the Chief Officer of Climate Change and Sustainability. Our management team receives updates regarding sustainability issues from the Executive Vice-President of Business Development & Excellence, who is also a member of DEWA's Top management team.

2018 SUSTAINABILITY MANAGEMENT HIGHLIGHTS



OUR SUPPLY CHAIN

We understand that our overall environmental and social impact extends beyond our direct operations. Therefore, we have implemented a policy of procuring plants and systems which have minimal or no environmental impact, and which are of a higher efficiency. Our total number of enlisted suppliers is 7,725. During 2018, we worked with 2,458 suppliers, of which 28 are strategic suppliers, 700 are core suppliers and 1,730 are basic suppliers. We consistently strive to involve local businesses in our operations and supply chain, which helps build capacity locally and fosters economic growth in Dubai and the wider region. We also have a policy of fostering young entrepreneurs and local business. The percentage of products and services purchased locally in 2018 was 97% of the total purchase value of AED 13.2 billion. This local spending includes all power plants, sub stations, transmission and distribution networks and DEWA offices across Dubai. We consider local companies as companies who are physically located in the UAE and have a valid trade license.

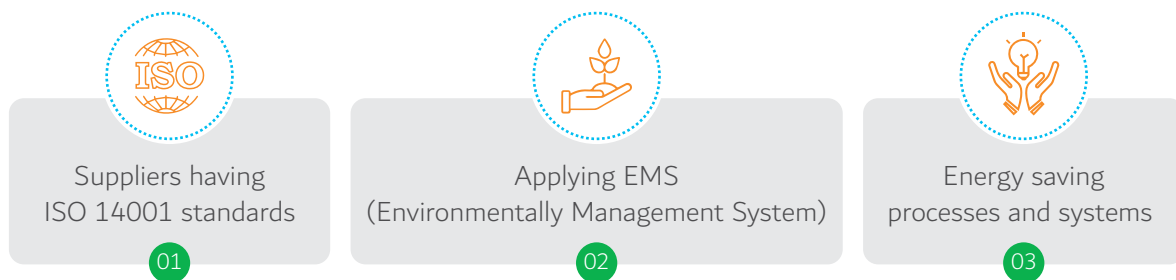
We aim to roll out our Green Procurement Programme throughout our supply chain. The programme aims to assess the environmental consequences of the products we purchase at the various stages of the product's lifecycle to minimise procurement of products with adverse environmental impacts. We are also interested in purchasing products that reduce energy,

contain recycled materials, are less toxic, help conserve water and address social impact. We are committed to business practices that adhere to international standards. Well defined strategies and commercial terms and conditions are in place to eliminate, mitigate or transfer procurement related risks. To reduce vulnerability and ensure continuity of our key suppliers, DEWA has developed a Supply Chain Risk Management Framework, in line with ISO 31000, which identifies and analyses exceptional risks along our supply chain based on continuous risk assessment.

For ease of operation and accessibility, all interactions with the suppliers have been made online and through smart devices. A few examples are:

- Development of smartphone application for suppliers that provides them with instant and real-time access to Supplier Relations Management (SRM) data and services.
- Introduction of Bidaya initiative to qualify SMEs and uplift their performance. Adoption of Advanced Shipping Notification (ASN) and Online Service Entry (SE).
- Provision of a platform for suppliers to log & track their invoices through DEWA's SRM Portal.
- AI through Rammas: the virtual assistant to assist our suppliers, partners and customers and answer their enquiries in both Arabic and English.

We are screening the green suppliers based on their environmentally friendly products and energy saving concepts and an internal process based on the following criteria:



We have an annual KPI which is the percentage of green suppliers out of the total registered suppliers. While our target in 2018 was 10%, our actual achieved was 7%.

STRATEGIC PARTNERSHIPS ALONG THE VALUE CHAIN

Our partnerships are one of the fundamental pillars that contribute to our success in many aspects such as service delivery, achieving strategic objectives and contributing to the implementation of our strategic plan. We engage in strategic relationships with suppliers, customers and other business partners. In 2018, we signed more than 29 MoUs seeking to obtain a reduction in the transaction costs by building trust, enabling economies of scale, fostering the exchange of knowledge, technology and best practice and supporting risk management.

There are two main categories for DEWA's partnerships: strategic partner and main partner. We categorise partners based on the overall amount of positive impact on DEWA as well as the degree of importance of each partner. On an annual basis, we organise several workshops to enhance this partnership and improve the quality of life and work. As a result, in 2018, our partnership happiness rate reached 91.42% compared to 89.91% in 2017.

We are constantly on the lookout for new partnerships with businesses, academic institutions and other organisations seeking to develop and improve our economic, social, environmental responsibilities and operations. Moreover, DEWA will initiate and implement new initiatives in 2019, which will contribute to improve partnership performance and continuously increase their happiness rate.



RESEARCH AND DEVELOPMENT

Our Research and Development (R&D) Centre was developed in line with the directives of HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, and in alignment with the National Innovation Strategy. The Centre integrates international best practices and world-class facilities and supports the objectives of the Dubai Clean Energy Strategy 2050 to diversify energy sources and enhance energy efficiency.

Our R&D centre, located at the Mohammed bin Rashid Solar Park in Dubai, is a driver for innovation and excellence at DEWA and is a testament to our commitment to spend up to AED 500 million for R&D and innovation till 2020.

Our R&D strategy was launched in 2014 and is currently in the full implementation and execution phase. At present, we have completed the development of the first phase of the R&D facilities at the Solar Park. Infrastructure includes a state-of-the-art 4000sqm R&D centre that will host most of the R&D activities (operational since Q2 2018), the first on-site 3D printed lab for R&D on drones and AI (operational since Q4 2017), and the Outdoor Testing Facility (OTF). The OTF is a dedicated area for testing solutions and equipment under the harsh and hot environmental conditions of the UAE and has been operational since 2015.

At our OTF, we are testing and benchmarking, amongst others, the performance of different PV (30 panels of different technologies at different tilt-angles, produced by different manufacturers) and BIPV technologies, suitable procedures and solutions for O&M efficiency in PV plants, Reverse Osmosis for water desalination (100 kW system, PV-powered with battery back-up) and atmospheric water generation solutions (in collaboration with UAE Water Aid Foundation, Suqia). Additionally, we are continuing the development of a Smart Grid Integration lab, which will be equipped with a grid simulator capable of testing up to six energy storage systems in parallel, each with a power rating up to 250kW.

At full capacity, the R&D centre will host 40+ researchers by 2020 and more than 50 by 2030 (as per the original plan). As of January 2019, we currently have 23 researchers (12 are UAE nationals, with 2 holding PhD degrees). These researchers are, already working on developing and executing a strong portfolio of R&D projects and building the required processes, infrastructures and capabilities. Overall, we have 7 PhD holders, 4 MSc holders.

Our comprehensive projects portfolio is organised across 5 R&D areas (4 verticals and 1 horizontal), namely solar, water, energy efficiency, smart grid integration and energy storage, industry 4.0 (robotics and drones, AI and Advanced Analytics, 3D Printing and Advanced Materials). These R&D areas and related programmes have been developed in alignment with DEWA and national strategies.

Some examples of research across the 5 areas mentioned above include:

a. Verticals:

SOLAR



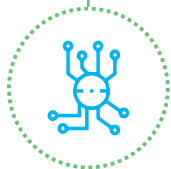
Conducting research in cooperation with international institutions to study, develop and test solar-to-electricity (30 modules from different manufacturers and technologies) and solar-to-heat technologies and mitigate the effects of dust on the performance of solar BIPV/PV panels, while testing their long-term reliability and developing test procedures in all areas. Additionally the team is focused on solar radiation measurements.

WATER



Assessing and developing sustainable solutions for the desalination and purification of water using solar energy (PVRO and Forward Osmosis), in addition to developing technology to produce drinking water from the moisture of the environment (Atmospheric Water Generation, AWG). This is being developed in collaboration with UAE Water Aid Foundation (Suqia).

SMART GRID INTEGRATION



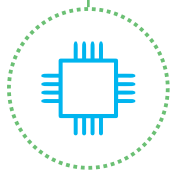
Developing systems and technologies to facilitate and optimise the integration of renewables in the grid, including storage (chemical, thermal, mechanical technologies), testing, and developing test procedures for current and future energy storage systems. Additionally the team is focused on developing and testing Virtual Power Plants and Smart Grids technologies and solutions through pilot projects.

ENERGY EFFICIENCY



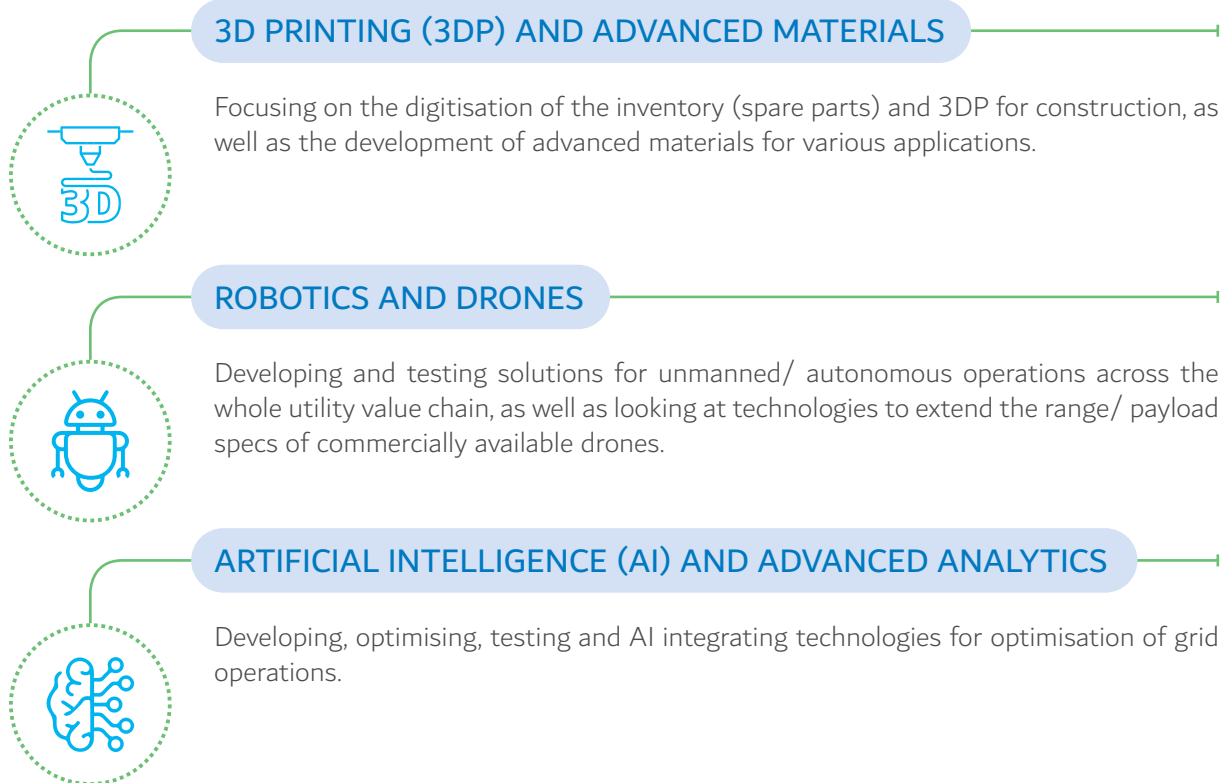
Developing and testing the next generation of energy saving technologies across the utility value chain, with an emphasis on demand side efficiency.

SPECIAL PROJECTS



This area involves projects (due diligence, incubation, pilots, studies) for technologies that do not necessarily fit in the other 4 verticals above. This includes for example the development of the first solar hydrogen pilot from water electrolysis (a joint Siemens-Expo-DEWA undertaking).

b. Horizontals (R&D enablers: supporting the 4 verticals):



Our R&D department is continuously building a strong ecosystem of local and international partnerships and collaboration with government, industry (major corporations, SMEs and startups) and academia. The quality of DEWA's work has already been recognised internationally, through contributions to international conferences, publications in international journals, including 17 publications in 2018; and involvement in world-class scientific and technical networks.

DEWA's R&D department successfully delivered the first edition of Solar Decathlon Middle East (SDME) in November 2018 and is already working on developing the next one for 2020. The SDME 2018 was a sustainable solar-house competition hosting 26 universities from 11 countries worldwide. The competition's criteria were mainly focused on solving the issues and needs for sustainable living in this region. The second edition will take place in conjunction with Expo 2020 Dubai. The SDME demonstrates the importance of sustainability and commitment to developing solutions that contribute to reducing carbon footprint, mitigating climate change, and promoting a more sustainable lifestyle.

DEWA SUSTAINABILITY WEEK

DEWA's 1st Sustainability Week took place on March 2018 with more than 1,000 participants, who enjoyed a week-long series of events ranging from panel discussions and workshops to social and volunteering activities, fulfilling DEWA's ambition which is to make sustainability everyone's business.

The week's objectives included knowledge sharing, awareness building and comprehensive involvement of all our employees, which are key factors behind DEWA's success in realising our sustainability goals. An array of cross-cutting sustainability topics from perspectives across various sectors and disciplines, as well as key issues that call for urgent action at all levels were covered by multiple experts.

Our second Sustainability Week is expected to take place during Q4 of 2019.



STAKEHOLDER ENGAGEMENT

We appreciate our stakeholders, and recognise the major benefits that arise from continuous communication and cooperation with them. Stakeholder engagement is at the heart of our strategic approach as it enables us to constantly improve our performance, services and initiatives to reflect their needs and expectations, thus ensuring they have the maximum level of satisfaction.

These interactions take place through numerous initiatives and channels including satisfaction surveys, road-shows, joint ventures and collaboration with government authorities on regulatory priorities as described throughout this report. To ensure effective communication, these channels occur on a regular basis.

Our stakeholders are involved in the materiality analysis process as per the GRI Reporting Standards and their feedback is also acknowledged in the review of our annual corporate strategy planning.



Through our stakeholder management framework, we aim to identify the methods of delivering the best and most inclusive engagement to ensure valuable outcomes, in alignment with the principles of both the AA1000 Stakeholder Engagement Standard 2015 and the Global Reporting Initiatives' Sustainability Reporting Standards. Our key strategic objectives relating to our stakeholders include:

- Organising stakeholder engagement workshops for our key stakeholder groups.
- Defining a compelling, overarching value proposition for each of our stakeholders.
- Managing and responding to stakeholders' needs and expectations.
- Seeking new opportunities through multistakeholder partnerships to advance sustainable development.
- Establishing community-based initiatives that benefit Dubai and the UAE.

STAKEHOLDER ANALYSIS 2018

Our stakeholders have been identified through a stakeholder prioritisation exercise, ranking them in terms of 'dependence' (importance of the relationship for the stakeholder), and 'influence' (importance of the relationship for DEWA). The Strategy Department is responsible for reviewing the list on an annual basis and updating it if necessary, as well as ensuring that DEWA's strategic plan includes fulfilling the needs and expectations of prioritised stakeholder groups.



DEWA Stakeholders Engagement Activities



STAKEHOLDER NEEDS AND EXPECTATIONS

At DEWA, we aim to adopt both a consistent and transparent approach when engaging with our stakeholders. Therefore, we engage with our stakeholder groups in a variety of ways. For every category of stakeholder, the following table shows the most important needs expressed during our engagement activities.



STAKEHOLDER HAPPINESS

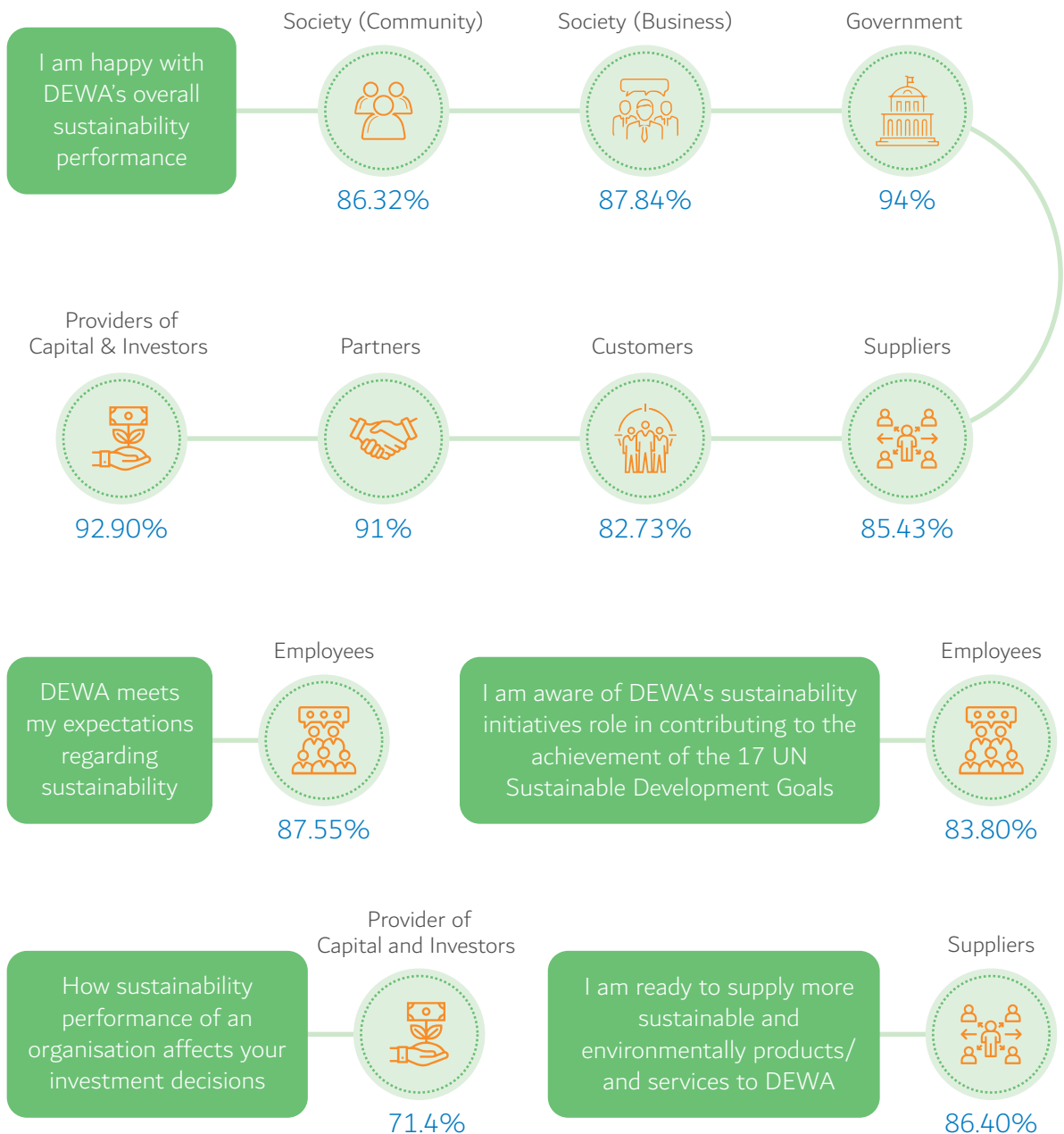
Creating a culture of happiness and positivity among stakeholders is one of our strategic objectives, and a key component of our mission and corporate values.

Our annual Stakeholder Satisfaction Survey is one of our main tools to understand our stakeholders' expectations and help us measure the effectiveness and improvement of our work. The survey addresses key issues relating to overall sustainability, including specific questions

addressed to each stakeholder group. The outcomes from the survey are used to analyse gaps in our approach to Stakeholder Happiness and evaluate areas for further improvement.

The results of our 2018 Stakeholder Satisfaction Survey reveal that the majority of our stakeholders were happy with our sustainability performance while the majority of our suppliers are ready to promote more environmentally-friendly products. Moreover, the providers of capital/investors emphasised that sustainability performance is crucial as it affects their investment decisions.

RESULTS OF STAKEHOLDER SUSTAINABILITY SATISFACTION SURVEY 2018



SUSTAINABILITY CULTURE INDICATOR 2018

In an effort to further track our progress in embedding sustainability in our organisational culture and evaluate the effectiveness of various engagement activities, for the 5th consecutive year, we utilised the Sustainability Culture Indicator (SCI).

The SCI is a third party produced employee survey which measures the extent to which sustainability has been embedded within the culture of an organisation including factors that measure organisational enablers, individual enablers and behaviours inside and outside the organisation.

More specifically, SCI results help us:

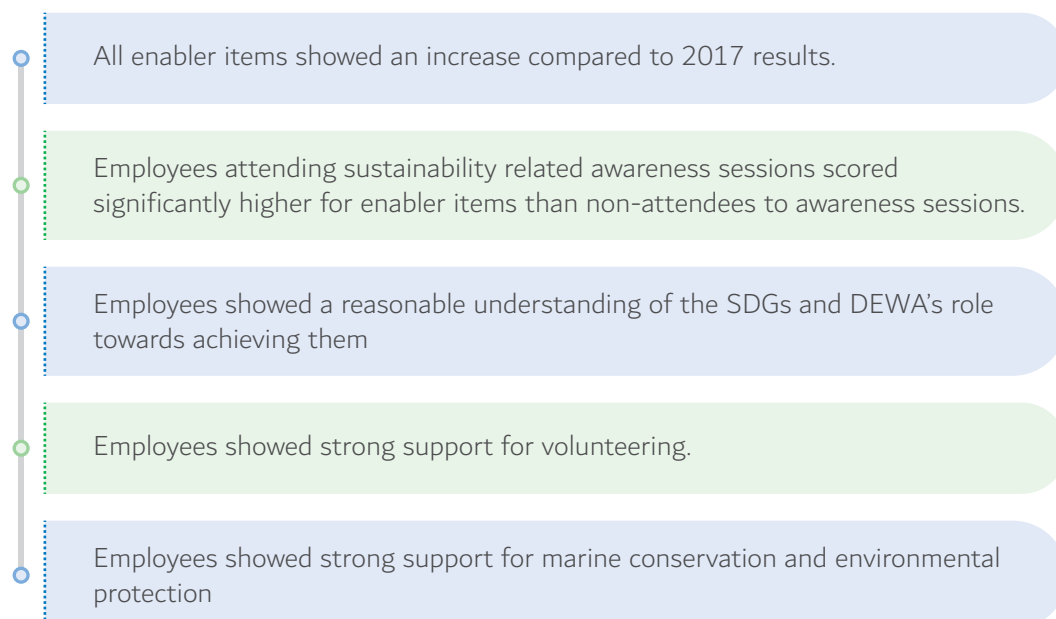
- Targeting our efforts to address the key barriers which prevent our employees from embracing sustainability.
- Identifying opportunities to build on current levels of sustainability commitment and engagement.
- Benchmarking our sustainability engagement against other leading global organisations.

For 2018, approximately 3,000 employees participated in our survey and the results showed continued progress in embedding sustainability in DEWA's culture.

The biggest increases were seen in the area of policies and knowledge, as well as the extent to which employees are supported by management, and through the infrastructure at DEWA. This indicates that continued efforts to provide the organisational support mechanisms for people to engage with sustainability are paying off. This knowledge has increased because of the efforts of the Climate Change & Sustainability Department and the intensive awareness campaigns conducted by the Sustainability Leading Team.

The positive direction of change for sustainability at DEWA is also reflected in the score for overall effort, which also showed a statistically significant increase from 2017. Our current level of effort with regards to sustainability reached 90.17% this year, compared with 88.83% last year, which is a great endorsement, and substantially higher than the benchmark for other international organisations, who average 61%.

The following main areas of strength have been identified:

- 
- All enabler items showed an increase compared to 2017 results.
 - Employees attending sustainability related awareness sessions scored significantly higher for enabler items than non-attendees to awareness sessions.
 - Employees showed a reasonable understanding of the SDGs and DEWA's role towards achieving them
 - Employees showed strong support for volunteering.
 - Employees showed strong support for marine conservation and environmental protection

OUR COMMITMENT FOR A SUSTAINABLE FUTURE

At DEWA, we are committed to improving our sustainability performance and therefore we have set the following commitments for sustainable development:



To ensure sustainability is fully embedded into our business strategy.



To ensure our constant alignment with national and international strategies and best practices.



To minimise our environmental footprint and ensure that our operations satisfy all environmental regulatory controls.



To maintain world class standards of quality, reliability, efficiency, availability of electricity and water supply for Dubai.



To invest and develop renewable energy technologies.



To continue to improve our stakeholders' happiness.



To improve water efficiency within our production and distribution networks.



To increase our direct and indirect economic contribution to the Dubai economy.



To increase the share of renewable and clean energy to 7% by 2020, 25% by 2030 and 75% by 2050.



To further implement new CSR projects to create shared value and assess the social impact.



To reduce our employee turnover rate and increase the proportion of UAE nationals in the workforce.



To further integrate green procurement into our entire supply chain.



To contribute to the Dubai Carbon Abatement Strategy that targets the reduction of CO₂ emissions by 16% in 2021.



To contribute to Dubai's Smart City Initiatives with:

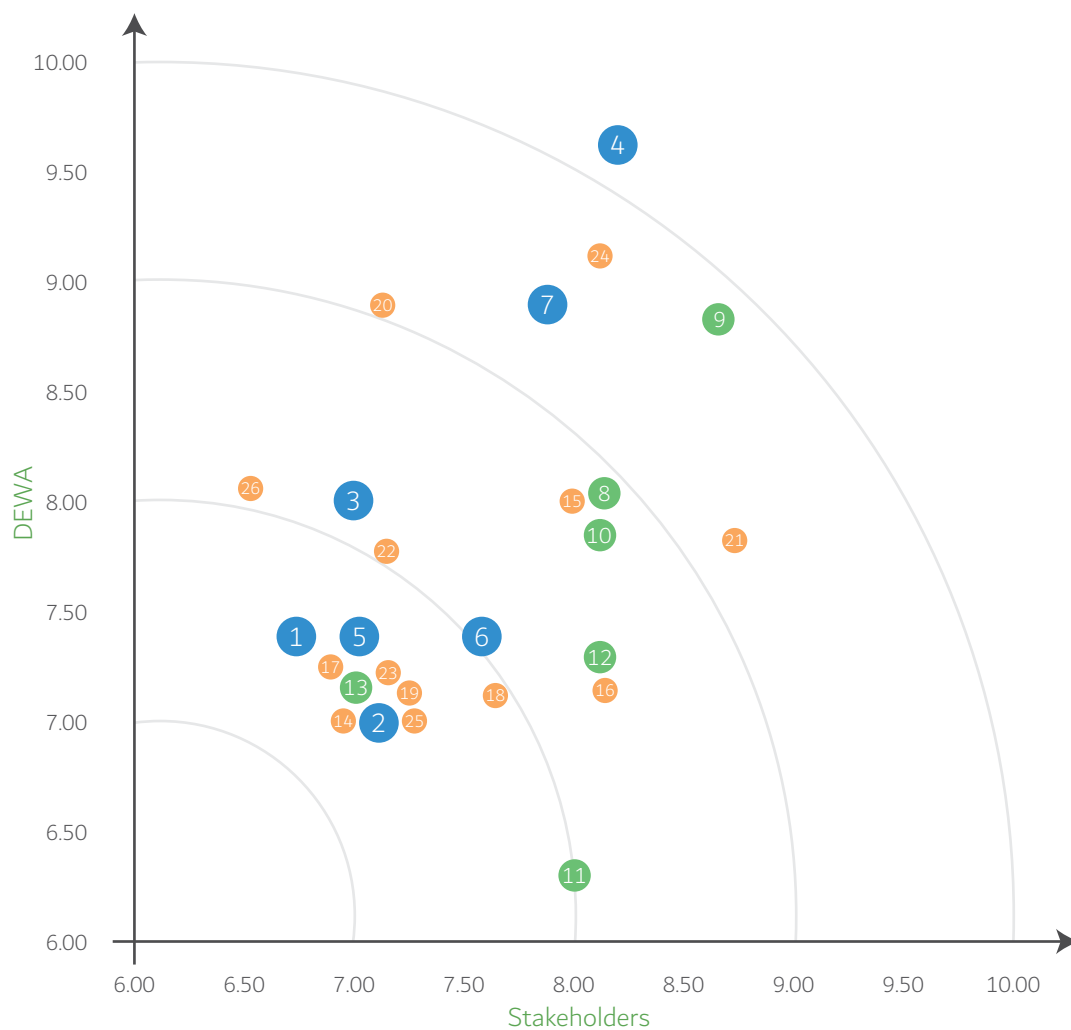
- "Shams Dubai" (Connecting solar energy in houses and building)
- Smart Applications via Smart Grid and Smart Meters
- Infrastructure and Electric Vehicles Charging Stations

MATERIALITY ASSESSMENT

One of the fundamental guidelines of the Global Reporting Initiative is the concept of materiality. An organisation is required to report on those matters which have the most significant economic, environmental and social impact, or those matters viewed as most significant by its internal and external stakeholders.

To identify this year's report topics, we have used the results from the materiality stakeholder workshops conducted in 2017 in line with the GRI Standards. The topics classified in three categories: economic(blue), environmental(green) and social (orange), have been assessed on the basis of their relevance by both stakeholders and by DEWA.

The results of our 2017 materiality assessment process are illustrated in the materiality matrix below with the vertical axis showing DEWA Management's views while the horizontal axis showing the views of our Stakeholders. The boundaries for each material aspect can be found in Appendix 1.



Economic

1. Economic Performance
2. Procurement Practices
3. Innovation
4. Availability and Reliability
5. Demand Side Management
6. Research and Development
7. System Efficiency

Environmental

8. Energy
9. Water
10. Emissions
11. Effluents and Waste
12. Environmental Compliance
13. Supplier Environmental Assessment

Social

14. Employment
15. Occupational Health and Safety
16. Training and Education
17. Diversity & Equal Opportunity
18. Non Discrimination
19. Local Communities
20. Disaster/Emergency Planning and Response
21. Customer Health and Safety
22. Customer Privacy
23. Socio-Economic Compliance
24. Access
25. Provision of Information
26. Stakeholders Happiness













United Nations
Global Compact

DEWA & THE UN GLOBAL COMPACT: COMMUNICATION ON PROGRESS 2018

DEWA is a signatory of the UN Global Compact since 2017, which constitutes the world's largest corporate sustainability initiative with more than 13,000 corporate participants in over 170 countries. The Global Compact is based on ten fundamental principles relating to human rights, labour, environment and anti-corruption. We are committed to these principles, which are integrated in the policies and processes of the organisation. DEWA uses the 2018 Sustainability Report as its Communication on Progress for the UN Global Compact (UNGC). Throughout the report, there is information related to our social and environmental practices which underline our commitment to the Global Compact. The following table lists the compliance of DEWA with the ten Global Compact Principles, by making reference to the relevant chapters and GRI indicators of the Sustainability Report.

The Ten Principles of the UN Global Compact	The Sustainable Development Goals	Material Topics	Reference on the Sustainability Report or Description of the Management approach	GRI Standards Indicator
Human Rights				
Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights	<div><div> 1 NO POVERTY</div><div> 3 GOOD HEALTH AND WELL-BEING</div></div> <div><div> 4 QUALITY EDUCATION</div><div> 5 GENDER EQUALITY</div></div> <div><div> 8 DECENT WORK AND ECONOMIC GROWTH</div><div> 10 REDUCED INEQUALITIES</div></div> <div> 16 PEACE, JUSTICE AND STRONG INSTITUTIONS</div>	Occupational Health and Safety	Chapter 1 Full compliance with relevant federal and local legislation and international conventions. Social accountability policy, Governance policy	102-8 102-16 102-41 403-1
Principle 2: Businesses should make sure that they are not complicit in human rights abuses.			Chapter 1 Full compliance with relevant federal and local legislation and international conventions. Social accountability policy, Governance policy	102-8 102-16 102-18 403-1
Labour				
Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	<div> 5 GENDER EQUALITY</div> <div> 8 DECENT WORK AND ECONOMIC GROWTH</div> <div> 10 REDUCED INEQUALITIES</div> <div> 16 PEACE, JUSTICE AND STRONG INSTITUTIONS</div>	Socio Economic Compliance	Chapter 1, 7 Full compliance with relevant federal and local legislation and international labour standards worldwide. Social accountability policy	102-41 403-1
Principle 4: Businesses should uphold the elimination of all forms of forced and compulsory labour		Occupational Health and Safety	Chapter 1, 7 Full compliance with relevant federal and local legislation and international labour standards worldwide. Social accountability policy	419-1
Principle 5: Businesses should uphold the effective abolition of child labour		Training and Education	Chapter 1, 7 Full compliance with relevant federal and local legislation and international labour standards worldwide. Social accountability policy	419-1
Principle 6: Businesses should uphold the elimination of discrimination in respect to employment and occupation		Non Discrimination	Chapter 1, 7 Full compliance with relevant federal and local legislation and international labour standards worldwide. Social accountability policy	404-1 405-2 406-1

The Ten Principles of the UN Global Compact	The Sustainable Development Goals	Material Topics	Reference on the Sustainability Report or Description of the Management approach	GRI Standards Indicator
Environment				
Principle 7: Businesses should support a precautionary approach to environmental challenges.		Energy Water	Chapter 4 Full compliance with relevant federal and local legislation. Sustainability policy	102-11
Principle 8: Businesses should undertake initiatives to promote greater environmental responsibility	     	Emissions Effluents and Waste Environmental Compliance Supplier Environmental Assessment	Chapter 3, 4, 5 Full compliance with relevant federal and local legislation. Sustainability policy	201-2 302-4 303-3 303-1 303-2 305-5 306-3 306-5 307-1 308-1 308-2
Principle 9: Businesses should encourage the development and diffusion of environmentally friendly technologies	 	Procurement Practices Innovation Research and Development	Chapter 3, 4, 5 Full compliance with relevant federal and local legislation. Sustainability policy	R&D
Anti-Corruption				
Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery	 	Values, principles, standards, and norms of behaviour	Chapter 1 Full compliance with relevant federal and local legislation, Whistle Blowing policy, Conflict of Interests and Non-Disclosure of Information Regulation, Code of conduct	102-16



DEWA & THE SUSTAINABLE DEVELOPMENT GOALS

The Sustainable Development Goals provide a global blueprint for dignity, peace and prosperity for people and the planet, now and in the future. They address the global challenges we face, including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice.

Three years into the implementation of the Agenda, countries are translating this shared vision into national development plans and strategies. Achieving them will be both a unique opportunity and a profound challenge. With businesses, contributing nearly 60% to global GDP, the transition will be impossible without their active participation.

A strong commitment to sustainability was also clearly articulated by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai through the UAE Centennial 2071 and the 50-Year Charter.

It is clear that a long-term vision has been set out for the UAE to ensure that the country can achieve a sustainable trajectory in all aspects of its development and expansion. This vision has been encapsulated in a number of documents and plans, such as: the UAE Vision 2021, the Dubai Plan 2021, and the Dubai Clean Energy Strategy 2050.

DEWA is the first government organisation to reformulate its vision based on the newly announced directives to become a globally leading, sustainable, innovative corporation, ensuring at the same time that this is well aligned with the aspirations set out in the SDGs.

Our approach towards aligning our strategies and operations with the SDGs include:



Since 2016, we have made a decisive effort to systematically explore how we can increase our alignment to the SDGs and be better positioned to contribute to their effective delivery.

Starting from 2017 we have reviewed all 169 targets to identify those we are best placed to contribute to in the short- (1-2 years), medium- (3-5 years), and longer-term (6+ years) as well as identify the targets of 'high' or 'moderate' priority given our position as a water and energy utility in the UAE. It is important to note that this mapping was not only about correlating existing activities to the targets, but also identifying targets that reflect our vision to be a globally leading, sustainable, innovative corporation.

We believe that DEWA can have the greatest impact on the below six SDGs:



Some examples of DEWA's contribution to the priority goals are:



GOAL 6: ENSURE ACCESS TO WATER AND SANITATION FOR ALL

- DEWA supports the implementation of DSM Strategy that aims to reduce electricity and water demands by 30% of BAU by 2030. Several energy efficiency initiatives have been implemented in our premises under the Committee for Energy Management of DEWA Premises. These include: conservation measures, retrofitting, light replacements and water reuse.
- Billing Services Division implemented “High Water Usage Alerts” initiative in coordination with DEWA Water & Civil Division, to check if consumption is substantially higher than the average over a set timeframe. The Smart Water alerts are analysed by the SAP system and trigger alert to customers for any possible water leakage, if it meets the criteria as per set parameters.
- Suqia, the UAE Water Aid Foundation, an entity under the Mohammed bin Rashid Al Maktoum Global Initiatives Foundation and annexed to DEWA, provides humanitarian aid around the world and helps communities that suffer from water scarcity by providing them with access to clean and safe water.



GOAL 7: AFFORDABLE AND CLEAN ENERGY FOR ALL

- Shams Dubai: DEWA's first smart initiative to connect solar energy to buildings.
- Mohammed bin Rashid Al Maktoum Solar Park: The largest single-site solar energy project in the world. It will produce 5,000MW by 2030 at a total investment of AED 50 billion. When completed, the solar park will reduce 6.5 million tonnes of carbon emissions annually.
- Our R&D department conducts studies on renewable sources of energy (solar, water, AI, energy efficiency, smart grid integration and clean energy storage). We contribute this research to the international community through:
 1. Dissemination of knowledge through conferences and journal publications (IEEE Photovoltaic Specialist Conference, European Photovoltaic conference, etc.)
 2. Engagement with R&D international organisations in joint R&D activities to solve renewable and sustainability issues (Stanford Energy 3.0, NREL, etc.)
 3. Outreach activities in the area of R&D renewables and sustainability (Solar Decathlon Middle East)

8 DECENT WORK AND ECONOMIC GROWTH



GOAL 8: PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL

- DEWA has a number of subsidiaries which contribute to greater economic diversity
- DEWA has mainstreamed disabilities in its internal strategies, policies, procedures, & operations.
- Providing the best work environment aligned with HSE standards.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



GOAL 9: BUILD A RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALISATION AND FOSTER INNOVATION

- Provide reliable power and water supply to businesses and households in Dubai.
- The first Green Hydrogen Project has been launched at the Mohammad Bin Rashid Al Maktoum Solar Park.
- Building-Integrated Photovoltaics technology for the R&D Centre.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



GOAL 12: ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS

- Distribution Power Sustainable Family is a competition that will allow the employees and their family members to take part in achieving the 17 SDGs. The competition aims to embed the culture of sustainability in their lifestyle and daily habits, and to expand the knowledge of sustainability in an innovative way that seeks to involve the mentality of future generations through their families.
- DEWA is issuing Sustainability Reports on an annual basis.
- DEWA sends employees to participate in climate change leadership programmes around the world, as part of its Climate Change Champion Programme. Since 2015, 2,000 of our stakeholders were aware of the issue of climate change and sustainable behaviour through these champions.

13 CLIMATE ACTION



GOAL 13: TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS

- DEWA plays an essential role in achieving the targets set by the Dubai Clean Energy Strategy (DCES) 2050 by working to generate 75% of Dubai's total power output from clean energy by 2050.
- We share the global response to climate change by reducing or avoiding greenhouse gas emissions through initiatives like: Diversification of Fuel Mix, Supply Side Energy Efficiency, Demand Side Management and CO₂ Emission Reduction Programme.

DEWA'S SECONDARY GOALS

Goals 5, 11, 14, 16 and 17 are also considered an important priority focus.



These priorities go beyond what a water or electricity utility would see as directly material and instead reflect our status as a major employer, community partner and player in the country and markets within which we operate.

Partnerships have been a fundamental pillar to the success of our organisation in service delivery, achieving strategic objectives and now contributing to the implementation of our SDGs strategic plan to further promote DEWA's economic, social and environmental responsibility and operations.

DEWA'S OVERALL CONTRIBUTION TO THE SDGs

Following the alignment of our corporate strategy with the 17 Goals and considering the variety of our projects, we have decided to further map all our activities and projects against the 169 targets in order to identify our overall contribution to the SDGs. To that extent, we have created the SDG Working group consisting of representatives from each of the 13 Divisions chaired by CC&S with the scope to map all projects/ initiatives/ policies related to the SDGs targets and set priorities in accordance with the high priority SDGs areas.

The results of this project, validated by Cambridge Institute of Sustainability Leadership showed that across DEWA there is a substantial amount of activity underway in relation to the SDGs. Combined, DEWA's corporate KPIs and Divisional activities contribute to 15 of the 17 SDGs. Goal 2 'Zero Hunger' and Goal 15 'Life on Land' are the only ones where we were not able to identify the appropriate level of contribution to the respective targets, whereas all of DEWA's most material SDGs have been fully covered.

BUILDING CAPACITY AND ENGAGING WITH STAKEHOLDERS

To further support DEWA's progress and leading position on sustainability and the SDGs we have continued throughout 2018 to build capacity through internal workshops and e-campaigns.

In March 2018, during the second day of the Sustainability Leadership Conference, we organised an Executive Masterclass customised specifically for DEWA's Senior management, VPs and senior managers, to provide an informed introduction to the context of the SDGs highlighting their strategic relevance to each division. The master-class provided participants with common messages, new knowledge and insights, and the employees learned more about how their division can align with the SDGs and how to develop and operationalise strategies to implement them.

Keeping in mind DEWA's proactive approach to the Global agenda, we have taken a step further and invited our major stakeholders to the SDGs workshop in order to:

- Raise awareness on the 2030 Agenda for Sustainable Development and inform our external stakeholders about our sustainability initiatives.
- Collect external stakeholders' perspective on our material SDGs
- Identify new partnership opportunities with our external stakeholders in relation to progressing the SDGs

We are one of the first organisations globally to engage with our stakeholders and to capture their opinions on which SDGs they consider important.

We are proud to report that 5 out of 6 of the SDGs prioritised by external stakeholders are aligned with DEWA's internal prioritisations. External stakeholders identified SDG 11 as an additional material SDG for DEWA. It is one of the secondary goals that DEWA monitors and contributes to.



The findings of this workshop have been analysed and used to enhance DEWA's implementation plan of the SDGs. With a strong national drive towards sustainability, it is very important for us to demonstrate to all relevant stakeholders that we are taking tangible actions to ensure delivery on the various goals and aspirations.

In the meantime, through DEWA's annual Sustainability Reports, we are continuously communicating our commitment and contribution to the UN SDGs. Our primary contribution to the above SDGs is highlighted throughout this report.

CASE STUDY

IN SUPPORT OF EXPO: THE COUNTDOWN TO 2020

DEWA is continuously playing a proactive role towards sustainable development in Dubai. With the countdown to Expo 2020 approaching, DEWA has established an effective partnership with Expo 2020 Dubai as the Official Sustainable Energy Partner to ensure the latest best practices in sustainability.

To achieve that, we have allocated AED 4.26 billion, launched several initiatives and continue to work relentlessly to ensure the implementation of these mega projects including:

- Building three 132/11 kilovolt (kV) substations named Sustainability, Mobility and Opportunity after the three sub-themes of Expo 2020 with 45 kilometres (km) of high-voltage (132kV) cables. As a part of our commitment towards sustainability, solar panels have been introduced in the 3 sub-stations.
- Building a smart grid to become the first network in the world to provide the entire value chain of generation, transmission, and distribution systems to Expo 2020.
- The Mohammed bin Rashid Al Maktoum Solar Park will provide Expo 2020 with a dedicated capacity of 400 megawatts of electricity.



DEWA has also signed an MoU with Expo 2020 Dubai and Siemens to kick-off the region's first solar-driven hydrogen electrolysis facility. It will be built at DEWA's outdoor testing facilities in the Research and Development (R&D) Centre at the Mohammed bin Rashid Al Maktoum Solar Park in Dubai. The facility aims at testing and showcasing an integrated MW-scale plant to produce hydrogen using renewable energy from solar photovoltaic, store the gas, and then deploy for either re-electrification, transportation or other industrial uses. Visitors of Expo 2020 Dubai will be able to visit the key facilities at the solar park. Overall, this partnership will showcase Dubai's efforts towards becoming the city with the lowest carbon footprint in the world.

DEWA IS THE OFFICIAL SUSTAINABLE ENERGY PARTNER OF EXPO 2020 DUBAI



Developing a smart customer service centre at the EXPO site

Hosting the Solar Decathlon Middle East 2020 in collaboration with EXPO 2020

Promoting EXPO 2020 Dubai at national and international platforms

Collaboration to kick-off the region's first solar driven hydrogen electrolysis

An aerial photograph of a vast solar farm at sunset. The sun is a bright, glowing orb in the upper center, casting a warm orange and yellow light across the sky and the landscape. The solar panels are arranged in neat, parallel rows that stretch towards the horizon, reflecting the low sun. In the lower-left foreground, there is a small industrial facility, possibly a power plant or refinery, with various structures and piping. The overall scene conveys a sense of large-scale renewable energy production.

ENERGY



75% Clean energy
generation capacity will
be achieved by 2050



Cumulative efficiency
improvement of
29.68%, equivalent
to 50.5 million tons of
CO₂ emission reduction
between 2006 and 2018



11,100 MW
Generation
capacity for 2018



3.3% electricity line
losses for 2018, 30%
improvement since
2007

MANAGEMENT APPROACH

At DEWA, we are committed to ensuring the reliability of the electricity supply across Dubai by investing in new technologies, applying international best practices and continuously improving our power generation, transmission and distribution facilities. Our efforts have supported the UAE to maintain its first global ranking in getting electricity as per the World Bank 2019 report for the second consecutive year.

DEWA implements innovative solutions to improve supply-side efficiency, reduce transmission and distribution losses and diversify energy sources to support sustainable economic growth without damaging the environment and natural resources.

We have set a robust risk & resilience management framework for our Generation Division, with energy reliability at its core. In line with ISO 31000:2011 standard for Risk Management, business risks are identified and managed through our Governance, Risk & Control system at the corporate level. Mitigation plans and related records are maintained in line with our Risk & Emergencies Management Approach. Asset & Treatment registers are prepared based on asset risk assessments conducted for all critical generation assets, in line with our Enterprise Risk Management framework.

The Generation Division has identified several crises and developed crisis management plans for each case based on its impact on the power & water production facilities that may lead to partial or total loss of power generation & water production. Some of these crises include partial/ total loss of power generation and fire/ explosions in liquid fuel storage tanks, natural gas pipeline due to breakages or leakage. In addition, we have identified contingency plans for several scenarios, which include: blackout, fire, oil slick, and red tide contingency plan.

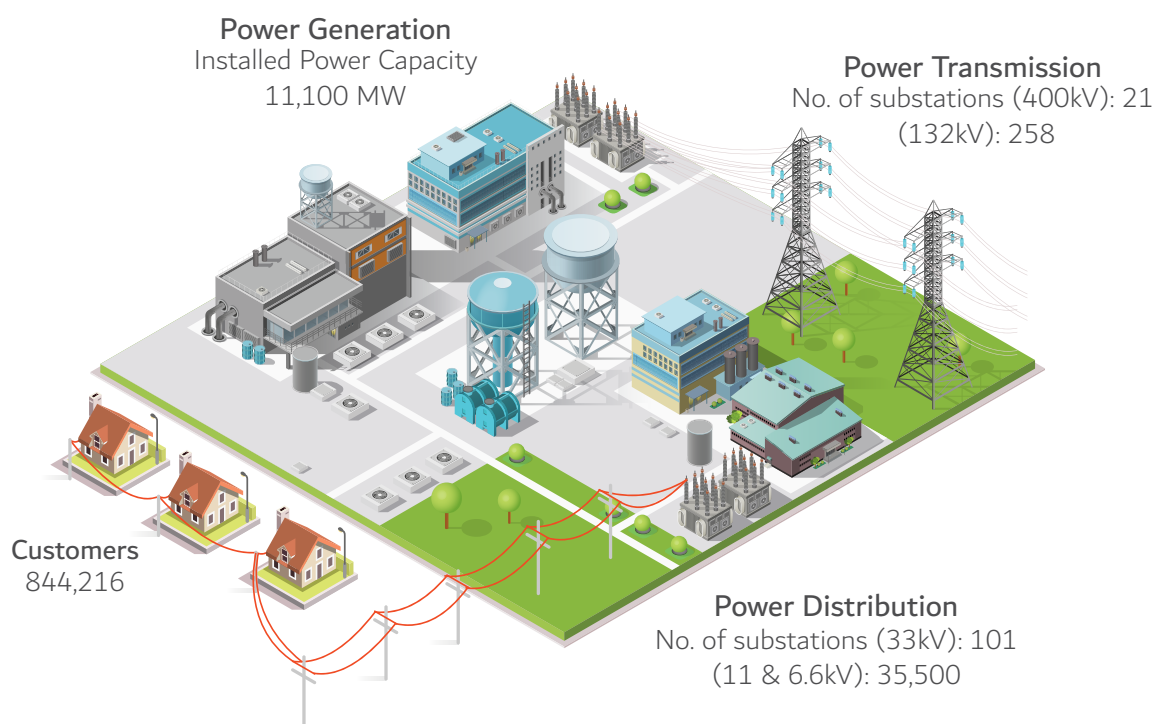
Business Impact Analysis is also carried out for major processes and activities as part of our Business Continuity Management System that is developed according to the ISO 22301:2012. This includes identification of business impacts covering Financial, Operations, Health & Safety, Environment, Objectives and Reputation, IT Services, Resources & Process Flows.

Crisis management and contingency plans are also developed as part of disaster recovery, focusing on minimising the impact on safety, reliability, availability and ensuring availability of proper backup facilities, wherever applicable.



POWER GENERATION

As the sole utility in the Emirate of Dubai, ensuring the availability and reliability of electricity and water services across the Emirate remains our key priority. Our power stations and desalination plants, operated by our Generation division, run according to the highest standards of reliability, efficiency, quality and environmental safety. DEWA also owns and operates power transmission & distribution networks in Dubai, ensuring the uninterrupted supply of services to all our customers.



Natural gas is the primary fuel for our power generation and water desalination operations. DEWA purchases natural gas from the Dubai Supply Authority (DUSUP), which runs gas importation and distribution infrastructure for the Emirate of Dubai. In 2018, our total gross generation was 45,960,803 MWh, which was produced mainly through the usage of natural gas.




Table: Net Energy Output Broken Down By Primary Energy Source

Year	Total Gross Generation (MWh)	Natural Gas		Diesel Fuel Oil		Medium Fuel Oil		Solar	
		Generation (MWh)	% of total generation	Generation (MWh)	% of total generation	Generation (MWh)	% of total generation	Generation (MWh)	% of total generation
2016	43,091,953	43,034,528	99.87	28,389	0.07	86	0.0002	28,951	0.07
2017	45,162,014	44,669,687	98.91	30,225	0.07	25	0.0001	462,077	1.02
2018	45,960,803	44,995,189	97.90	27,723	0.06	69	0.0001	937,823	2.040

Note: Diesel fuel oil and medium fuel oil are backup fuels used only during an emergency (i.e. interruption of gas supply). The consumption during the year is due to testing and commissioning purposes.

DEWA'S INSTALLED CAPACITY

Table: DEWA'S Installed Capacity for 2018

Site		Station	Installed Power Capacity (MWh) at 500C & 30% R.H
		D	1027
		E	616
		G	818
		K	948
Jebel Ali, Dubai		L	2,401
		M	2,885
Aweer, Dubai		H	1,996
Seih Al Dahal, Dubai		Mohammed bin Rashid Al Maktoum Solar Park	410
Total (MWh)			11,100

Recognising that securing the supply of electricity and water, and ensuring their long-term sustainability is critical to achieving the vision of the wise leadership, DEWA has embarked on an expansion of its M-station, adding 700MW to its installed capacity. This will increase the plant's thermal efficiency from 82.4% to 85.8%, which is one of the highest thermal efficiency rates in the world.

POWER TRANSMISSION & DISTRIBUTION

Ensuring the reliability of our electricity connections is a high priority for DEWA. Through our extensive network of transmission and distribution substations, we aim to minimise interruptions and transport electricity in a reliable manner. Our transmission line availability is typically above 99%, reflecting world-class standards of performance.

Table: Total Number of Transmission and Distribution Substations, 2018

Voltage Category (kV)	Number of Substation
400	21
132	258
33	101
11 & 6.6	35,500

DEWA's commitment to meet the growing energy demand is reflected in the 1,759 new 132/ 11 & 6.6 kilovolt (kV) substations that were installed during 2018.

DEWA continuously works to improve the operational efficiency of its Transmission and Distribution (T&D) network. Through our Intelligent Metering System and Smart Grid, our continued efforts have resulted in our 2018 electricity line losses being 3.3%, a 30% improvement since 2007.

Table: Length of Transmission and Distribution Lines, 2018

Type	Voltage Category (kV)	Length of Transmission and Distribution lines (km)
Overhead Lines	400	1,125
	132	402
	33	112
	6.6 & 11	628
Underground Lines	400	24
	132	2,016
	33	2,076
	6.6 & 11	32,482

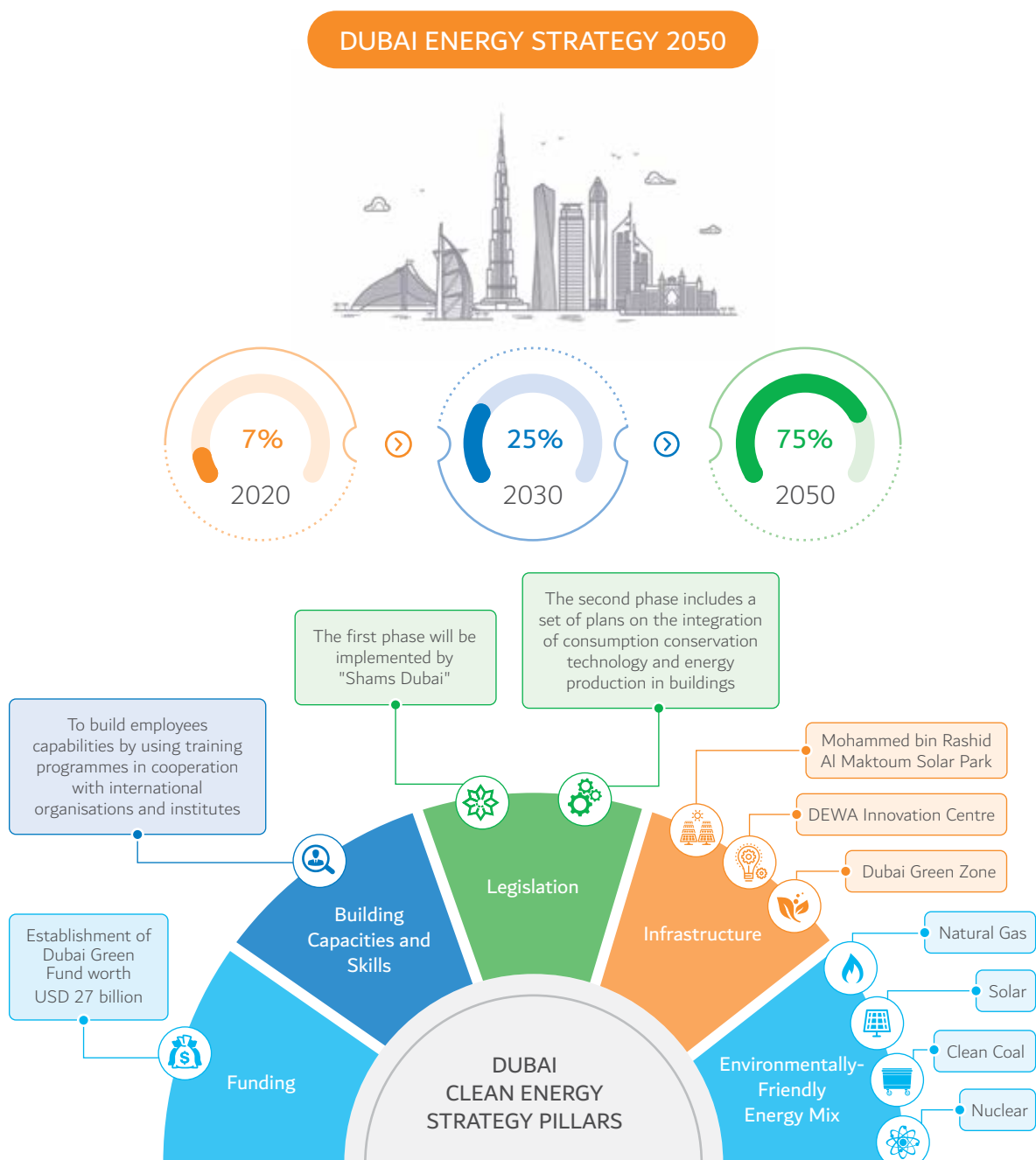
DEWA is currently retrofitting HVAC packaged units of its substations, replacing all packages operating with Refrigerant 22 (R-22) with a more eco-friendly R407c, expansion valves, compressor oils and drier filters. 214 packaged units have been retrofitted till 2018, with the full phase-out of R-22 and retrofitting of 910 units to be completed by 2027.



ENSURING LONG TERM AVAILABILITY AND RELIABILITY

With national targets being set to reduce dependency on natural gas and fossil fuels, and the risks of shortages and future commodity price fluctuations associated with natural gas, DEWA has moved towards diversifying its energy sources since 2012. This falls in line with its long-term strategy to ensure the availability & reliability of its energy generation.

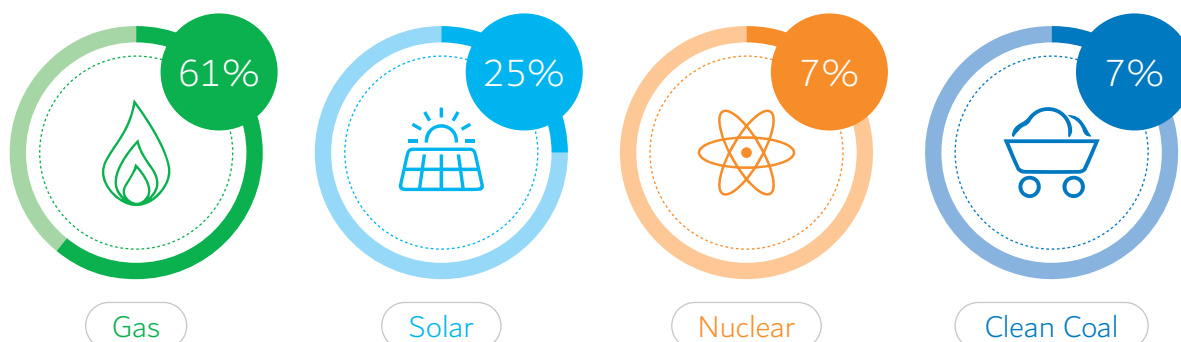
As the sole provider of power, DEWA plays a key role in achieving the targets set out by the Dubai Energy Strategy 2050, which seeks to transform Dubai into a global hub of green energy, and diversify its energy sources to generate 7% of Dubai's total power output from clean resources by 2020, 25% by 2030, and 75% by 2050. By reinforcing the renewable energy sector to meet the objectives of the Dubai Energy Strategy 2050, DEWA supports the UAE's ambitions towards sustainable development, meeting the continuously rising demand without diminishing natural resources and preserving the environment.



DIVERSIFICATION OF FUEL MIX

To ensure the goals of the Dubai Clean Energy Strategy (DCES) 2050 are met, DEWA is committed to diversifying its energy mix to both meet the growing demand in Dubai while minimising its impact on the environment and supporting the UAE's approach for a diversified economy that is not highly reliant on natural gas.

Some of our key initiatives towards achieving DCES 2050 include the Mohammed bin Rashid Al Maktoum Solar Park, the Hassyan Clean Coal Plant, the Hatta Hydroelectric Plant, in addition to the Shams Dubai initiative and our Demand Side Management Strategy 2030 initiatives.



SOLAR ENERGY

The utilisation of solar energy constitutes an essential pillar of the Dubai Clean Energy Strategy 2050. The Mohammed bin Rashid Al Maktoum Solar Park is one of the major projects that DEWA implements to achieve this promising strategy, as well as the Shams Dubai initiative.

MOHAMMED BIN RASHID AL MAKTOUM SOLAR PARK

The Mohammed bin Rashid Al Maktoum Solar Park, is the largest single site solar park (in terms of capacity) in the world, and is based on the Independent Power Producer (IPP) model. The park will combine both photovoltaic and concentrated solar power (CSP) technologies to achieve a total planned capacity of 5,000 MW by 2030. Located in Seih Al Dahal, Dubai, the solar park will reduce over 6.5 million tons of carbon dioxide emissions every year starting from 2030.



In 2018, HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of UAE and Ruler of Dubai, inaugurated the 200 MW first stage of the 800 MW third phase of the Solar Park, increasing the existing total installed capacity from solar to 410 MW.

The second and third phases, which have a capacity of 300 MW each, will be completed in 2019 and 2020 respectively. The fourth phase, the 700 MW Concentrated Solar Power (CSP) plant, has received the lowest international Levelised Cost of Electricity (LCOE) bid of USD 7.3 cents per kilowatt hour (kWh). The fourth phase will feature a 260 metre solar tower, the tallest of its kind in the world, and will roll out in stages, starting from the second quarter of 2021. The Mohammed bin Rashid Al Maktoum Solar Park will generate 1,000 megawatts using CSP technology by 2030.

CLEAN COAL ENERGY

HASSYAN CLEAN COAL POWER PROJECT

DEWA launched the Hassyan Clean Coal Power Plant, the first plant of its kind in the region to produce electricity using clean coal based on the Independent Power Producer (IPP) Procurement model. It will begin operations in 2020, and by 2026 the total clean coal-fired capacity will go up to 2,664 MW. The plant will adopt the use of ultra-supercritical technology in its operations, in full compliance with set international standards. The plant also meets flue gas emission limits more stringently than emission limits of both the Industrial Emissions Directive of the European Union and the International Finance Corporation Guidelines.



NUCLEAR ENERGY

By 2030, nuclear energy will generate 7% of Dubai's energy mix.

HYDROELECTRIC POWER STATION IN HATTA

DEWA's pumped storage hydroelectric power station in Hatta is the first of its kind in the GCC region. Utilising water stored in the existing Hatta dam, it will have an installed capacity of 250MW, with an expected lifespan of 60 – 80 years. The dam can store up to 1,716 million gallons of water. As part of the project, an upper reservoir will be built at a higher elevation with a capacity to store over 1,000 million gallons of water. During off-peak hours when power demand is relatively low, the plant will use clean and cost-effective solar energy to pump water from the lower dam to the upper reservoir. During peak-load hours when demand and production costs

are higher, the energy of water flowing back down from the upper reservoir into the lower dam is used to generate power to be fed into DEWA's grid. The plant efficiency can reach up to 90% and it can respond to variations in power demand within 90 seconds.

In 2017 DEWA awarded Électricité de France with an AED 58 million engineering consultancy services contract which covers field investigations, detailed design, assistance during EPC tendering as well as engineering support and supervision during construction. So far, all field investigations and design studies have been completed, and the project is in EPC tendering stage.

SUPPLY SIDE ENERGY EFFICIENCY

DEWA produces electricity and water mostly by cogeneration. This is a process where Heat Recovery Steam Generators (HRSG) use waste heat from burning natural gas to produce steam without using any fuel. The HRSGs generate additional free electricity through back pressure steam turbines to power water desalination by multistage flashing.

Over a number of years, DEWA has invested in efficiency improvements including converting many simple cycle gas turbine plants into more efficient combined cycle plants and installing cooling systems in gas turbines. In 2018, our gross power generation efficiency and combined power and water generation efficiency were 42.80% and 37.10%, respectively. Overall, between 2006 and 2018, we have achieved a cumulative efficiency improvement of 29.68%, equivalent to 50.5 million tons of CO₂ emission reduction. This has been achieved through a combination of optimum power plant design, power augmentation, innovative upgrades for gas turbines, optimised operations and optimised outage planning. In addition, we produce our own auxiliary power which is the electricity we consume to support primary electricity generation operations. By enhancing supply-side efficiency, we reduce our auxiliary power requirements thus reducing the carbon intensity of generation. We are proud to report a continuous year on year improvement on the amount of carbon saved through efficiency measures.

Optimum Power Plant Design




To achieve a minimised cost and the highest efficiency of plant's lifecycle, the optimum power and water production design would be in a hybrid system where water production is shared between several technologies including multi-stage flashing desalination and reverse osmosis.

Power Augmentation

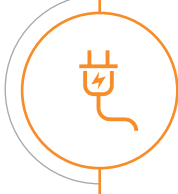


The high temperature of the summer months in Dubai affects the performance of our gas turbines, as generation capacity typically drops by around 20%. Using cost-effective and proven power augmentation options, DEWA has cost-effectively increased capacity by over 720 MW by 2018 with respect to 2006 and improved efficiency in the process, which reduced our emission intensity.




Innovative Upgrades for Gas Turbines

After installing any gas turbine, DEWA continuously follows up with the original equipment manufacturers with regards to any new proven and cost-effective technologies and upgrades that have become available during the lifecycle of the gas turbine, which will increase capacity and/or improve efficiency and reliability.



Optimised Operation

During times of low demand, some electricity generation units are shut down to avoid running inefficiently at low load levels.



Outage Planning

DEWA uses a management tool that coordinates all maintenance outage requests to minimise outages and meet demand with the highest efficiency and minimum fuel cost.

Graph: Efficiency Gains from Improvement in Gross Heat Rate 2016–2018 with respect to 2006



Graph: Carbon Reduction (Million Tons CO₂) Due to Efficiency with respect to 2006

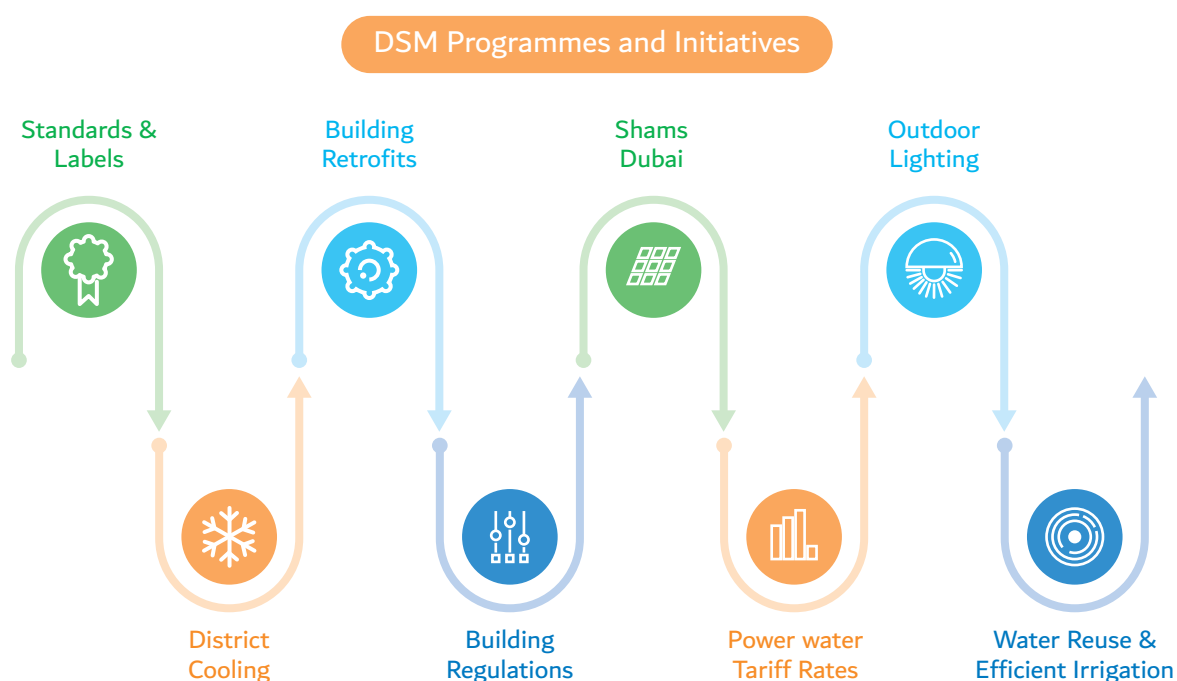


DEMAND SIDE MANAGEMENT

While DEWA has set forth extensive efforts to reduce power & water consumption through supply-side efficiency programmes, adopting best practices in generation & desalination, as well as, diversifying fuel mix, one crucial aspect to meet our energy efficiency and consumption targets, is demand side management.

In 2013, the Dubai Supreme Council of Energy, launched the Demand Side Management Strategy (DSM) 2030 with a focus on improving energy efficiency, reducing energy & water consumption and contributing to the sustainable development of Dubai. We are committed to supporting Dubai's efforts and have aligned our programmes and initiatives with the DSM strategy accordingly.

The strategy has defined 8 main programmes in line with international best practices and similar programmes implemented globally, with a target to reduce electricity and water demand in Dubai by 30% in 2030, compared to the business as usual scenario. These include green-building regulations, retrofitting of existing buildings, district cooling, standards & labels for appliances & equipment, wastewater reuse, energy-efficient street-lighting, review of tariff rates to promote energy conservation and economic efficiency of consumption decisions and the Shams Dubai programme to enable building owners to install photovoltaic panels to generate electricity and connect it to DEWA's grid. The Supreme Council of Energy has designated DEWA as the owner for the Shams Dubai Programme and Tariff Rates. In 2018, both programmes have achieved 62 GWh electricity savings and 1,105 GWh electricity savings respectively and 2,143 MIG water savings from Tariff Rates programme.

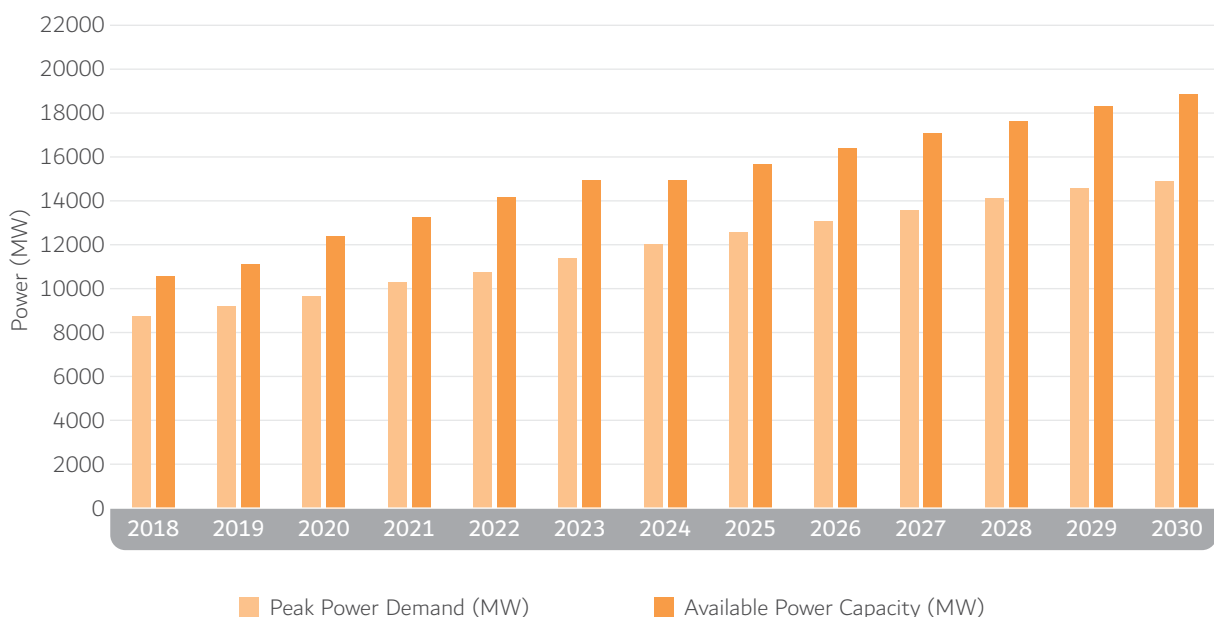


MEETING FUTURE DEMAND

As part of our efforts to meet future demand, we have forecast the demand for power & water through 2030. Our Power and Water Planning (P&WP) division is responsible for the short, medium and long-term demand forecasts and Master Plans. P&WP updates demand forecasts every year using recognised international practices and state-of-the art tools considering demographic and econometric growth, and captures the effect of future uncertainties through scenario planning. This ensures that DEWA maintains its world-class level of reliability, efficiency and safety and optimises its resources. Based on these demand forecasts, DEWA develops all its Master Plans, which are updated annually in order to timely and effectively meet Dubai's power and water demands, while maintaining a reserve margin of minimum 15%.

Master Plans set the course for the technical planning of future infrastructure expansions of electricity and water production, transmission and distribution systems. The plan takes into consideration Dubai's future developments in commercial and industrial sectors and major future events such as Dubai Expo 2020, as well as, projected normal growth of power and water demand associated with increases in population. The plans include power generation and water desalination capacity expansion plans and power and water transmission network expansions plans up to 2030 as well as power distribution network up to 5 years.

Graph: Peak Power Demand and Planned Capacity Additions (2018-2030)



CASE STUDY

DEWA'S MOST EFFICIENT GAS TURBINES

In line with DEWA's vision of "A globally leading sustainable innovative corporation" a project was conceptualised and initiated to break the outage duration world record. It increased the availability of the gas turbine with the highest efficiency which contributed to the reduction of our environmental footprint.

In 2016, DEWA formed a team to break the world record in outage duration of the largest and most efficient power and water producing gas turbine (SGT5-4000F) by 2018. The gas turbine along with the steam turbine will provide 63.2% of DEWA's gas plant power generation capacity

by 2020. Furthermore, both turbines were able to provide the heat required in order to produce around 55% of DEWA's desalinated peak water demand in the year of 2018.

The (SGT5-4000F) gas turbines are the largest and most efficient gas turbines in DEWA's assets. Moreover, in order to minimise the operational cost and environmental footprint, DEWA generation team maximised the utilisation of the gas turbines. A reduction of the outage durations enabled DEWA to complete the overhaul activities of the growing gas turbine fleet.

As a result, using various original ideas and techniques, in October 2018, DEWA achieved a new world record by reducing the outage duration of the gas turbine.

Such an achievement has set a high benchmark for the industry with more than 461 gas turbine units installed in the world so far accounting for 119 GW of power generation capacity. Finally, DEWA is planning to share this experience internationally, as a best practice on how utility companies and other users, can reduce the outage durations resulting in reducing their environmental footprint.



The image depicts a futuristic landscape under a clear blue sky. In the foreground, a large, circular solar tower stands on a white, hexagonal base. The base contains several small buildings and two large, white, spherical storage tanks. The tower itself is a tall, white, cylindrical structure with a glowing white light at the top. Surrounding the base of the tower are concentric, curved rows of solar panels, creating a spiral effect. In the background, a vast field of solar panels stretches towards a line of green trees. To the right, a modern, blue, curved building with a sharp, pointed roof is visible. The overall scene suggests a sustainable, high-tech environment.

CLIMATE CHANGE & ENVIRONMENT



56,473 i-RECs
acquired in 2018



22.50 MtCO₂e total
carbon emissions in
2018 compared to 26.43
MtCO₂e BAU



1,100 kgs of CO₂
emissions avoided
through DEWA's smart
document system

MANAGEMENT APPROACH

The UAE has taken great strides towards addressing climate change and mitigating its impacts on the environment and economic sectors. Climate change remains a priority on the UAE Federal agenda.

In 2017, the UAE Federal Government introduced a National Climate Change Plan, as a roadmap to mitigate and adapt to climate change in the UAE until 2050. The Government of Dubai has set its own ambitious strategies, such as the Dubai Carbon Abatement Strategy, with a target to reduce carbon emissions by 16% by 2021. This supports the UAE Vision 2021 and the Dubai Demand Side Management strategy to reduce consumption of electricity and water by 30% by 2030. It also supports the Dubai Clean Energy Strategy 2050, and the Green Economy for Sustainable Development Initiative launched by His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai.

In 2017, Dubai was certified by the C40 Cities Climate Leadership Group, a leading global network of cities committed to tackling climate change and protecting the planet. This is an acknowledgement of Dubai's strategy to reduce Green House Gas (GHG) emissions that pose a threat to the climate worldwide. In September 2018, H.E Abdulla Al Basti, Secretary General of the Dubai Executive Council, representing Dubai, joined mayors of other cities around the world to take the C40 pledge that their cities will develop inclusive climate action plans by the end of 2020 to limit warming by 1.5 degrees Celsius and adapt to the impacts of climate change.

Furthermore, DEWA has played an active role as part of the UAE Climate Change Task Force since 2012, attending the annual pre-COP and COP negotiations and taking the lead in technical negotiations on the matters related to the Clean Development Mechanisms and Mitigation under the Kyoto Protocol and the Paris Agreement, Article 6.

As with many other organisations worldwide, DEWA has systematically worked on reducing its emissions through our Carbon Dioxide Emission Reduction Programme, to support the global goal of avoiding the 2°C increase in the Earth's temperature.

Under the Clean Development Mechanisms Framework, DEWA initiated the UAE Small Scale Solar Programme of Activities (PoA) in 2016 to facilitate the financing of projects and environmental programmes through certifying emission reductions by owners and developers of off grid solar projects in the UAE.

Climate change is not only an environmental challenge, but also poses social and economic risks that directly affect sustainable development.

DEWA recognises the impact of its operations, and we acknowledge our role to mitigate the impacts of climate change by minimising our environmental footprint, while still maintaining a reliable delivery of electricity and water services to our customers. We have set strategies and policies in place to reduce our air emissions, minimise our waste, and ensure compliance with UAE federal and Dubai level legislations, regulations and policies.

DEWA abides by the precautionary principle with regards to the environment and has implemented corporate level policies and procedures that are based on international best practices and our own stringent guidelines. This is done to ensure continuous monitoring of operations and guidance on preventative measures and corrective actions to eliminate any potential non-conformities, defect, or other undesirable situations in order to avoid the occurrences and related environmental impacts.

This is evident by DEWA having maintained its certification of Five Star Environmental Audit from the British Safety Council (BSC) since 2011.

To meet legal and industry standards, we have implemented a certified environmental management system (EMS) in line with ISO-14001 standard, maintained in our Generation division since 1998, and on a corporate level since 2006, which allows us to continually improve our environmental performance and control the environmental impact of our operations and services.

DEWA remains compliant with all UAE Federal and Dubai Municipality environmental legislations and regulations, which govern aspects of health, safety, security and environmental quality and impose civil and criminal penalties for any violations. Prior to the construction of any new DEWA project, independent consultants conduct an environmental impact assessment based on international standards.

In 2018, DEWA was not in violation of any environmental regulations nor did it receive any complaints relating to environmental matters.

CLIMATE CHANGE RESILIENCE

The power and water sectors in the UAE are vulnerable to the adverse effects of climate change. At DEWA, we understand that climate change is a crosscutting risk that can have both, physical impact on our operations, and an economic impact on our business. In 2018, we started developing a Climate Change Resilience Plan to assess, understand and project the real climate sensitivity of our assets and operations; thereby making climate change actions one of our top priorities. Through our established climate change resilience governance framework, the climate change resilience team analyses climate change trends, prioritise hazards, vulnerabilities, operations, revenue, and opportunities from projected climate change scenarios. The findings are integrated with DEWA's Enterprise Risk Management system and plays a key role in our strategic planning. Furthermore, the Climate Change Resilience Plan not only details the financial implication, mitigation and adaptation measures of the impacts of climate change, but also presents an opportunity to optimise our resource efficiency, enhance the adaptive capacity and ensure business continuity. DEWA is the first utility in the region to initiate a low carbon transformation via climate change resilience planning.

CO₂ EMISSION REDUCTION PROGRAMME

In 2012, DEWA, known for its strategic thinking and proactive approach to global challenges, launched its Carbon Dioxide Emission Reduction Programme. The programme created a roadmap for short, medium and long-term emission reduction actions up to 2030. It contributes to and supports Dubai's Carbon Abatement Strategy under the Dubai Supreme Council of Energy which targets to reduce 16% of emissions across the Emirate by 2021.

DEWA's Emission Reduction Programme is a comprehensive programme that considers reductions from both demand and supply side. It takes several key factors into account: Dubai's rising demand for electricity and water, existing rationalisation initiatives, DEWA's supply side efficiency improvements and the diversification of its energy mix.

DEWA was among the first in the region to develop a comprehensive Monitoring, Reporting and Verification (MRV) framework of our Greenhouse Gas (GHG) emissions since 2012, establishing that year as the baseline for reporting on our emissions. The MRV framework allows us to report on our emissions through our Carbon Footprint Report, which we prepare in accordance with the Greenhouse Gas (GHG) Protocol, the most widely used international carbon calculation methodology, compatible with the ISO 14064-1, which also allows for integration with national and international GHG registries. Our 2018 Carbon Footprint Report was finalised using productivity data management processes within the Monitoring, Reporting and Verification framework across all DEWA's divisions.

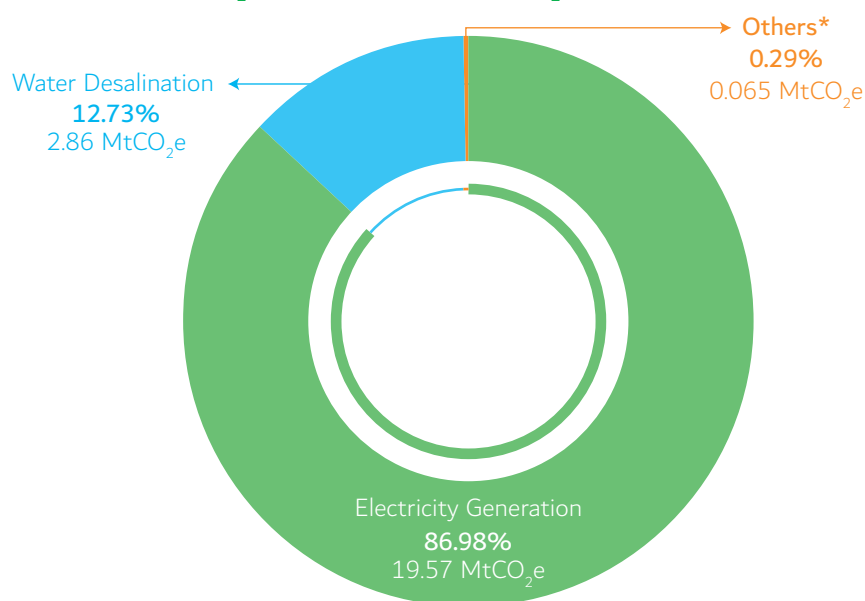
The Carbon Footprint Report is intended to quantify and calculate DEWA's annual direct and indirect GHG emissions, which include CO₂, CH₄, N₂O, SF₆, HFCs and PFCs and electricity import. The emissions' sources included within the report include fuel combustion during power generation and water desalination, sulphur hexafluoride (SF₆) usage in circuit breakers, fuel combustion in vehicles, and refrigerants usage for air conditioning and maintenance operations. In addition to emissions from small emissions sources:

- CO₂ usage in fire protection systems and labs
- Diesel usage during emergencies (back-up generators)
- Acetylene usage for maintenance activities
- LPG usage for cable termination works
- Process emissions due to desalination
- Laboratory acetylene usage

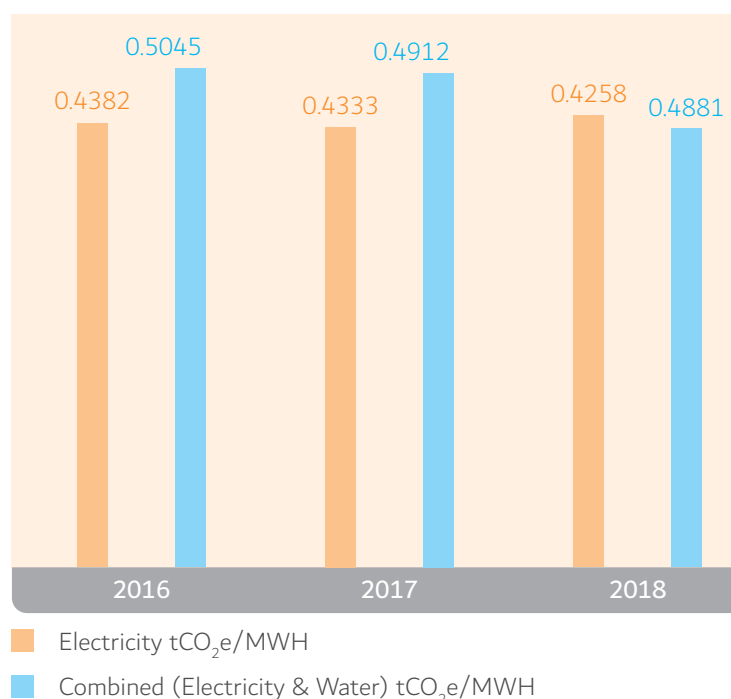
The emissions from SF₆, fleets and refrigerants have been included due to their strategic importance or high Global Warming Potential (GWP) values. (Note: Source of Emission Factors and GWP is 2006 IPCC Guidelines for National GHG Inventories, Vol. 2, Energy) DEWA follows an operational control approach in consolidating, monitoring and reporting on its GHG emissions, quantifying them in terms of CO₂ equivalent.

In 2018, DEWA's total carbon emissions were 22,497,851 (22.50) million metric tons of CO₂ equivalent (MtCO₂e) compared to 26.43 MtCO₂e business as usual estimate based on our DEWA's Emission Reduction Programme 2018 targets review. The majority of our carbon emissions emitted comes from the combustion of natural gas to generate power and desalinated water. Carbon emissions also come from refrigerants, sulphur hexafluoride (SF₆) usage in circuit breakers and fuel combustion from DEWA's fleet vehicles. DEWA is also meeting environmental and operational goals through cost-effective solutions to manage SF₆ in high voltage circuit breakers and phase out restricted refrigerants. The 2018 carbon footprint report has been externally verified following the standards of ISO 14064-3 for the validation and verification of greenhouse gas assertions.

Graph: Mt of CO₂e and percentage of CO₂e emissions by source, 2018



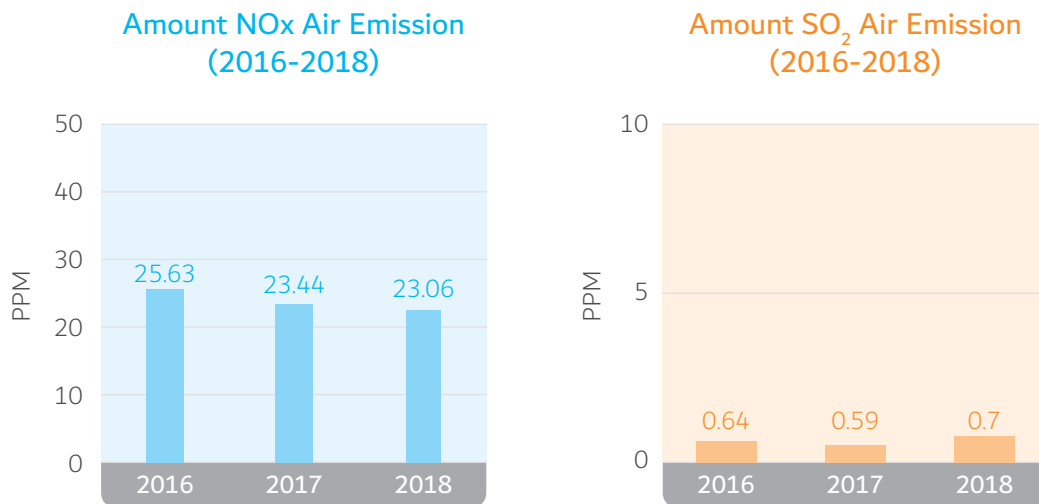
* Others include: Fleets, refrigerants, SF₆ usage in circuit breakers, fire protection, emissions due to desalination process, acetylene usage in laboratories, diesel usage in backup generators and LPG usage for welding)

Graph: Carbon emission intensity, tCO₂e/MWH of electricity generated, 2016-2018

MINIMISATION OF AIR EMISSIONS

Air emissions have damaging impacts on our local climate, ecosystems, human health and air quality. DEWA abides by the Dubai Government regulations for air quality, which set limits for the emission of harmful air pollutants such as nitrogen oxides (NO_x) and sulphur dioxide (SO₂) emissions. Through strategic planning and continuous efficiency improvements of our plants, we have achieved excellence in NO_x and SO₂ emission reduction. Stringent NO_x emission limits for gas turbines are set early on in the design stage of any power and water plant. In 2018, our average annual NO_x emissions from all units was 23.06ppm, inclusive of all fuel types, gas turbines, and boilers, which is below the UAE Federal Government requirement of 37ppm and the European Union Requirement (Large Combustion Plant Directive 2001 for Plant Built After 2003) of 27ppm. With regards to SO₂ emissions, DEWA has maintained very low emissions due to the burning of sweet natural gas. DEWA has started procuring diesel fuel with ≤10ppm sulphur content instead of ≤500ppm sulphur content for the stand-by diesel fuel, in line with the 2014 UAE Government Federal Regulations.

In 2013, DEWA also set an action plan in place to phase out all Ozone Depleting Substances (ODS) by 2020, an investment of approximately AED 11.66 million, in line with both the Montreal Protocol and the Dubai Municipality Technical Guideline #7, which seeks to phase out ozone depleting substances completely by the year 2030. By 2018, we have achieved a 91.2% phase out of the R-22 refrigerant since 2013. Besides that, we have implemented various initiatives to reduce leakage of SF₆ from switch gears used to control, protect and isolate electrical equipment. SF₆ (Sulphur Hexafluoride) has a global warming potential of 23,500 times that of carbon dioxide (as per the IPCC 5th assessment report) and so any leakage, no matter how small, could have a significant impact. All SF₆ gas leaks from 132 & 400 kV Gas Insulated Switchgears (GIS) are promptly attended by our maintenance team with the aim of achieving 100% rectification of identified SF₆ gas leaks.



EMISSION REDUCTION AND RENEWABLE ENERGY CERTIFICATES

DEWA is fully committed to achieving overall sustainable development, by adopting initiatives that will reduce our environmental footprint while at the same time diversify our economic portfolio.

DEWA has one of the largest Clean Development Mechanisms (CDMs) portfolios in the UAE having registered several of its projects as CDMs projects under the United Nation's Framework Convention on Climate Change (UNFCCC). Registration of these projects signifies the use of innovative renewable energy and energy efficiency solutions, and allows DEWA to monetise Certified Emission Reduction (CER) credits, also known as carbon credits, as an additional form of revenue over the next years.

In 2017, DEWA became the first entity in the MENA region to acquire International Renewable Energy Credits, or i-RECs. The i-REC is a voluntary system for international trade in renewable-energy certificates. The system was created to encourage utilities around the world to increase the amount of renewable or clean energy in their supply mix relative to fossil fuels. This move supports DEWA's commitment to the environment and its adherence to increase the share of clean energy in the energy mix. It also underlines DEWA's efforts to encourage the use of clean energy and promote environmental sustainability and a green economy.

In 2018, DEWA acquired 56,473 i-RECs from the 13 MW first phase and 200 MW second phase of Mohammed bin Rashid Al Maktoum Solar Park, covering 2017, 2018 and 2019 production. With the additional new transaction for 2019, our total contracted i-REC portfolio will reach 120,552 i-RECs as of May 2019.

SUSTAINABLE AND ENERGY EFFICIENT BUILDINGS

ENERGY MANAGEMENT OF DEWA PREMISES AND ASSETS

DEWA is committed to the efficient, effective and economical management of our energy use and consumption, and continuously seeks to improve energy efficiency within its premises. In 2018, DEWA's Head Office and Customer Happiness Centres located at Al Hudaiba, Umm Ramool, Al Wasl and Burj Nahar used 8,619,094 kWh of electricity.

In line with DEWA's Energy Management Policy, and in order to support Demand Side Management Strategy 2030, several energy efficiency initiatives have been implemented in DEWA premises under the Committee for Energy Management of DEWA Premises. These include: conservation measures, retrofitting, light replacements and reuse of Treated Sewage Effluent (TSE) water for irrigation.



Conservation measures implemented in 5 main buildings

Head Office, Hudaiba
Umm Ramool, Wasl, Burj Nahar



Lighting replacement
ESCO project

Phase-1 Jebel Ali Power Station (JAPS) complex and
Phase-2 have been completed, Phase-3 is in progress

Replacement of outdoor lights
with equivalent LED lights

Pumping stations and reservoirs 100% completed



Retrofitting ESCO project
for 7 office buildings

Head Office, Hudaiba, Umm Ramool, Wasl, Burj Nahar,
L-Admin, G-Admin

Retrofitting of 4 old buildings

H-Station Accommodation, Al-Quoz Office, Store,
Accommodation & Mosque, Al-Quoz BSD, Water
Maintenance & Mosque, Warqa-1 Office and Store



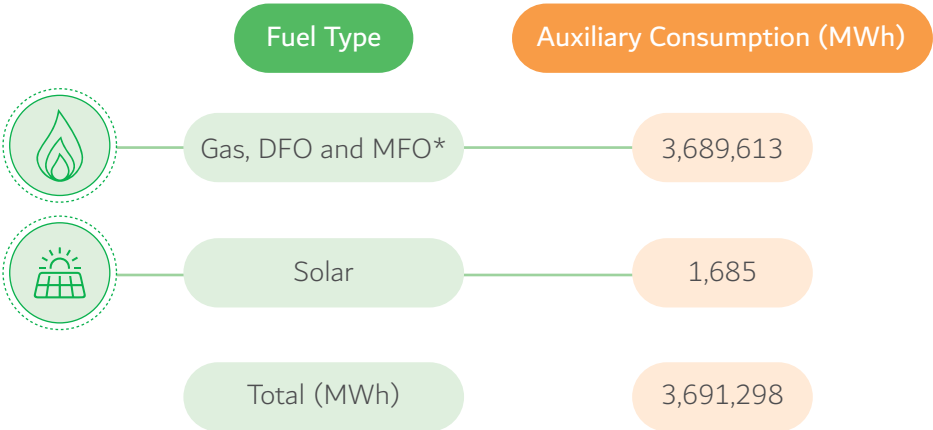
Connection of Treated
Sewage Effluent (TSE) water
for irrigation purposes

Warsan Central Store

The overall savings achieved in 2018 from these initiatives are 30 GWh (57%) and 1.0 MIG (20%), which correspond to AED 13.34 million in financial savings and 13,150 tonnes of CO₂ reduction, compared to savings of AED 8.6 million and 8,462 tonnes of CO₂ respectively in 2017.

In 2018, DEWA successfully implemented and certified an Energy Management System for its Head Office building to ISO 50001:2011 standard. The Head Office Energy Management System enabled us to quantify and establish realised benefits based on our energy performance, and was the ideal flagship project to further showcase DEWA's pioneering role towards effective and economical management of our energy use. DEWA is also currently expanding the boundary of the Energy Management System to cover major operations that would include generation plants, substations, customer happiness centres and administration buildings and fleet. This system will allow us to periodically review the energy performance, and identify and implement energy conservation opportunities with cost benefits.

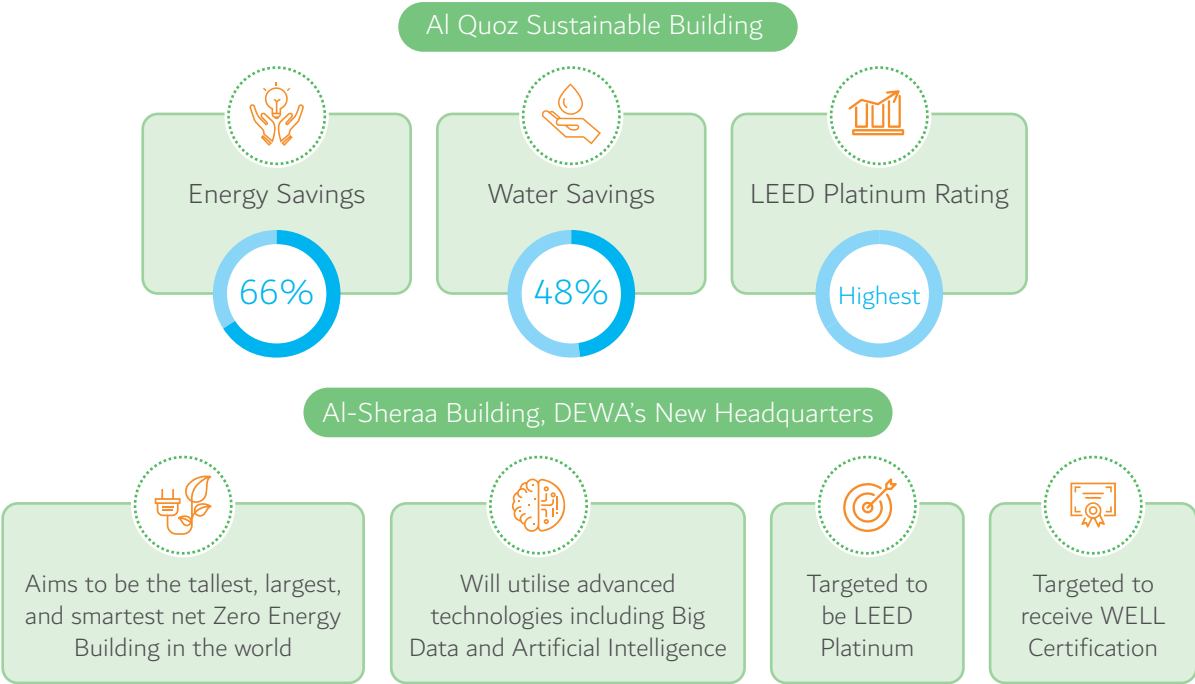
Looking into our key operation facility in Jebel Ali, our total auxiliary energy consumption from our power & water generation is as follows:



*Note: DFO: Diesel Fuel Oil, MFO: Medium Fuel Oil

We have achieved a reduction in auxiliary consumption of 413,745 MWh in 2018 with respect to 2006. In addition, we have achieved fuel savings of 124,713,523 MMBtu in 2018 with respect to 2006 due to Gross Efficiency Improvement.

DEWA'S SUSTAINABLE BUILDINGS



WASTE MANAGEMENT

DEWA has set stringent guidelines and policies set in place to reduce our emissions and impact on the environment. To further ensure that we cover the whole-life-cycle approach, we have put in place an effective waste management system focusing on solid and liquid waste produced at our generation site. The system aims to reduce the amount of solid and liquid waste produced by using resources efficiently, recycling, or recovering where possible. It is completely compliant with all relevant national and international regulations, policies, and procedures. We continuously benchmark our waste management system with other global organisations to ensure that we are following international best practices and standards. DEWA annually applies for a Wastewater discharge permit from Dubai Municipality, ensuring that the quality and quantity of the wastewater discharged from Jebel Ali Power and Desalination Complex are within the permitted discharge quality and quantity.

Our approach to environmental management has also been economically profitable. In 2018, we earned AED 1,126,817.32 from selling scrap waste materials from our Jebel Ali Power Station Complex. We significantly reduced our consumption of new oil and minimised our waste and the associated costs for waste disposal by using recycled oil in our Jebel Ali Power Station Complex. One example is to recycle waste oils from the lubricant, transformer and hydraulic oils in boiler furnaces when oil firing is required. In 2018, we recovered 60,566.6 litres of oil for reuse.

Table: Waste Figures from DEWA power station complex, 2016 - 2018

Waste Figures	Unit	Year		
		2016	2017	2018
General waste sent to landfill	Tons	1,386	2,341.20	2,628.63
Hazardous waste disposal	Tons	20.35	138.75	49.25
Wooden packing reused	Cubic Foot	9,471	14,629	16,409
Waste water recovered	MIG	215	195.97	226.59
Waste oil recovered for use	Liters	4,700	16,900	60,566.6
Recycled Waste Paper	Tons	36	39	38.4
Spill Pallet made of IBC Drums	No.	95	83	100
Segregation waste bins made of IBC Drums	No.	54	14	0
Reusing of hazardous waste by minimising the GRP drums waste & converting it into plantation usage	No.	-	200	0
Revenue from scrap/ waste materials sold	AED	4,063,158	2,082,713.95	1,126,817.32
Revenue from selling waste oil	AED	53,851.2	16,560	30,432

Furthermore, in 2018, our Transmission Division launched an initiative to apply silicon rubber coating for the rusted tower legs of our 400kV/ 132kV overhead transmission lines adopting best practices in technology, safety, health and environment. The initiative was successfully implemented by the Transmission Maintenance department. Based on its hydrophobic properties, the material used will help maintain the reliability in operation by preventing water formation on the rusted surface of the tower legs, stopping the oxidisation. It is more adhesive than conventional

paints as it is more resistant to varying changes in temperature. Therefore, moisture will not be trapped within the metal surface. It has chemical properties that do not allow rust to spread. Hence, rust will not develop to a severe stage which is costly to repair and can cause major failure. Silicon Anti-Corrosion Coating has a life-span of approximately 25 years in severe conditions. Furthermore, it eliminates the environmental impact by reducing the amount of chemicals and empty metal cans used following the standard materials previously used. Maintenance costs will be reduced by avoiding frequent painting of the rusted surface. Thereby, improving efficiency and effectiveness of operations. The initiative improved the network reliability of the 400kV & 132bK towers and achieved a saving of 66.66% of man-hours for the task of continuous maintenance of the tower legs.

In line with our beliefs that stakeholders play a crucial role in achieving sustainability and conserving the environment, our Transmission Division has implemented an initiative to engage our consultants & contractors and encourage them to reduce plastic consumption. Through the initiative, we provided guidelines to reduce plastic consumption and plastic solid waste at working sites. The consultants & contractors were instructed to use steel tiffin boxes instead of plastic boxes for the meals provided to the work-force on site. On average, a construction site for a substation would have approximately 200 workers, where three plastic meal packets would be provided for each. Through engagement & awareness, explaining the benefits of cutting plastic consumption, the consultants were guided to provide the meals in steel tiffin boxes. The initiative was launched in 2017 and since then the changes have been to construction site under the supervision of the Transmission Division covering about 6,000 workers daily.



CASE STUDY

SUPPORTING DUBAI PAPERLESS STRATEGY

DEWA'S SMART DOCUMENT SYSTEM

In line with the Dubai Paperless Strategy, launched by HH Sheikh Hamdan Bin Mohammed Al Maktoum in 2018, DEWA launched a Smart Document System through an internal initiative to manage various document-centric processes in DEWA. The main purpose of the Smart

Document System is to reduce the usage of paper within DEWA and replace it with a smart system for employees to create, review, sign, distribute and track memos and other internal correspondence documents.

Every year around 30 million acres of forests are destroyed to produce paper contrasting with the fact that a single tree produces enough oxygen for three people to breathe. Also, producing one A4 size paper requires an average of five litres of water. It is evident that while producing and consuming paper, there is a huge environmental impact as both processes emit greenhouse gases such as methane or carbon dioxide.

Since the smart document system initiative started, in November 2017, DEWA has improved the quality of its work and deliverables. For instance, we are now able to prevent all types of critical information leakages, delays in approvals and signatures, delays in documents delivery and loss of documents. With the smart document system, all employees can easily access, review, sign and deliver on time all the required documents. Moreover, the smart document system initiative does not only improve the quality of work but it also contributes in improving the quality of our environment. In 2018, DEWA was able to avoid 1100kgs of CO₂ emissions and save 106 trees by reducing the dependency on papers and start switching towards an environmentally friendly solution, which is the smart document system. As per 2018, DEWA was able to save around AED 17 million by cutting off the usage of papers and depending more on the smart document system.

By July 2019, DEWA will become completely paper-less by using the Smart Document system. Employees can review, edit, comment, annotate, sign, distribute, track and retrieve their documents using the Smart Document mobile application or portal from anywhere. Furthermore, more process automations are gradually being implemented within the smart document system to add more options that will reduce the repetitive manual work using papers such as pre and post tender clarifications, MOU documents for DEWA partners, entry permits etc.

In conclusion, replacing papers with the smart document system has significant benefits for both the quality of our work and the environment.





WATER



During 2018, we reduced our water losses to 6.5%, one of the lowest worldwide



DEWA has met 100% of Dubai's water consumer demands through operating and managing its water network and reservoirs

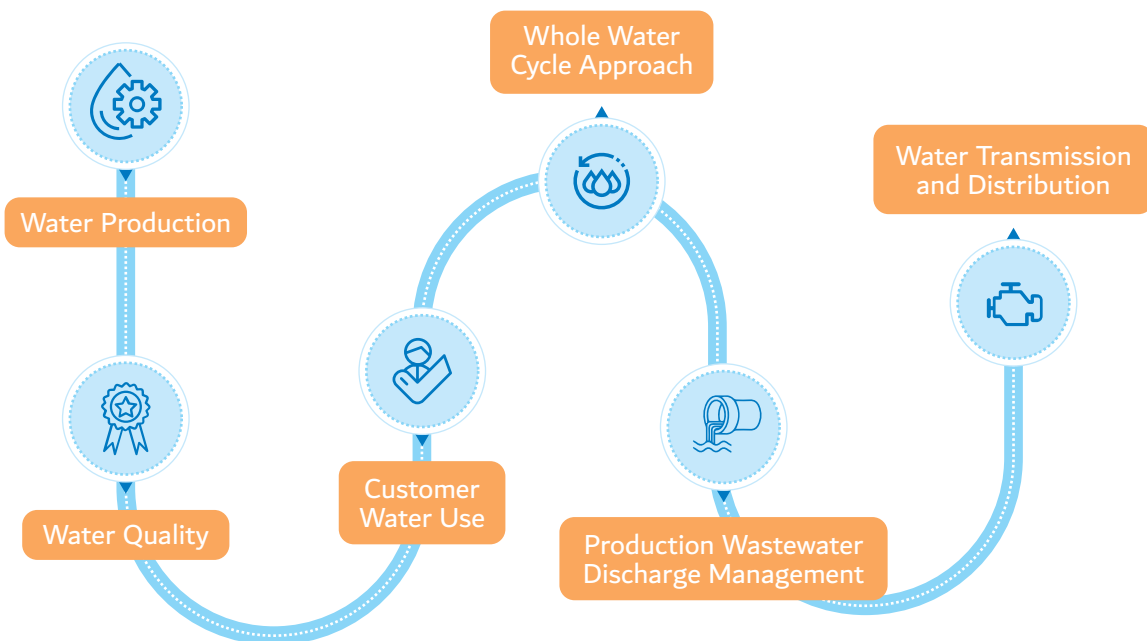


639,992
Smart Water Meters
were installed in
Dubai as of 2018

MANAGEMENT APPROACH

Water is a fundamental human need and a driver for sustainable growth. In DEWA, we work hard to maintain the highest international standards of reliability, efficiency and safety in our water resources and we continuously provide our customers with water conservation strategies and services to encourage them to reduce their water consumption. We strive to maintain the quality of water delivered to our customers without affecting our water resources by setting long-term strategies and adopting various initiatives. In 2018, we launched the 'High Water Usage Alert', under DEWA's Green Dubai initiative that helps customers discover possible leaks in their water connections, after the meter. The system sends instant notifications to the customer if there is any unusual increase in consumption, to check their internal connections and repair any leaks. This reduces incurred costs by limiting water wastage. We have also launched "My Sustainable Living Programme" that encourages healthy competition among customers to reduce their water consumption.

To continue monitoring our water resources accurately, instantly anytime and anywhere, to maximise the efficiency of our water operations, and reduce our water losses; we have identified six focus areas in our water management approach, which are:



WATER POLICIES AND REGULATIONS

We manage our water resources, operations, and services under a set of policies and regulations. These policies and regulations help in planning, developing, distributing and managing the optimum use of our water resources in order to ensure an innovative sustainable world class level system and services.

The people of Dubai depend on water resources in terms of drinking, for household, and industrial use, thus we have ensured alignment with federal and local laws as well as following a set of policies and regulations, which include but are not limited to: the W&C Asset Management Mechanism, the Electricity and Water supply policy, the Jebel Ali Power Station (JAPS) potable water specification, the GSO 149/ 2014 drinking water specification (Standardization Organisation for GCC), the World Health Organisation (WHO) drinking water specification and the National Electronic Security Authority (NESA) standards.



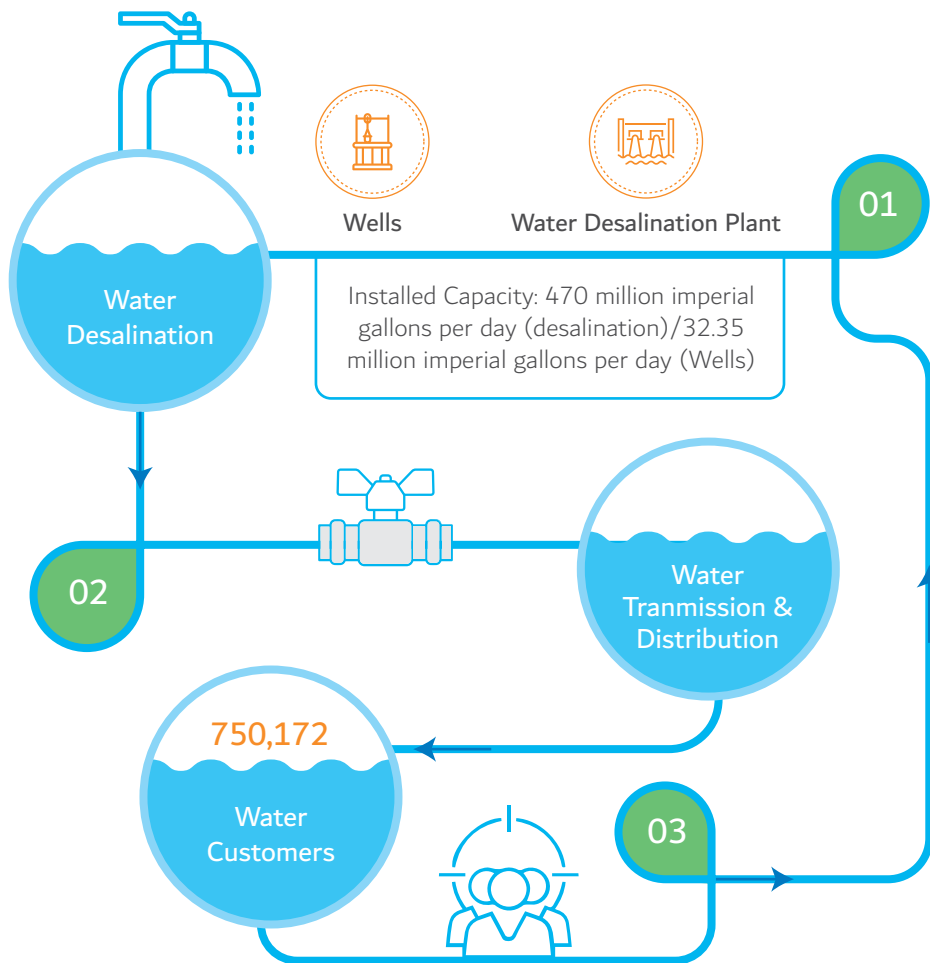
WATER PRODUCTION

In line with Dubai Clean Energy Strategy 2050 to reduce Dubai's carbon footprint, we work to increase the efficiency of our water production plants using PV panels and other solar technologies. To ensure this, we need to connect Multi-stage flash distillation (MSF) based plants to a centralised solar energy source such as the MBR Solar Park. For a more sustainable choice for water desalination, we aim to build production plants based on Reverse Osmosis (RO) that requires 90% less energy than MSF. MSF distils seawater by flashing a portion of the water into steam in multiple stages of what are essentially counter-current heat exchangers. RO is a water purification technology that removes ions, molecules, and large particles from drinking water.

We are committed to enhancing the efficiency and reliability of the water network, fulfil the increasing demand for water in all parts of Dubai, and raise the volume of the Emirate's water reserves and support sustainable development. In March 2018, DEWA awarded an AED 871 million contract for the construction of 40 Million Imperial Gallons Per Day (MIGD) Sea Water Reverse Osmosis (SWRO) based desalination plant in Jebel Ali, to a joint venture. This plant is being developed as a brown field seawater desalination plant and associated facilities, with desalination technologies. This plant is expected to be commissioned by May 2020 to meet the reserve margin criterion set for peak water demand for the year 2020 and beyond. This project is in-line with our decoupling plans for water desalination and power production and water desalination using solar energy.

The major projects launched by DEWA have contributed in reducing the production cost of electricity through solar energy on a global level, and we continue to decouple electricity production from water desalination to obtain 100% desalinated water using a mix of clean energy and waste heat by 2030. This will allow Dubai to exceed global targets for using clean energy to desalinate water. Reverse Osmosis will help expand our production capacity to 305 million gallons of desalinated water per day by 2030. Eventually, Reverse Osmosis will produce 41% compared to its current share of 5%, so we will be able to produce 750 million gallons of desalinated water per day by 2030, compared to our current capacity of 470 million gallons per day. Also, increasing the operational efficiency of the decoupling process will save around AED 13 billion and reduce 43 million tons of carbon emissions by 2030.

Graph: Water Production Cycle



In 2018, our installed capacity from our desalination plants was 470 MIGD with a total seawater withdrawal of 5,919.1 Million cubic metres at an average flow of 3,567.7 MIGD. Seawater desalination requires an intake system that is capable of providing a reliable quantity of clean seawater with a minimum ecological impact. The seawater intake volume is calculated based on pump capacity and operating hours. Furthermore, we met the peak daily and monthly demand for 2018, with substantial reserves. The peak daily water demand of 379 MIG was on 5 September 2018, an increase of 1.97% growth compared to 2017. The average daily water demand in 2018 was 341.248 MIGD compared to 330.987 MIGD in 2017, which is an increase of 3.10%. The peak monthly average of 368 MIGD occurred in September 2018, an increase of 1.54% growth compared to 2017.

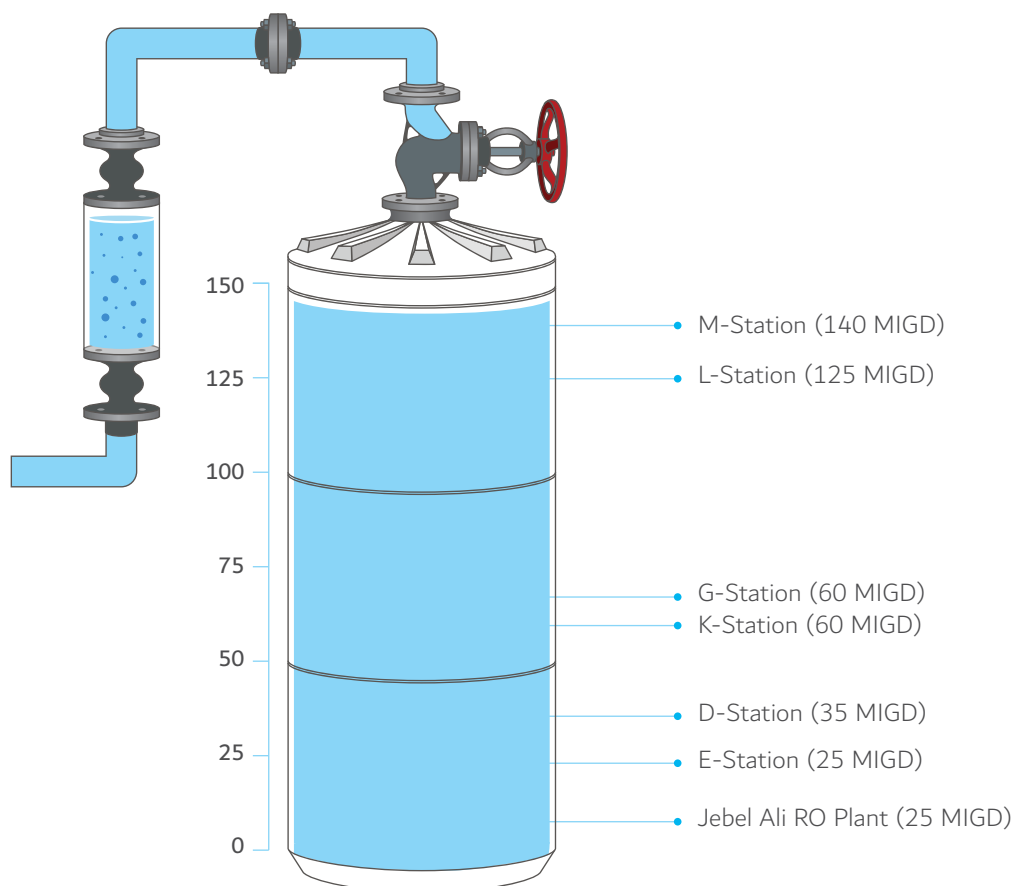
Our installed capacity from underground wells was approximately 32.35 MIGD. However, this is reserved for contingencies. During 2018, we utilised approximately 1.272 MIGD from underground wells. The underground water production is measured through meter readings on the respective pumps.

For the underground wells situated in Hatta, our installed capacity is approximately 0.35 MIGD and the water from these wells is also reserved for contingencies. During 2018, we utilised approximately 2.073 MIG. In Hatta, the well water is used as feed for Hatta's RO plant which is a secondary source of potable water for local communities. In 2018, the total RO permeate production was 0.493 MIG.

In 2018, the total reject water released from Hatta RO Plants was 1.58 MIG (the difference in total amount of well water pumped, 2.073 MIG and the permeate production from the RO plant,

0.493 MIG). This reject is released from RO units and transported through pipelines to local UAE local farms in the Hatta area for irrigation/ agricultural purposes. At DEWA, we know that the underground wells should be overseen cautiously so we guarantee that it will, for the most part, be utilised during crises, to serve individuals who live in regions where other water systems are unavailable.

Graph: Total Water Production Capacity in 2018 (Million Imperial Gallons per day)



Graph: Total Water Produced From 2016 to 2018 (Million Imperial Gallons)



WATER TRANSMISSION AND DISTRIBUTION

We adopt the latest and most efficient technologies for the production, transmission, and distribution of water based on best practices globally. We have continued the replacement of electromechanical meters with new smart meters and the development of new transmission and distribution networks that conform to the highest international standards of availability, efficiency, and reliability by implementing several smart procedures in our water networks, using SCADA systems, monitoring devices, as well as control and automation systems.

In 2018, we launched the leak detection project to identify causes of real losses and apparent losses, reduce unaccounted for water and recommend corrective actions in order to prevent water losses. The specialised Leak Detection technology scans the operational (1894 kms) transmission and operational (8480 kms) distribution networks to identify hidden network leakages. The total number of leaks found were 2,852 as of 31 December 2018, with yearly water savings of 1884 MIG and financial savings of AED 75.4 million. This project has resulted in continuous improvement and faster reduction of Unaccounted for Water (UFW) metric with exploring technologies like gas and satellite leak detection. It also resulted in reducing environmental damage, saving energy and carbon, while encouraging our customers to conduct periodic inspections of internal water connections in their houses, buildings and facilities to discover and fix any leaks, and even replace old connections with new ones.

We strive to achieve operational efficiency and anticipate water shortage emergencies by storing water in our reservoirs to satisfy approximately 2 days of peak demand. The water drawn from reservoirs is distributed to our customers through a network of pipes that is managed to minimise water losses. We also monitor the leakages and unbilled meters by using our Unaccounted for Water (UFW) metric. During 2018, we reduced our water losses to 6.5%, one of the lowest worldwide, compared to approximately 7.16% representing the top decile of utilities in 2017 as reported by Global Water Intelligence and 32% in Hong Kong as reported by Mckinsey & Co. for 2017.

In terms of security of supply, and specifically water storage, DEWA takes this matter with utmost importance, given the scarcity of water resources, and has embarked on building an Aquifer Storage and Recovery (ASR) system, which is an innovative scheme designed for storing desalinated water into groundwater aquifers safely for long periods. This solution is more cost-effective than conventional water storage in concrete reservoirs. Around 6 billion gallons are to be stored underground, ready to be recovered when needed. ASR will enhance our strategic storage, and provide over 50 MIGD for a long period of time in the event of an emergency. This is in addition to providing flexibility in optimising the desalinated water production and supply system. The first phase of this innovative project is currently well underway.



In addition, we continued surveying the water network, identifying and remotely managing potential leaks in the system, and scanning the transmission and distribution network through the Supervisory Control and Data Acquisition (SCADA) in order to prevent cracks from causing leaks in the system.

Graph: Annual Unaccounted For Water (UFW) As Percentage Of Total Water Supplied



WATER QUALITY AND AVAILABILITY

In order to keep pace with Dubai's growing demand and prosperity, we have made our water quality specifications more stringent compared to WHO's Drinking Water Guidelines to ensure that the quality of water from our production facilities meets our specifications and to ensure the comfort and happiness of all our customers. We also ensure full compliance through our Integrated Management System (IMS) which is certified by external auditors.

In 2018, we signed a memorandum of understanding (MOU) with Federal Electricity & Water Authority (FEWA) for strategic water interconnection and exchange of potable water in case of emergencies or other purposes. This agreement supports our efforts in promoting water security in the UAE and achieves the objectives of the UAE vision 2021 to ensure a sustainable environment and preserve water resources.

In addition, we manage our potable water resources by monitoring water quality across our network, and collecting water samples from pumping stations, reservoirs, and well fields across Dubai. We test these water samples using portable equipment on site to measure the turbidity, pH, residual chlorine dioxide, and electrical conductivity while the remaining sophisticated testing is performed in DEWA's central laboratory to check conformance to our specifications. We also strive to ensure that our potable water is nearly 100% free from bromate.



Table: DEWA Potable Water Specification With Typical Parameters

Sl. No.	Particulars of Analysis			WHO Guideline Value (Max)	DEWA	
					Specification	Typical Figure
1	pH value	at 25°C		6.5~8.5	7.9~8.5	8.32
2	Total Dissolved Solids		mg/L	1000	100~450	207
3	Carbonate	as CaCO ₃	mg/L	-	0~10	0.5
4	Bicarbonate	as HCO ₃	mg/L	-	30~75	56.5
5	Total Hardness	as CaCO ₃	mg/L	500	40~120	64.7
6	Calcium	as Ca	mg/L	-	10~25	17.2
7	Magnesium	as Mg	mg/L	-	2~20	5.3
8	Chloride	as Cl	mg/L	250	25~250	78.8
9	Sulphate	as SO ₄	mg/L	250	2~35	9.0
10	Fluoride	as F	mg/L	1.5	≤1.5	0.04
11	Sodium	as Na	mg/L	200	10~200	46.7
12	Nitrate	as NO ₃	mg/L	50	≤50	0.16

Remarks: DEWA JAPS typical figure is the average of individual station averages during the year 2018.

WHO guideline values is based on WHO drinking water guidelines values 4th edition with addendum 1 of 2017.



WASTEWATER DISCHARGE MANAGEMENT

Wastewater discharge is the effluent discharged from power and desalination processes, water treatment plants and treated sewage to marine/land environment as per Dubai Municipality Wastewater Discharge Permit issued to DEWA.

We strive to provide an effective wastewater management system that protects the environment and the public health by applying for Wastewater Discharge Permits annually from Dubai Municipality (regulator). We are responsible for the management of the wastewater generated within the scope of our Generation Division at Jebel Ali. The quality and quantity of wastewater discharged from Jebel Ali Power and Desalination Stations complex are within the permitted discharge quality and quantity.

In 2018, the total volume of wastewater discharged by DEWA to the Arabian Gulf was 5,371.5 million cubic meters, which was comprised of processed water from power and desalination plants, water treatment plant effluent, treated sewage water, concentrated effluent and alkaline acid wash. We also produced smaller volumes of effluent from our water treatment plants (74,318 m³) and on-site treated sewage effluent (93,376.5 m³), out of which 38,636.3 m³ was discharged to land for landscape irrigation inside the premises and the remaining 54,740.2 m³ of treated sewage was discharged to the sea along with other process wastewater. A total of 94.4% of the recoverable wastewater (process wastewater and treated sewage effluent) generated was reused in the Jebel Ali Power Station Complex.

Table: Volume of Waste Water Discharge (m³) 2018

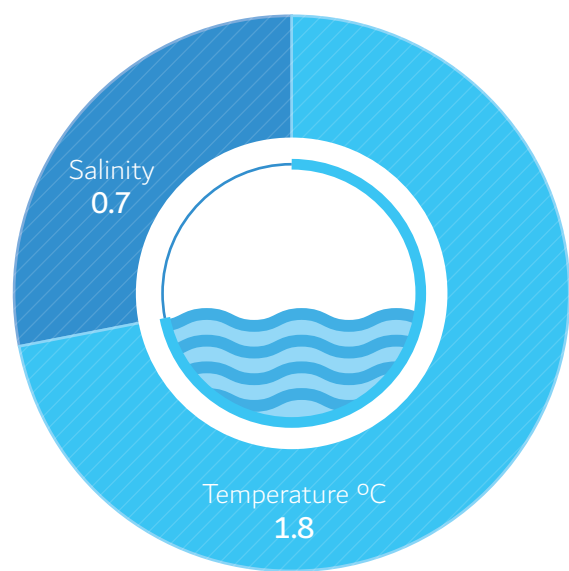
Type of effluent	Total volume (m ³) discharge
Process water from Power plant	1,776,251,568
Process water from Desal plant	3,595,084,434
Water treatment plant effluent	74,318
Treated sewage water (to land)	38,636.3
Treated sewage water (to sea)	54,740.2
Treated sewage water	93,376.5
Waste water discharged to marine and land	5,371,500

We recognise the outfall of a highly concentrated salt known as brine that has the potential to affect our environment including soil and vegetation. We obtain wastewater discharge permit from Dubai Municipality, as they are the regulatory body and the permit is renewed annually or when required. Our wastewater discharge is monitored internally where we have installed a continuous monitoring system at 500m, 1 km, and 1.5 km away from the discharge points for which real data accessibility was given to Dubai Municipality.

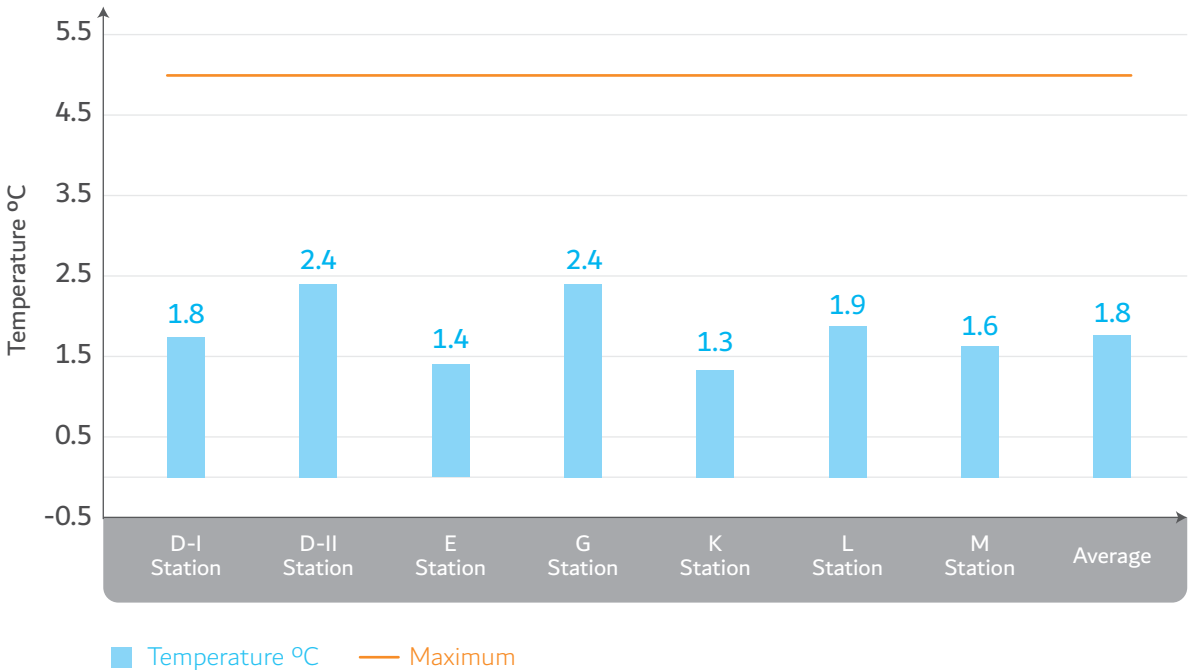
As per the requirements of the wastewater discharge permit issued to DEWA by Dubai Municipality, bimonthly and quarterly ecological assessments (phytoplankton/ zooplankton and macro benthos respectively) are carried out at 300m and 1.5 km away from the discharge points by a specialist environmental service provider.

We also measure the temperature and salinity difference between the mixing zone and ambient seawater on a monthly basis. In 2018, the temperature and salinity measurements were within the maximum allowed limits of 5°C and 2ppt (parts per thousand) respectively.

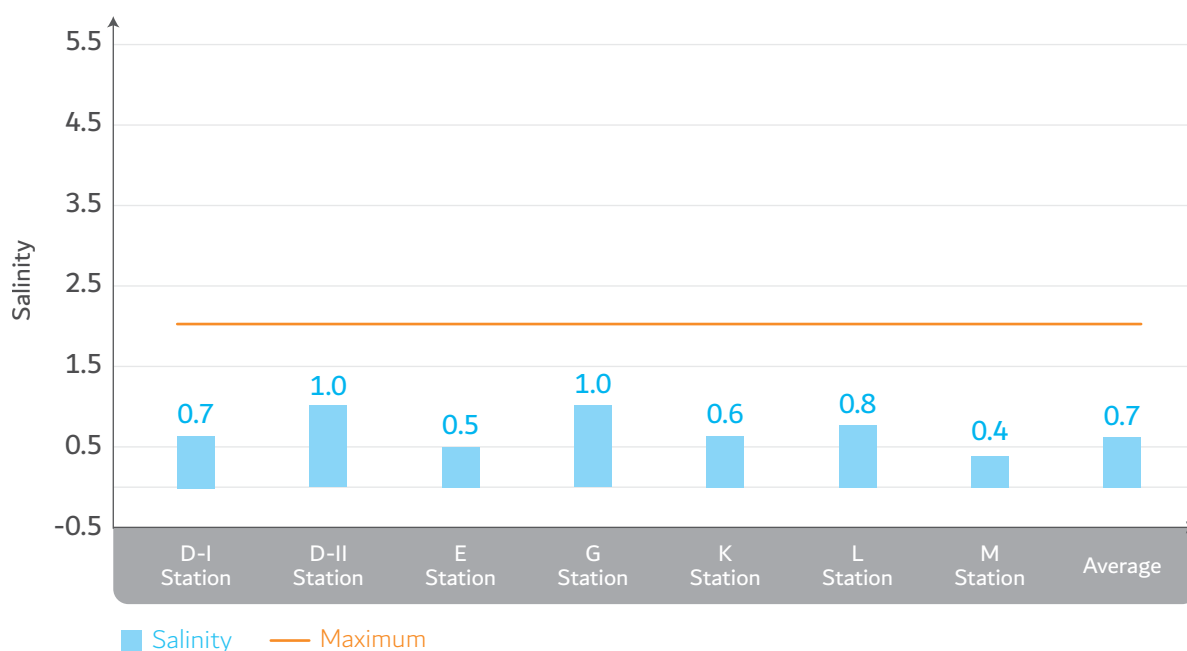
Graph: The Average of Temperature and Salinity Difference Between The Seawater at Mixing Zone and Ambient Seawater 2018



Graph: Temperature Difference Between The Seawater at Mixing Zone and Ambient Seawater 2018



Graph: Salinity Difference Between The Seawater at Mixing Zone and Ambient Seawater 2018



WATER CHALLENGES

Over the past years, we have learnt from the challenges faced and achieved 95% in the 2018 happiness index for large government entities in Dubai. This was according to Smart Dubai's Happiness Index that monitors happiness levels among the people of Dubai, and contributes to enhancing the efficiency, measurement and enhancement of smart services in Dubai, to achieve the highest levels of customer happiness.

The challenges related to water are of the utmost importance as they have been among the top five global threats in terms of impacts on earth over the past few years. The 6th goal of the UN Sustainable Development Goals (SDG's) "ensuring access to water and sanitation for all", reflects the impact of these challenges.

At DEWA, we believe that support of the leadership, sustainable water resource management, and implementation of strategies and policies ensure long-term sustainability in the water sector while taking into account the population growth, rapid urbanisation, and climate change factors, and developing innovative solutions that has the ability to enhance water supply and improve the efficiency and quality of water services.

POPULATION AND ECONOMIC GROWTH

Population and economic growth have placed unprecedented pressures on water, with water scarcity affecting over 40% of the world's population. Over 2 billion people lack access to safe drinking water, and the world is expected to face a 40% shortfall between forecast demand and available water supply by 2030. To avoid facing this challenge in the future and to fulfil the increasing demand for water across all Dubai, in November 2018 we awarded a contract worth AED 288 million to construct a water reservoir in Al Nakhali. The project includes the construction of two rectangular, reinforced concrete, 60-million-gallon reservoirs, which will add to the current total water storage capacity of 830 million gallons for the city of Dubai. This total storage capacity is expected to increase to 950 million gallons after the completion of the 60-million-gallon reservoir in Al Lusaily. As a result, DEWA's total storage capacity in the whole city of Dubai will increase to 1,010 million gallons in the upcoming years, upon the completion of the above two projects.



Another solution is increasing the capacity of water pumping station in Dubai's Al Yalays 5 to 36 million gallons of water daily. The project included supplying and installation of the new water pumps, and then testing and commissioning them, and additional electromechanical work. We have also increased the capacity of the Jebel Ali-Al Hebab water pumping station in Dubai by supplying, installing, testing, commissioning water pumps and related electro-mechanical works for the expansion of the pumping station. We seek to achieve Dubai's Demand Side Management (DSM) target to reduce demand by 30% compared to the Business As Usual (BAU) scenario by 2030. In 2018, the overall Demand Side Management initiatives at Dubai level have succeeded in achieving about 6.7 BIG of water reduction as per initial results available.

In addition, we have implemented the Advanced Metering Infrastructure (AMI) project which is one of the three smart initiatives that enables DEWA to provide various benefits and new Smart Applications to the customers. As of 31st December 2018, a total of 639,992 AMI Domestic Water Meters were installed. Out of this 450,385 water meters are ready for communication infrastructure and 337,975 water meters are remotely billed in SAP. The AMI Improves meter reading & billing accuracy, customer happiness, billing accuracy and reduce Unaccounted for Water. We aim to ensure that all water meters in Dubai will become smart meters by the end of 2019.

WATER SECURITY

Water security is not only a national security issue for the UAE but also one of the seven strategic sectors of the National Innovation Strategy, as well as one of the main pillars of UAE Vision 2021. To face this challenge we have adopted a set of strategies and policies that increase the efficiency of water use, and integrate water resource management to ensure its sustainability. The three pillars we have adopted to ensure the sustainability of water production are using clean solar energy, reverse osmosis, and the Aquifer Storage and Recovery (ASR). These pillars are based on using clean solar energy to desalinate seawater using the latest reverse osmosis (RO) technologies. The excess water is stored in aquifers and pumped back into the water network when needed. This integrated innovative model protects the environment and is a sustainable

economic solution. It also emphasises Dubai's ability to anticipate and shape the future.

We take into account the available resources, whether surface water, groundwater, or desalinated water and we fully recycle water, using available technologies.

In addition, we plan to build a subterranean water basin to store 6 billion gallons of water that can be retrieved when needed. This will provide the Emirate with a strategic reserve of over 50 MIGD in emergencies, while ensuring that the quality of the stored water remains unaffected by external factors.



IMPACT OF CLIMATE CHANGE ON OUR WATER RESOURCES

We recognise the impact that climate change has on our water resources and we commit ourselves to continuously raise awareness on this issue through various initiatives. Each year we organise events in the occasion of UN World Water Day in collaboration with Dubai Municipality and other community organisations, to raise awareness about water efficiency and we also target all educational institutions through the Conservation Award that was first launched in 2005 to raise awareness among students as we believe that educational institutions are the best breeding grounds to cultivate the seeds of conservation until it grows and thrives in the community.

FINALLY, we have continued our efforts in continuously monitoring the intake water quality situation, implementing the smart network and smart meters projects as part of the Smart Grid initiative, and adjusting the slab tariff structure and surcharge components.

EXCELLENCE & INNOVATION IN WATER

We continue to improve our water services and operations in order for us to be recognised globally among the leading and most advanced service providers in the world and to support the Smart Dubai initiative, to make Dubai the smartest and happiest city in the world.

In 2018, we won the Smart Water Company Award of the Year at the Global Water Awards, during a ceremony held at the Global Water Summit. The Summit took place in April 2018 in Paris, and was attended by over 650 experts, specialists and senior officials of public and private water companies and organisations around the world.

The award recognises DEWA's efforts to implement one of the biggest advanced infrastructure projects for smart water meters in the world. As of 31 December 2018, DEWA has succeeded in installing 639,992 smart meters in a record time, of which 337,975 are monitored and read every 15 minutes. This allowed DEWA to improve the availability of meter readings to 99.9%.

We also strive to make DEWA the world's first digital utility to use autonomous systems for renewable energy and storage, while expanding our use of Artificial Intelligence (AI) and digital services. The AI is the next phase after smart government. The UAE's future services, sectors and infrastructure will use AI technologies and tools. In 2018, we won a gold award in the innovation category at the 10th Global Continual Improvement & Innovation Symposium & Award (GCIIS) for our design and fabrication of Ferrule Replacement Machine for Pressurised Water Pipelines project.

We have continued developing innovative solutions that benefit from remarkable technological developments; integrating clean energy and water production; rationalising consumption to conserve resources; and engaging the private sector in developing innovations to improve both the water supply and the efficiency and quality of water services. These innovative solutions have made a difference in addressing various water challenges that we face.

In DEWA, we recognise that innovation is important at all stages of sustainable development. In 2018, we organised for our specialised staff in Artificial Intelligence a 3 days programme under the name of "AI Leadership Programme" in cooperation with experts from the University of California, Berkeley. The programme covers the latest developments in AI application in the energy, water, machine learning, data science and applications, and other related topics. In addition, the programme supports our efforts in anticipating the future and keeping pace with the Fourth Industrial Revolution.

In addition, we strive to support the UAE Artificial Intelligence Strategy, by cooperating with international universities and research centres in order to learn about the latest research developments in renewable energy, water, automation, AI and accelerators. We are the first public utility in the world to form a strategic partnership with Berkeley Artificial Intelligence Research Lab.

We aim to become one of the most prominent digital utilities in the world, in line with the Fourth Industrial Revolution. Our strategies are also aligned with the UAE Centennial 2071 that focuses on an advanced technology to guarantee a sustainable development for the long-term future in the UAE.





CASE STUDY

DEWA COMPLETES ENGINEERING STUDIES FOR HATTA HYDROELECTRIC PLANT

As part of the Dubai Clean Energy Strategy 2050, we have launched several projects, including a hydroelectric power station at Hatta, which is the first of its kind in the region.

In 2018, we completed the engineering studies related to the 250MW hydroelectric power station in Hatta, which will use the water stored in the Hatta Dam and have a lifespan up to 80 years. The studies covered all design, hydro-geological, geological, environmental, geotechnical, and deep excavation studies. It also included consultancy on deep-water tunnel designs, the upper reservoir and hydroelectric power station, the tender for material supply, supervision of construction work, site installation, on-site testing and commissioning.

There are many benefits of hydropower, including that it is a clean fuel source, compared to power plants that burn fossil fuels such as coal or natural gas, which pollute the air. It is also important for energy storage since it is estimated that storage of hydropower represents 99% of the world's operational electricity storage. Other benefits include water security, flood control, drought management, irrigation, and recreation. Hydropower is one of the most flexible and sustainable renewable energy sources. It can be operated to provide base-load power, as well as peak-load supply through pumped-storage. However, estimates indicate the availability of approximately 10,000 TWh/ year of un-utilised hydropower potential worldwide.

The hydroelectric power station will generate electricity by making use of the water in the Hatta Dam, which can store up to 1,716 million gallons, and an upper reservoir that will be built in the mountain that can store up to 880 million gallons. The upper reservoir will be 150 metres above the dam level. During periods of low demand, or availability of surplus solar PV generation, energy can be stored and utilized during periods of high demand, or during evening hours when energy from solar PV plants is not available. The efficiency of power production will reach approximately up to 90% with a 90-second response to demand for electricity.



CUSTOMERS



In 2018, we served
844,216 electricity
customers and 750,172
water customers

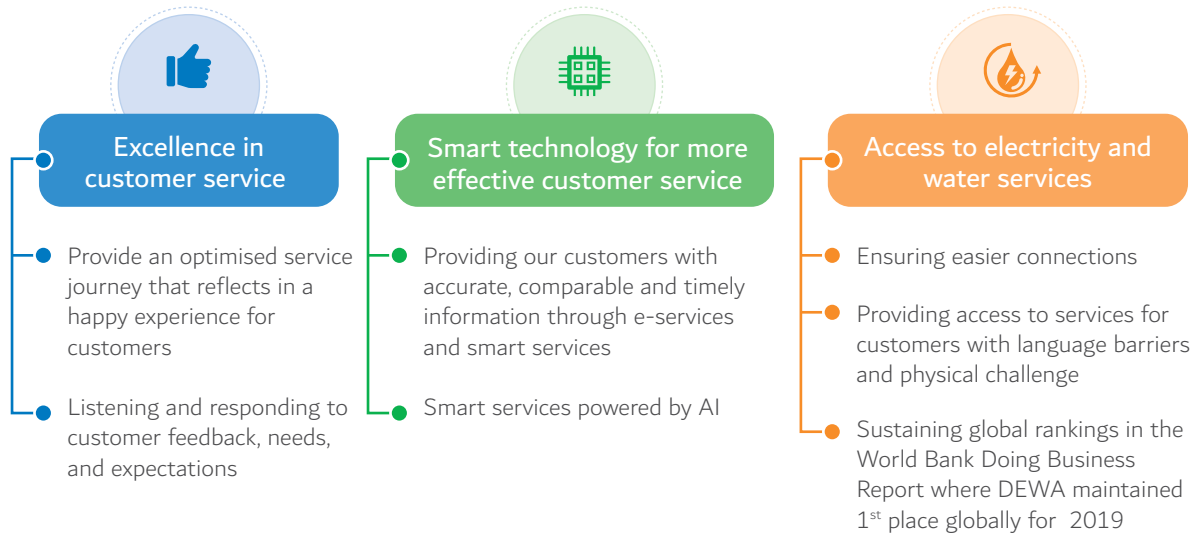


In 2018, we achieved the
lowest Customer Minutes
Lost world wide at 2.39
minutes against the
target of 2.55 minutes

The UAE represented by
DEWA, has maintained
its number 1 rank
globally in getting
electricity for the second
consecutive year, as per
World's Bank's doing
Business 2019 report

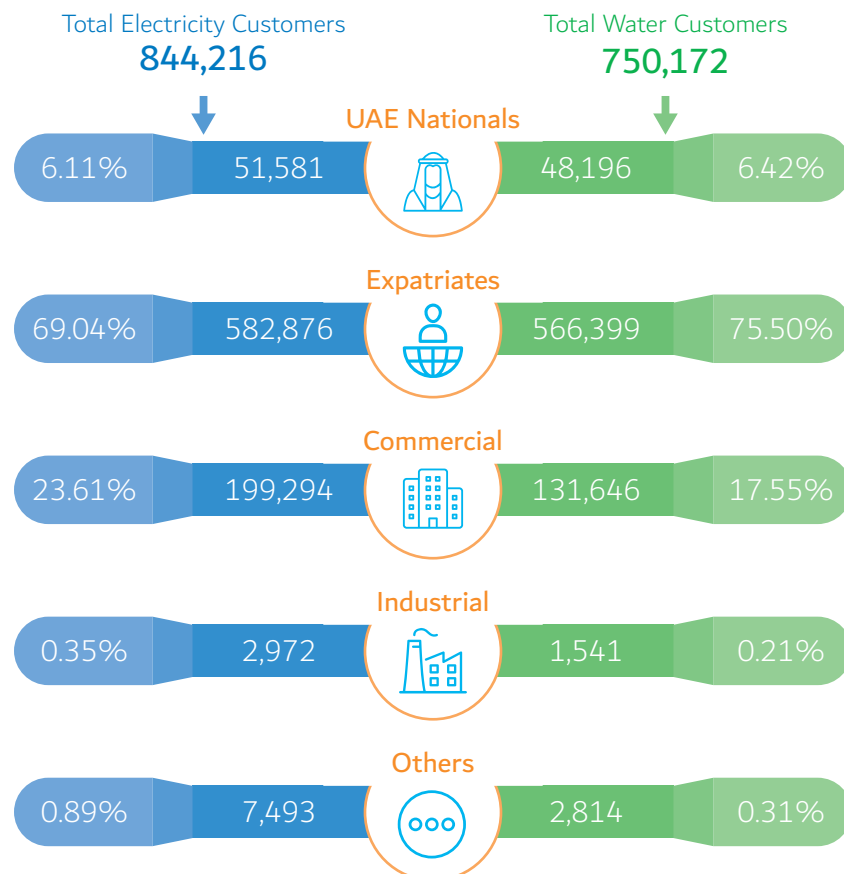
MANAGEMENT APPROACH

Being Dubai's main provider of water and electricity, we are committed to providing our best efforts and dedicating adequate resources to foresee, analyse, deliver and exceed our customers' needs and expectations to attain customer happiness. To achieve customer happiness, we focus on three main key areas, which are:



DEWA'S CUSTOMERS

DEWA's customer base has been constantly growing to meet the demands of the expanding population and economy of Dubai. It takes pride in its high standards to surpass customer satisfaction.





OPERATIONAL EXCELLENCE

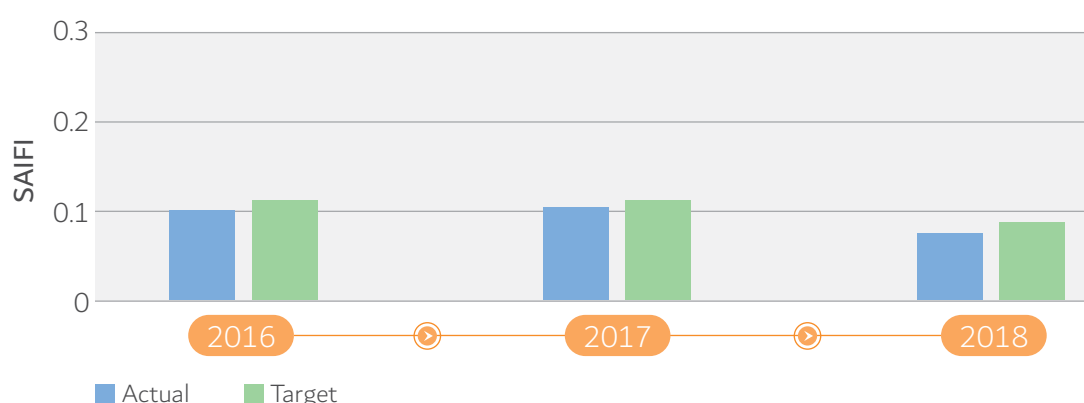
DEWA has been one of the pioneers worldwide, in system availability, sustainability and reliability through its constant enhancements of its services and operations with the use of the latest technologies.

We achieved 29.68% Efficiency improvement in 2018, with respect to 2006, which is equivalent to 50.5 million tons of CO₂ emission reduction through optimising the design and utilisation of power and water co-generation plants. Our transmission line availability is typically above 99.9% reflecting world-class standards of performance. The operation management approaches adhere to DEWA's Integrated Management System (IMS) as per universally recognised standards for health, safety, environment, and quality (ISO 9001, ISO 14001 and OHSAS 18001).

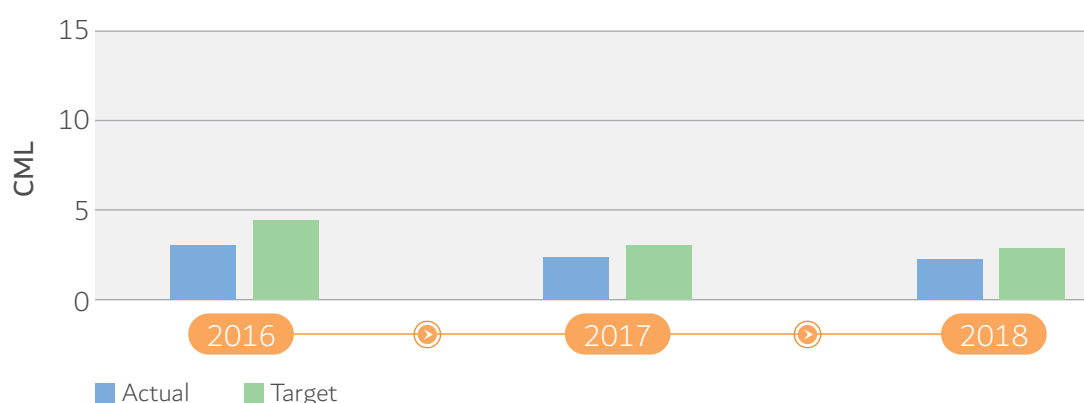
In order to measure its overall performance in providing energy, DEWA has been observing three key indicators: System Average Interruption Frequency Index (SAIFI), Customer Minutes Lost (CML), and Availability Factor (AF). The SAIFI is used to measure the average number of interruptions experienced by each customer over one year. In 2018 our SAIFI was approximately 0.092 against the target of 0.095.

On the other hand, CML (Customer Minutes Lost) measures our ability to restore power during emergencies like when there are power interruptions due to faults or unplanned outages. In 2018, DEWA achieved the lowest CML worldwide at 2.39 minutes against the target of 2.55 minutes. Finally, the Availability Factor (AF) is a measure of the percentage of time that our plants are available to produce power. AF is important, especially during summer because of the greater demand for electricity. DEWA is proud to report its availability factor of 99.46% in the summer of 2018 and with an annual availability factor of 91.72% due to the maintenance conducted during the winter period.

Graph: System Average Interruption Frequency Index (SAIFI) Target and Actual, 2018



Graph: CML unplanned, Target and Actual, 2018



Availability Factor (Summer) Target



Availability Factor (Summer) Actual



TURNING INTO AN INCLUSIVE ORGANISATION

In line with the National Policy to Empower People of Determination (POD) launched by HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, to create an inclusive community that ensures empowerment and a decent life for people of determination and their families, and “My Community... A City for Everyone”, an initiative launched by HH Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, Crown Prince of Dubai and Chairman of the Executive Council, to transform Dubai into a disability-friendly city by 2020, DEWA commits to exerting all efforts to become an inclusive organisation.



DEWA started its journey towards POD inclusion in 2015 and has accomplished many government requirements to be an accessible organisation for people of determination. We have provided all accessibility aspects such as physical accessibility, Information Accessibility, and building staff capacities in disability sensitisation. We have recruited and empowered people of determination, and implemented several inclusive services including making our premises, website and smart app disability-friendly, in accordance with Dubai government's standards. In 2018, our website accessibility for people with determination scored as 80%, and 6/ 10 in the accessibility average for our smart app, based on Dubai Smart Government Evaluation Report.

We have mainstreamed disabilities in DEWA's internal strategies, policies, procedures, & operations. We adopt and adapt an international inclusive manual of disability mainstreaming to ensure the right implementations and continuous support, empowerment, and inclusion for our employees of determination in each step of their employment experience in DEWA. Our staff in Human Resources & the customer happiness centres are proficiently trained in both sign language and disability etiquette to be able to help their colleagues and customers of determination with all their requirements. We have started changing the signage at all our administrative facilities as part of the overall physical facilities works that include embossed & Braille signage, outdoor directional signage and tactile paving. This has been implemented so far at our head office and Al Wasl branch, and the plan is to have these done at all our facilities by the end of 2019. In addition, we continuously express our support for customers of determination, through our inclusive service such as Ash'ir initiative (Arabic subtitle to signal), which is a service with a live video chat using sign language that enables hearing-impaired customers can directly communicate with our call centre staff through our smart app. We provide Braille versions of our Customer Guide booklets

created in coordination with the Emirates Association for the Blind. In cooperation with the Community Development Authority (CDA), DEWA launched a series of initiatives to reduce the burden of electricity costs for residents with low-income jobs, including people of determination who hold low-income jobs or come from less fortunate families.

We also continued providing people of determination with many services that were launched since 2016 such as the Sanad Card that provides people of determination with priority services, and wheelchair services at all DEWA branches. The Sanad Card also provides a discount for service registrations, bill payment, and subscriber information charges. In 2018, 95% of our customers are happy based on the happiness survey 2018.

In 2018, as results of our serious efforts & genuine commitment, we achieved the first place in the Dubai Government Excellence Award, and recognised as a “People-of-Determination-Friendly Government Entity”.

SMART INITIATIVES

DEWA is actively contributing to transform Dubai into the smartest, most sustainable and happiest city in the world. To support this objective, DEWA seeks to bring digital innovation and customer engagement to the next level by incorporating smart and digital services in all our operations to increase the energy and water efficiency, upgrade government work to the highest standards, enhance customers' experience, and achieve happiness for everyone.

We are also committed to keep up with the latest sustainable developments and follow recent strategies in the region. In line with the Dubai Blockchain Strategy to make Dubai the first city in the world fully powered with Blockchain by 2020, DEWA is currently working with Smart Dubai Office to fulfil the directives of HH Sheikh Hamdan bin Mohammed Al Maktoum, Crown Prince of Dubai and Chairman of the Executive Council of Dubai to implement a series of Blockchain initiatives in cooperation with local and international partners aiming to achieve advanced technological and digital transformation in Dubai.

In 2018, DEWA collaborated with key partners in Dubai, including government and private sectors, to establish a network of trust and a platform to exchange information over the blockchain network to digitise the process of leasing/ renewing properties in Dubai, and harness the latest blockchain technology to establish a network of trust and information exchange among various stakeholders. It will also deploy the Blockchain network for Payment Reconciliation & Settlement for ePay transactions, in coordination with Smart Dubai & the Department of Finance.

DEWA has developed a comprehensive Smart Grid Strategy to implement a smart water and electricity infrastructure. This strategy will provide advanced features and includes automated decision-making and interoperability across the entire electricity and water network. This supports the directives and the vision of HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, to make Dubai the happiest and the smartest city in the world. This also supports Dubai Clean Energy Strategy 2050 and its overall objective to produce 75% of Dubai's power from clean energy by 2050.

The Smart Grid Strategy contains ten programmes, which will be completed over the short, medium and long-term, spanning from 2014 to 2035. These programmes are:



FIRST INITIATIVE- 'SHAMS DUBAI'

Shams Dubai was launched in 2015 to support the vision of HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, to make Dubai the smartest and happiest city in the world. It also supports diversifying the energy mix and reducing carbon emissions by promoting the use of clean and renewable energy sources to build a sustainable future for the Emirate.

Shams Dubai encourages household and building owners to install grid connected photovoltaic systems at their premises, to generate green electricity from their solar panels, and feed any excess to the power grid under an attractive net metering scheme. The initiative supports a number of strategic objectives, including the UAE National Agenda, namely the UAE Vision 2021 objectives to increase the share of clean energy and improve air quality; the Dubai Clean Energy Strategy, with its objective to diversify the electricity mix, reducing dependence on gas; the Dubai Demand Side Management Strategy, to rationalise energy use while ensuring environmental sustainability; the Dubai Carbon Abatement Strategy, to reduce the carbon footprint in the Emirate; and the Green Economy for Sustainable Development initiative, aiming at making UAE a global hub and a successful model of green growth.

Customers have shown a strong interest in Shams Dubai, and as of the end of December 2018, about 105 MWp have been installed, with solar systems in 1,216 buildings connected to DEWA's grid. DEWA is also leading by example in this area: solar panels have been installed on rooftops and carports across a number of DEWA buildings, and we have also sponsored a number of solar PV projects for other Dubai Government entities and for Hatta residents to show our commitment to this initiative, and to ensure cooperation and mutual support on sustainability.

DEWA also provides regular Solar Photovoltaic Certification Training sessions and has an enrolment scheme for consultants and contractors. This is to ensure that they comply with our high standards of quality and safety, so Shams Dubai customers only engage qualified professionals in solar photovoltaic work and projects. By the end of 2018, more than 100 solar photovoltaic consulting and contracting companies had enrolled with DEWA, and more than 500 solar engineers had successfully completed the Solar Photovoltaic Certification Training. This shows how Shams Dubai is contributing to the creation of green jobs in the Emirate.

DEWA has also established a photovoltaic equipment eligibility scheme for manufacturers, based on the technical standards developed for Shams Dubai. By the end of 2018, more than 100 solar equipment manufacturers had registered with DEWA for their products (panels, inverters, interface protections), creating a competitive equipment market with clear benefits for customers.

SECOND INITIATIVE-SMART APPLICATIONS VIA SMART GRID AND METERS

The Smart Applications through Smart Devices provides various benefits and new features to our customers, enabling them to have detailed information about their current and historical consumption, along with predictive analysis. The data obtained automatically through smart devices will be available for our customers to monitor and compare their actual consumption patterns for specific periods of time that will help them to ensure more sustainable consumption. Smart meters communicate remotely with DEWA systems and provide consumption information at regular time intervals. DEWA has installed 374,216 electricity smart meters and 644,355 water smart meters as of 2018.

THIRD INITIATIVE-THE EV GREEN CHARGER

The Electric Vehicle (EV) Green Charger Initiative was launched in support of HH Sheikh Mohammed bin Rashid Al Maktoum's vision to make Dubai the smartest and happiest city in the world and to promote green transportation in the city. The aim was to set-up an electric vehicle-charging infrastructure for the public across Dubai, while taking into consideration international best practices and lessons-learned from similar initiatives worldwide.

At the time of the launch of the initiative, there were a very limited number of EVs in Dubai mainly because there was no EV charging infrastructure available. Hence, DEWA, as the electricity provider for Dubai, took the lead in setting up the first EV charging infrastructure in the region to encourage the public to switch over from petrol vehicles to electric vehicles. In 2015, we developed and installed 100 EV Green Chargers in highly frequented areas across the city, such as government offices, airports, petrol stations, shopping malls, parks, commercial offices, clinics and hospitals, residential complexes and tourist attractions. In 2018, DEWA doubled the number of charging stations from 100 to 200 stations, due to the successful uptake of electric vehicles in Dubai. To further encourage this shift in mindset, DEWA announced the incentive of free charging for electric vehicle owners registered in the Green Charger Initiative from 1st September 2017 to 31st December 2019.



INNOVATIVE SMART SERVICES FOR CUSTOMERS

DEWA continuously strives to achieve customer happiness by adopting the latest technologies, in addition to facilitating the provisioning of quality services including transactional, informative and interactional services and promoting the highest sustainability standards. Therefore, DEWA ensures to provide reliable end to end services available 24/ 7. The UAE launched the visionary goal of becoming the happiest country in the world. It currently ranks in 20th place in the UN World Happiness Report 2018. DEWA was the first government organisation to implement the Happiness Meter launched by HH Sheikh Mohammed bin Rashid Al Maktoum since the beginning of 2015.

DEWA also achieved a 92% adoption rate in Q3 2018, ahead of the deadline set by HH Sheikh Mohammed bin Rashid Al Maktoum to reduce the number of visitors to government offices by 80% by 2018 - as a new milestone added to its list of achievements, enabled and supported by several innovative initiatives that target to increase smart adoption, service efficiency and customer happiness.

Furthermore, with all its programmes designed to improve customer happiness, DEWA provides smart services across various channels 24/ 7, including but not limited to:

SMART MOBILE APPLICATION

The smart mobile app was launched by DEWA to deliver services with a seamless and unified experience. The app offers world-class customer services which are automated end to end from online submission, automated back-end business processes using workflows, tracking of service requests, service delivery like Activation & De-activation of supply services, No-Objection Certificates (NOC)s, estimate, and includes an AI virtual assistant. It is available on iOS and Android, as well as on IoT devices.

DEWA's smart app also play a key role in motivating customers to contribute towards protecting the environment by providing them with the means to monitor their personal consumption through their own customised dashboards. It also provides a carbon footprint service which allows customers to view the impact of their carbon emissions on the environment.

This year, DEWA also launched the DEWA Store on its smart app that provides exclusive offers and discounts to its customers, in cooperation with a number of government and private sector companies. This is part of DEWA's efforts to provide value-added services to make its customers happier. To provide further ease in its service and exclusive offers its customers, DEWA has partnered with different companies after feedback from customers, partners, and members of society.

HIGH WATER USAGE ALERTS INITIATIVE

In 2018, DEWA launched High Water Alerts Initiative to inform customers about their high-water usage and the possibility of leaks in their premises. The alerts are through SMS, email or through DEWA's smart app and ensure that high consumptions bills are avoided, by analysing the customer's water consumption patterns using smart meters, to identify premises with unusual water usage. This resulted in alerting more than 18,000 customers during 2018. This means leakage identification time has been reduced by 95%, resulting in 90% overall trust and 84% overall satisfaction of those customers.

This initiative has contributed within five months to water conservation of 73.85 million gallons, saving AED 4.06 million for customers and saving 71,014 trees.

TRANSFER OF ELECTRICITY AND WATER SERVICE

This service was launched by DEWA, enabling customers to transfer all current account information to their new accounts along with their security deposit within Dubai, without the need to visit our Customer Happiness Centres. This service is available for all types of properties – residential, commercial and industrial.

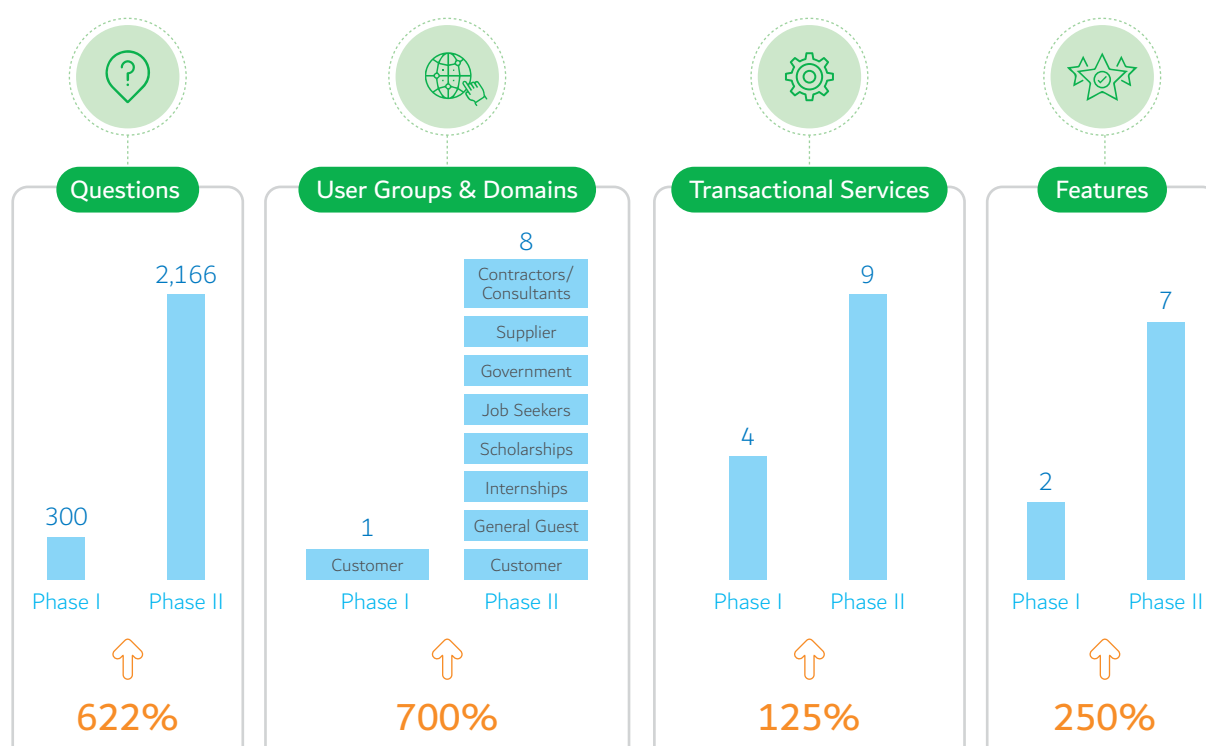
RAMMAS

Rammas is our virtual employee making DEWA the first government organisation to launch an online chatbot in both Arabic and English, to communicate with customers and respond to their enquiries. In 2018, we launched the second phase of Rammas with new features and enhancements where AI is now integrated with DEWA's SAP system to facilitate further transactions which now can process bill payments, enquiries, tracking of electricity and water activation services,

new connections requests by contractors and consultants, applications status, and job enquiries. This initiative supports the directives of the wise leadership, to reduce the number of visitors to DEWA offices by 80% in 2018, and further encourage the use of smart channels to support the Smart Dubai initiative.

Rammas is accessible on our website, smart app, Facebook, and Amazon's Alexa service, Google Home and robots.

Rammas also serves more than 8 user groups, and offers 9 transactional services, in addition to its ability to answer more than 2,000 questions.



DEWA FUTURE CUSTOMER HAPPINESS CENTRE (FCHC)

In September 2017, HH Sheikh Hamdan Bin Mohammad bin Rashid Al Maktoum Crown Prince of Dubai and Chairman of the Executive Council, inaugurated the first Future Happiness Centre in Dubai. This centre has the latest technologies and smart self-service booths to help customers complete their transactions with ease. This also contributes to achieve customer happiness and to ensure that the government environment is completely paper-free by 2021, granting customers with seven-star quality services. It relies on the latest technologies and smart self-service booths to help customers complete their transactions with ease.

In 2017, DEWA converted two centres in Discovery Gardens and Jebel Ali Free Zone to smart service centres. To continue the success of the FCHC, DEWA opened other branches in Dubai Festival City Mall, and Dragon Mart 2 and converted both its centres in Burj Nahar and Al Twar to FCHC as well in 2018.



13 Customer Happiness Centres

To facilitate customer convenience our centres are available and spread all of Dubai.



Green Bill

For a fast, secure and eco friendly monthly consumption bill sent to customer's registered email.



Mobile Services

With our smart applications available customers can efficiently transact; do business with DEWA.



Multiple Ways to Pay

To provide added convenience to customers, multiple methods of payment were developed.



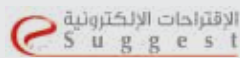
Smart Services

The gateway through the DEWA portal, www.dewa.gov.ae for customers and stakeholder to enjoy a variety of general, customer and business related services.

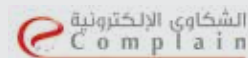


24/7 Customer Care Centre

Our customers can contact us with their queries about DEWA's services on 6019999 and for technical emergencies as well on 991.



This is a unified, decentralised electronic system in coordination with The Executive Council and Smart Dubai Government that enables DEWA to highlight all innovative ideas submitted by customers and ensures the implementation of all feasible ones.

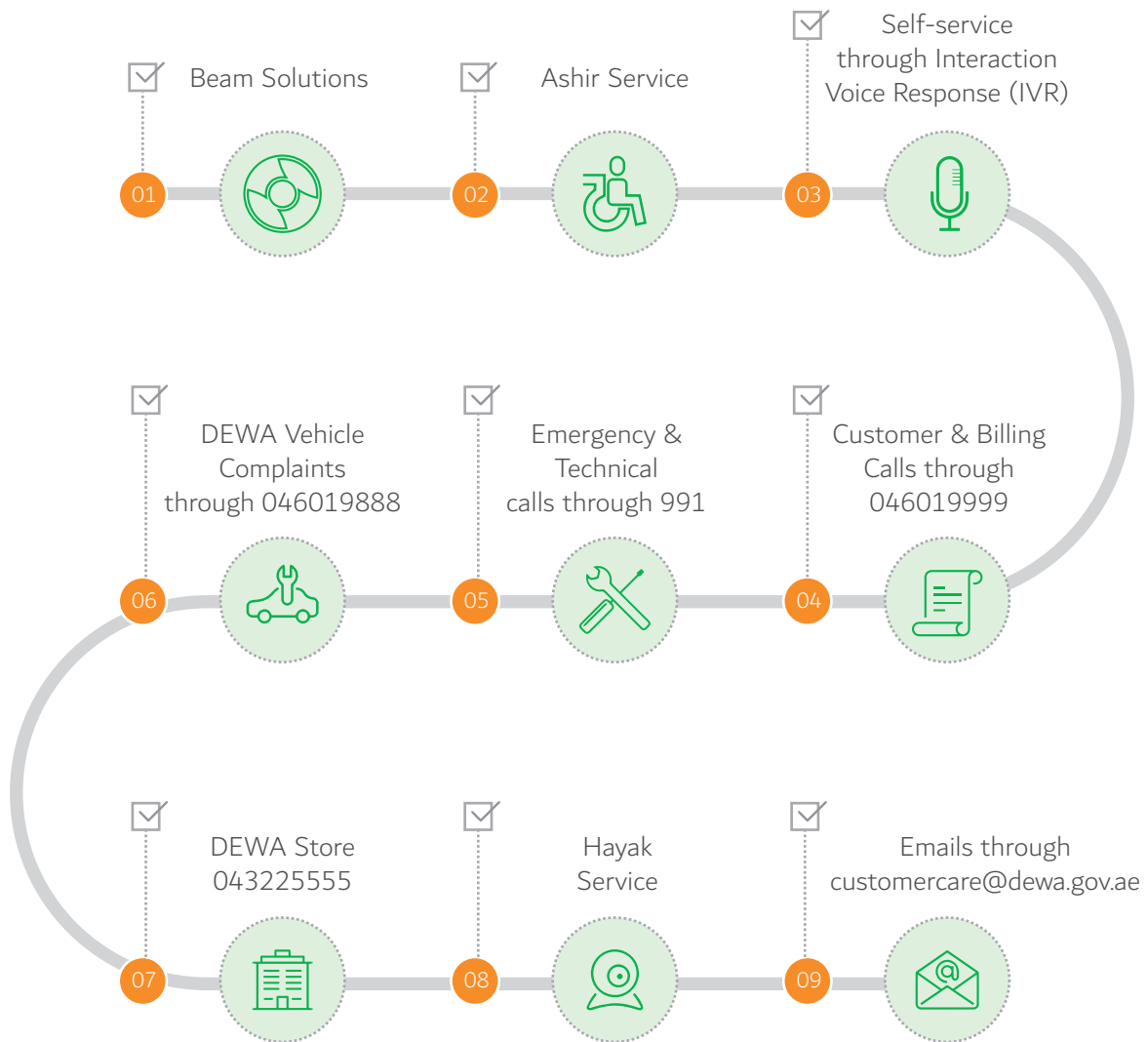


This is a unified and decentralised system in coordination with The Executive Council and Smart Dubai Government that enables DEWA to handle and track customers complaints and converts this feedback into areas for improvement.

DEWA'S CUSTOMER CARE CENTRE

DEWA's Customer Care Centre is always available to answer customer enquiries. In 2018, our Customer Care Centre achieved 95.02% service quality level, and received over 1.41 million calls; 40% of which were handled by Interactive Voice Response System (IVR), enabling our customers to make use of our services smartly and efficiently. Our Call Centre, also handled 849,624 calls professionally, achieving 13 seconds of average response time. It also replied to 159,959 emails from different customers with varying requests and requirements. In addition, we received 36,515 Online Chats through "Hayak" Service, which is an online text, video and audio chat system for all customers.

The Customer Care Centre has a variety of touch points that meets customers' needs which includes:



EXCELLENCE IN CUSTOMER SERVICE

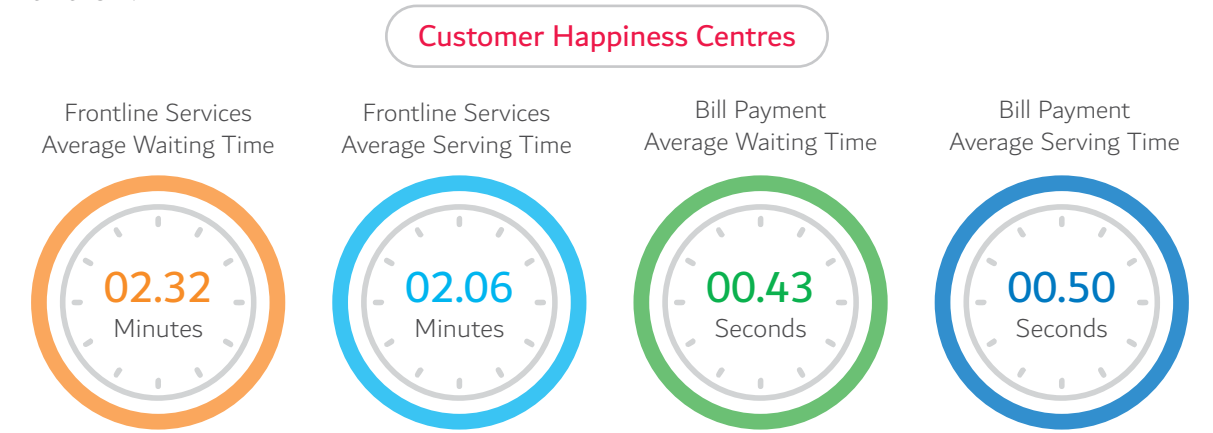
In DEWA, excellence in customer service is a journey, not a destination. We continuously strive to achieve the highest standards of excellence, professionalism and competence in the field of world class services, and promote a culture of excellence and innovation within the public sector. In 2018, we have received the highest grade in The International Standard for Service (TISSE) certification from The International Customer Service Institute (TICSI) after our centres received a five-star mark with a score of 98.3% (an improvement from the 2017 score 98%), the highest score to date, for making our customers happy. We have also obtained the ISO 10001:2007 for Quality Management in Customer Satisfaction and Codes of Conduct for organisations, the ISO 10002:2004 for Quality Management in Complaints Handling Process, and the ISO 10004:2012 for Quality Management in Monitoring and Customer Satisfaction. In addition to receiving, ISO 10003:2007 for Quality Management - Customer Satisfaction Guidelines for Provisioning Internal Grievance Resolution Process in line with The Unified eComplain System of The Executive Council.

DEWA has issued in 2017 its Regulations for Electrical Installations booklet to provide dealers, consultants, electrical engineers and technicians with a guide for the installation and checking of electrical connections, ensuring both their protection and customers. This is part of DEWA's efforts to facilitate its procedures and adopt the best international practices in adherence with

the directives of the wise leadership and minimise any hazards that may result from faulty electrical connections. This shows DEWA's efforts to adhere to technical requirements and the latest safety guidelines for installing electrical connections, to ensure the efficient installation of integrated systems to ensure the best standards in health and safety.

All electrical installations shall comply with the requirement of the regulations, relevant to DEWA's technical specifications, latest edition of the IET wiring regulations, Green Building Regulations & Specifications (latest edition issued by Dubai Municipality-DM and DEWA) and any other regulations issued by DEWA from time to time. In case of contradiction, DEWA's regulations shall prevail, for the electrical installations.

We also give special attention to our customer's voice and strive to collect their input and feedback through different channels, methodologies and frequencies. It starts by properly identifying customers, capturing and understanding their needs and expectations and developing strategic and operational plans to ensure optimal delivery in addition to communicating regularly with them.



In 2018, the Service Feedback Section resolved 97% of customers' complaints within 3 working days, and 100% within 7 working days. Additionally, 93% of customers suggestions were responded to within 0-3 working days, and 100% within 15 working days.



CUSTOMER HAPPINESS

We continuously seek to improve our services for Dubai's residents and all our other customers. As a result, we won the 1st place in Customer Happiness among large entities in the Dubai Government Excellence Program (DGEP) in 2018. We have also achieved 95% happiness level in Customer Happiness Index according to the Happiness Meter of Smart Dubai Government.

In order to ensure the effectiveness of the customers' management framework, DEWA systematically evaluates our customers' experience, to capture their perceptions about DEWA and regularly monitor the level of their happiness on both relationship and transactional dimensions.

There are a number of methods and tools to understand customer perception at DEWA such as: a daily customer happiness index, mystery shopper studies (Direct Interaction & Mystery Calling), people of determination study, Customer Experience Study, Key Account Management (KAM) study, in addition to customer complaints and suggestions. However, a mixed methodology is used to best understand the customer state-of- mind mainly by mixing of qualitative and quantitative data within a single investigation for each service/ product per customer.

DEWA is committed to protecting customer data privacy through adopting best practices in information security. DEWA has implemented generally accepted standards of technology and operational security, which ensures confidentiality, integrity and privacy of customer data. DEWA's Security & Privacy policy addresses DEWA's practices related to information collection and usage of the customers' personal information while using DEWA's Smart Services. DEWA received the ISO 27001:2013 certification, which is the highest international standard in information security management covering all its divisions, departments, and operations as well as international standards that includes: National Institute of Standards and Technology (NIST), Control Objectives for Information and Related Technology (COBIT) and IT Infrastructure Library (ITIL).

Furthermore, DEWA Information Security Management System helps with identifying and implementing the controls required for the compliance with the data protection and Privacy legislation. Regular reviews and audits of DEWA security practices are conducted to check the compliance with DEWA Information Security Policy and Procedures.



CONSERVATION INITIATIVE “IDEAL HOME”

DEWA has launched multiple programmes, initiatives and campaigns for customers to make well-informed behavioural decisions, reduce their consumption, to protect our environment and natural resources. One of these is the Ideal Home Initiative.

The objectives of the Ideal Home initiative are:

- Raising, promoting and enhancing customer awareness and engagement levels about the best practices at homes on matters of sustainability, health and safety, security, environment, social responsibility and smart adoption.
- Achieving the highest standards in sustainable living by making it an embedded culture within households.
- Enhancing efficiency levels by maximising partnership opportunities for the purpose of provisioning unified government services.
- Enabling and provide for customer happiness through innovative services.
- Supporting government vision, effectively.

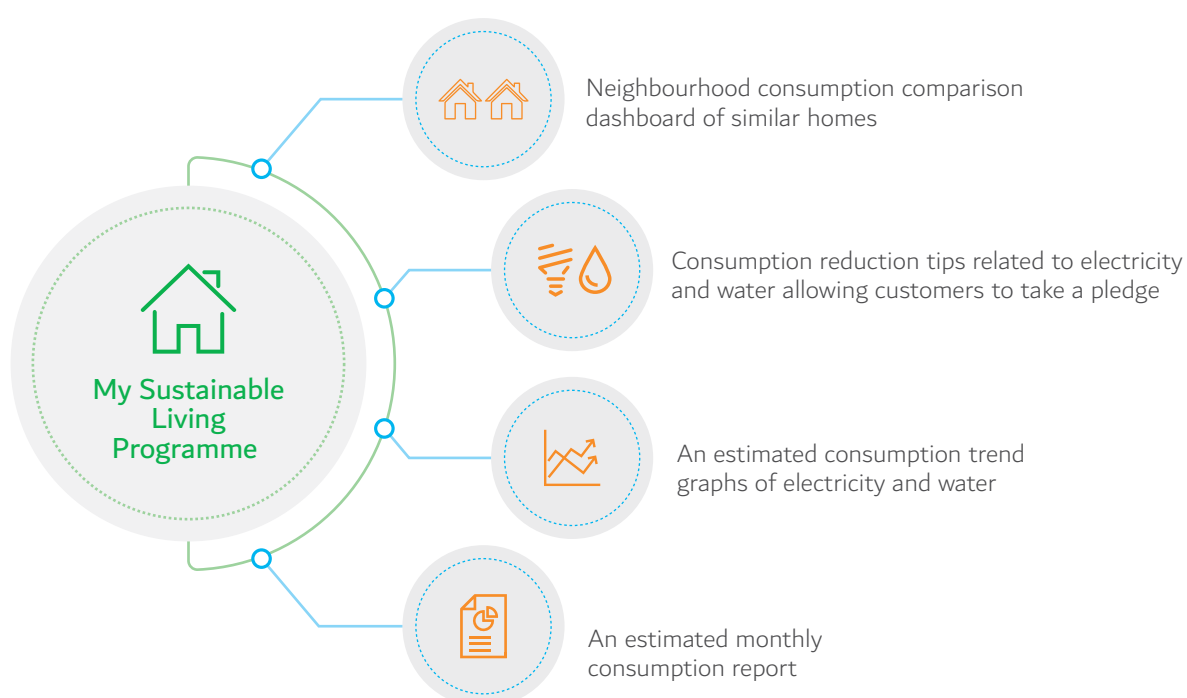
This initiative was successfully rolled out for the third time this year in Dubai, in collaboration with nine government organisations. It encourages customers/ residents to compete with each other to adopt best utility-conservation, health, safety and sustainability practices with the aim to achieve happy and ideal homes. The initiative brought about savings of 901,529 kWh of electricity, around 18 million IG of water, a reduction of around 850 tonnes of carbon emission, and achieving financial savings of around AED 1.2 million.



CASE STUDY

DEWA IS THE FIRST IN THE MIDDLE EAST REGION TO INTRODUCE MY SUSTAINABLE LIVING PROGRAMME

Due to the success of the behavioural efficiency platform pilot project, DEWA is the first in the Middle East region to introduce a behavioural efficiency programme, My Sustainable Living Programme. This programme aims to motivate residential customers to increase their electricity and water efficiency and their overall happiness by comparing their electricity and water consumption with average similar homes in their area. The programme targets an approximate of 420,000 residential customers in Dubai.



The programme has been communicated to customers through our website, smart app, email and SMS.

As of March 2018, approximately 150,000 customers have been enrolled as part of phase 1. Initial results have shown an interaction open rate of 35% in the first 6 months when customers viewed the programme via email and our website. After evaluating the initial results, Key Performance Indicators will be set to measure the success of the programme.

SAVING TIPS

My Saving Plan >



Turn it up!

Cooling

Turning up your air conditioner is one of the easiest ways to make big reductions in your electricity consumption. Try it for yourself

[Know more](#)

[I'll do it](#)



Switch-off rather than stand by

Major Electrical Appliances Usage

Devices continue to use power when they're in standby mode. Switch-off appliances to avoid that.

[Know more](#)

[I'll do it](#)



Fix the leaks

Showers and Faucets

A dripping tap can waste more than 5,500 litres of water a year.

[Know more](#)

[I'll do it](#)

MY CONSUMPTION

My Consumption Trend >

Similar homes comparison (monthly estimated) - September 2018



Electricity

You used 87% more than average similar homes in your area

Average efficient similar homes*

184 kWh

Average similar homes**

524 kWh

Your home

978 kWh

How you did last month:



Water

You used 2% less than average efficient similar homes in your area

Your home

1,173 IG

Average efficient similar homes*

1,192 IG

Average similar homes**

2,164 IG

How you did last month:



* Average efficient similar homes: Average consumption of 20% most efficient similar homes in your area

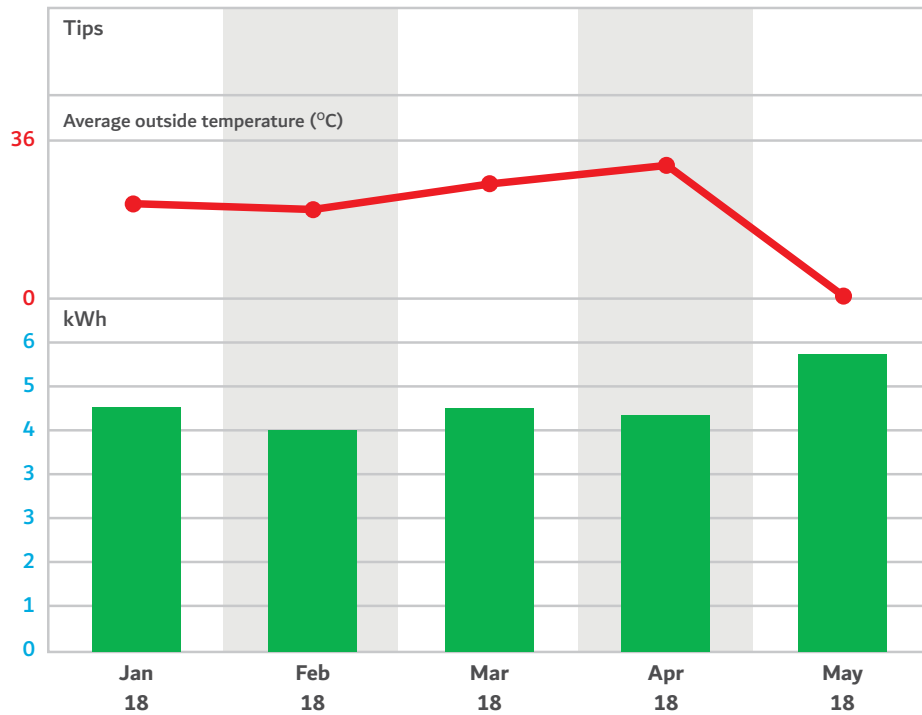
** Average similar homes: 100 similar homes in your area

Please note, the above figures are based on your consumption in a calendar month, which may be different from the period of your bill.

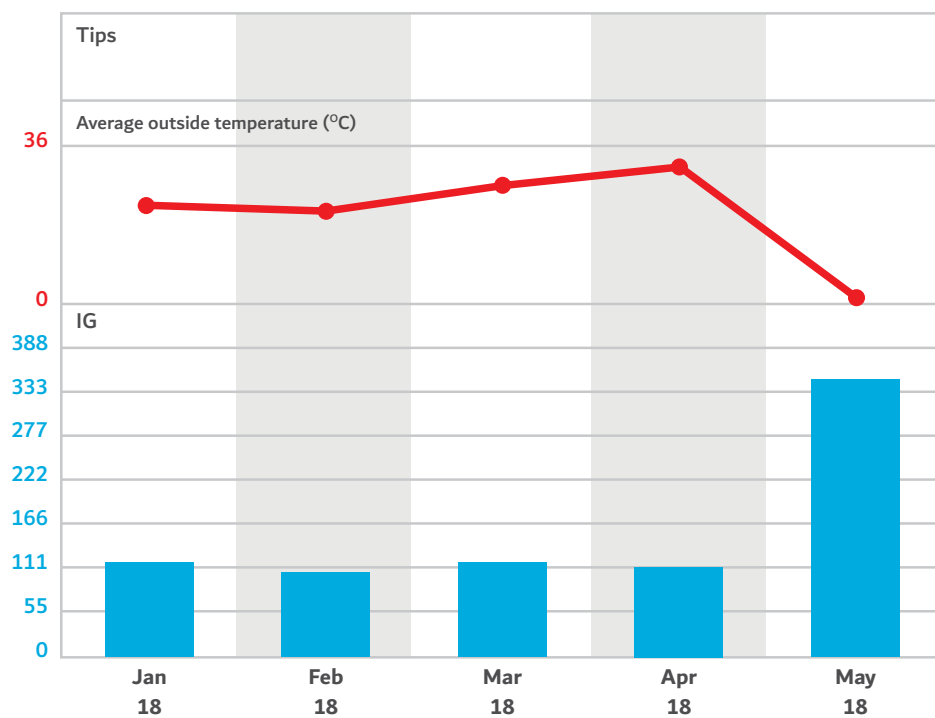
My Consumption Trend

Please note, these graphs are based on your consumption in a calendar month. This may be different from the period of your bill.

Electricity



Water



Note: The above figures are estimated based on a calendar month consumption from January 2018 to April 2018.

A large group of employees, mostly men in white thobes and ghutras, and one woman in a black abaya, are posed in many rows for a group photo in a modern building. In the foreground, a wooden table holds a floral arrangement and several water bottles. An orange semi-transparent banner with the word "EMPLOYEES" is overlaid on the left side of the image.

EMPLOYEES



Awarded British Safety
Council Globe of Honour
for environment for the
7th consecutive year
during 2018

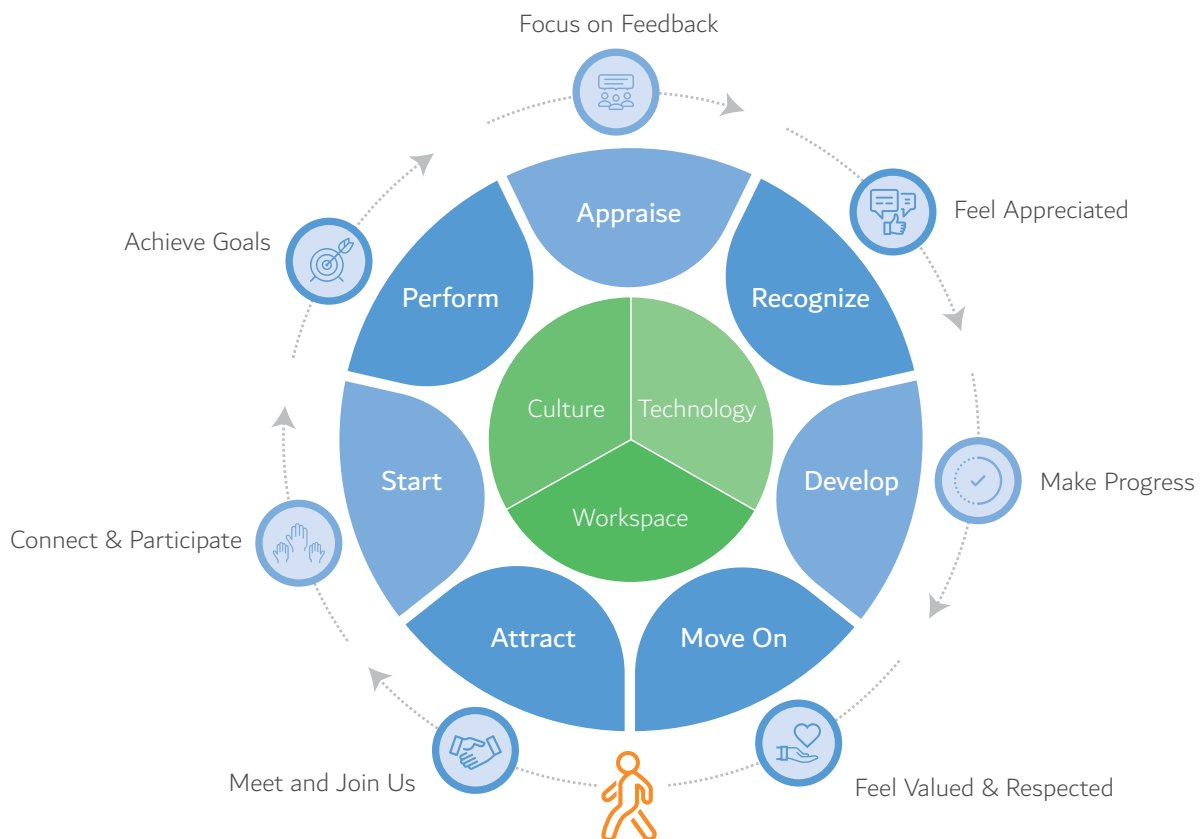


79.32% decrease
in accident incident
ratio between
2009-2018

MANAGEMENT APPROACH

DEWA intends to remain one of Dubai's most responsible, respected and preferred employers. Our highest priority is to support our employees in performing their jobs effectively and efficiently by providing them with a healthy, positive and happy work environment. The company's leadership and management are dedicated to the development of the people and have launched multiple Employee Relations Programmes that ensure our people to be recognised with success and growth. At DEWA, we continually strive to understand and respond to our employees' needs and expectations, which include employee welfare, reward, development, security, happiness and a positive work environment.

The key phases for managing workforce happiness



DEWA strives to create a working environment that:



Values the individual differences and cultural diversity of employees



Provides equal development opportunities based on performance related feedback



Is fair, equitable and free from discrimination

DEWA recognises the importance of diversity and being fair to all employees without discriminating against them in any manner, whether based on sex, race, nationality, age, citizenship, religion, creed, social status or disability.

Diversity and equal opportunity generate creativity and supports competitiveness, therefore contributing to a strong and sustainable long-term growth. This complies with the laws and regulations of the UAE and the Emirate of Dubai as well as the strategic direction of DEWA and international treaties and conventions. We have embedded this within a number of DEWA policies, such as DEWA's policy for valuing and managing HR diversity, Human Resources Policy as well as Policy for Support and Empowerment of Women and our Code of Conduct.

A WORLD-CLASS WORKFORCE

The total number of employees in 2018 reached 11,787 employees; making us one of Dubai's largest employers. Engineering is the most important profession for DEWA, not only because of its significant role in the utilities sector but also for being a source of innovation and creativity. As a result, DEWA is an important hub for engineers in the UAE. We are also dedicated to hiring people in other highly qualified positions in diverse fields including management, business modelling and finance. Our employees have a wide range of skills, and we are taking strategic measures to develop and enhance their skills and career path through training and development. To ensure the sustainability of our organisation, we are also taking the necessary measures to monitor the retiring rate of our employees to replace their specialised proficiency with trained new joiners.

Table: Total number of employees by employment contract, by region 2018

Status	Region							Total
	Africa	Asia	Europe	Middle East	N. America	Oceania	S. America	
Permanent	182	7,302	61	4,065	28	7	1	11,646
Temporary	3	133	-	5	-	-	-	141
Total	185	7,435	61	4,070	28	7	1	11,787

Table: Total number of employees by employment contract (permanent and temporary) by gender

Status	Gender		Total
	Female	Male	
Permanent	1,937	9,709	11,646
Temporary	13	128	141
Total	1,950	9,837	11,787

Table: Total number of employees by employment type, by gender

Category	Female	Male	Total
Full Time	1,937	9,709	11,646
Part Time	13	128	141
Grand Total	1,950	9,837	11,787

Table: New employee hires by age group, gender, and region, 2018

New employee hires 2018*	
Category	Number of New Hires
By Age	
Under 30	339
30-50	245
Over 50	11
By Gender	
Female	94
Male	501
By Region	
Africa	51
Asia	536
Europe	7
South America	0
North America	0
Oceania	1
Middle East	0
Total	595

Table: Employee turnover by age group, gender, and region, 2018

Employee turnover 2018**	
Category	Number of employees
By Age	
Under 30	48
30-50	219
Over 50	32
By Gender	
Female	39
Male	260
By Region	
Africa	32
Asia	201
Australia	0
Europe	2
North America	3
Middle East	61
Total	299

** Special contracts category has not been included in 2018

* Special contracts category has been included in 2018 calculations

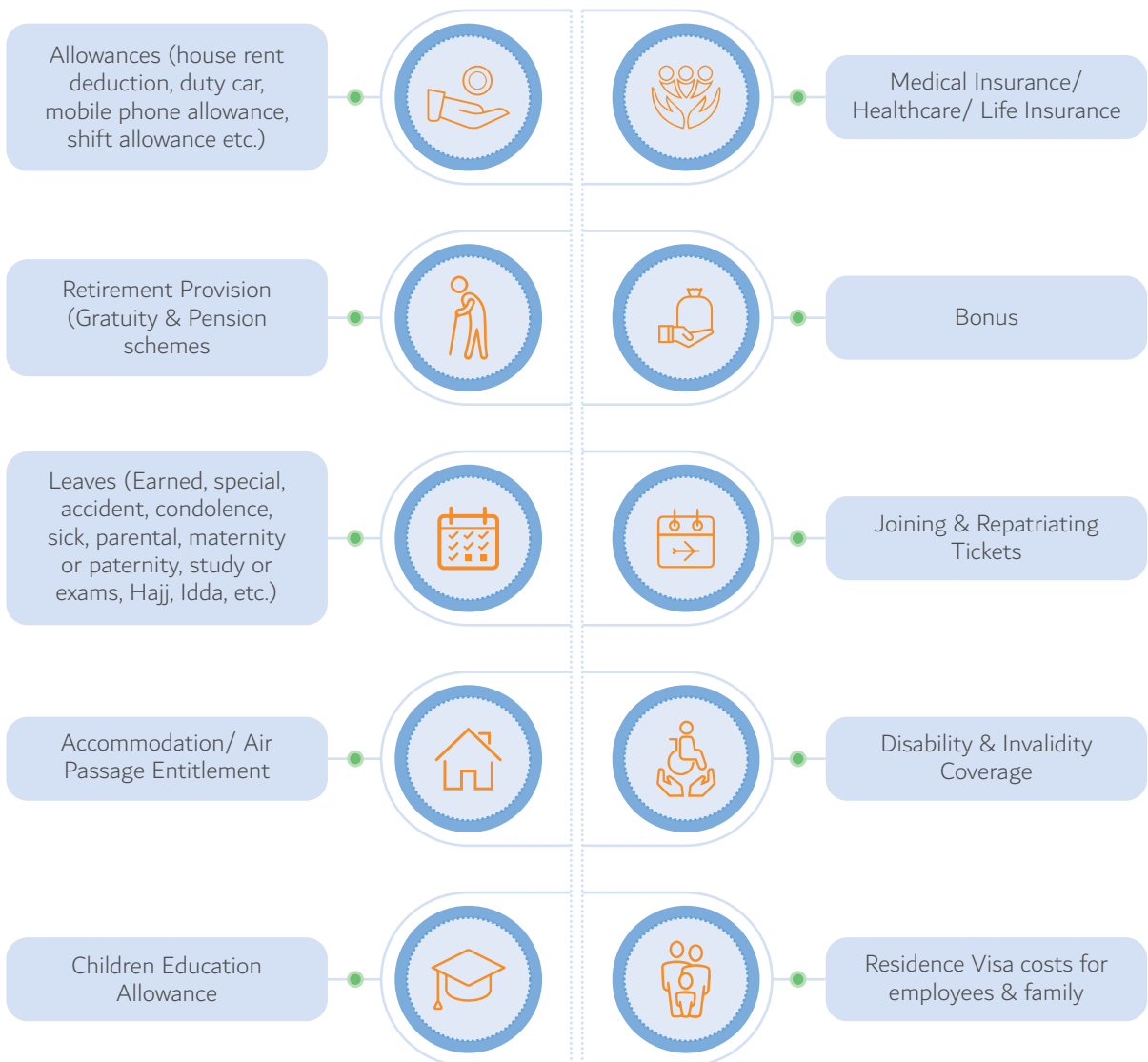
Table: Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region, 2018

Region	Retirement after 5 years				
	Management	Non-supervisory	Others (Grade 6 and below)	Leadership	Total
Africa	-	-	-	-	-
Asia	20	66	55	-	141
Europe	-	-	-	-	-
Middle East	9	6	2	2	19
North America	1	-	-	-	1
Grand Total	30	72	57	2	161

Region	Retirement after 10 years				
	Management	Non-supervisory	Others (Grade 6 and below)	Leadership	Total
Africa	1	3	2	-	6
Asia	26	74	77	-	177
Europe	1	-	-	-	1
Middle East	18	12	4	3	37
North America	1	-	-	-	1
Grand Total	47	89	83	3	222

EMPLOYEE BENEFITS

As a workplace with world-class standards, we aim to reward our employees fairly and generously, based on their performance. Our Personnel Committee review employee performance appraisals, promotions, salary increments and other personnel matters. We also review and analyse job roles, matching them with people who have the talents, skills and academic qualifications and provide equal opportunities to fill the job requirements. All of our employees from grade 7 onwards can review their performance and career development through SAP in my portal page. They can also view related details regarding their performance awards, training, and knowledge management related learning and others. As per DEWA policies, remuneration is based on the grade or position of the employees and not their gender. Therefore, there is no difference between male and female employees. To have a happy and healthy working environment for our people, and to strengthen the engagement and the performance, we offer our permanent employees a broad range of benefits listed below including medical insurance, leave, allowances, and accommodation entitlement.



DEWA ensures that our employee's benefits plans are in line with our main strategy. We have also introduced other programmes and initiatives that benefit them. These include:

WAFFER PROGRAMME

This programme provides discounts on selected products and services from well-recognised shops, restaurants, hotels, travel agencies, etc. Employees can browse the offers using the employee smart app.

EXCELLENCE AWARD & RECOGNITION PROGRAMME

This recognises and rewards employees (individual or groups) who have excelled in their achievements.

AL KHAIR FUND

Al Khair Fund was launched in 2009. The main objective of the programme is to provide financial support to DEWA employees in case of emergencies. In 2018, we were able to provide AED 500,000 to help approximately 584 of our employees in need.

TEJORI AL SADAA

This is an employee spot recognition programme to recognise those actions that can be readily observed and immediately rewarded such as a day off work, 1 month's parking, or breakfast with a divisional head.

WASAL INITIATIVE

This is a communication tool to send our employees text messages and emails to celebrate personal occasions, such as graduations, marriages, births, etc.

To further support our world-class workforce, our employees are entitled to parental leave. In 2018, 558 of our employees used parental leave. Majority of these employees (99%) returned back to work immediately after the end of their parental leave.

Table: Employee Parental Leave and Resumed Duty, 2018

Leave Type	Total parental Leave Aailed	Returned to work	Returned to work Rate*	Retained Employees	Retention Rate**
Maternity Leave	185	184	99%	160	98%
Paternity Leave	373	373	100%	382	98%
Total	558	557	-	542	-

* The period considered for the parental leaves considers the following:

- Male employees returning to work immediately from January 4, 2018 to January 4, 2019.
- Female employees returning to work immediately from January 1, 2018 to May 1, 2019. Only 1 female employee was on child-care leave during the considered period.

** The reported numbers consider male and female employees who availed parental leave between January 1 to December 31 2017 and were still employed with DEWA 12 months after end of parental leave in this duration.

Table: Total number of employees entitled to parental leave by gender, 2018

Gender	Total
Female	1,102
Male	7,898
Total	9,000

TRAINING AND DEVELOPMENT

We are committed to the training and development of our people. For that, we constantly support learning and development of our leadership and employee's skills through effective training programmes. In 2018, we revised and met our targets and noticed the increment in term of training hours. We managed to increase the average training hours provided for all our employees in comparison with 2017. To further develop and preserve our world-class workforce, we provide all possible support opportunities in term of career building to our employees to achieve a high level of talents and skills, as well as to strengthen their social cohesion. As a result, we run a career development and succession-planning programme, which all employees from grade 7 and above can review through SAP in the My Portal site. In 2017, we also developed and updated our technical and behavioural competency frameworks. Succession management is equally critical in order for us to ensure continuity, retain and develop knowledge and intellectual capital for the future and encourage individual employee growth and development.

Table: Average training hours by grade, 2018*

Grade	2016	2017	2018
Leadership	97.23	65.24	109.48
Management	51.40	47.74	49.31
Non-supervisory	33.39	34.52	41.11

Average training hours by gender, 2018**



* The average training hours by grade have been done as per DEWA's internally accepted formula and methodology. The training hours are considered for the 3 categories leadership, management and non-supervisory group employees. The average training hours for non-supervisory group employees does not include the figures for our other staff members who work in admin support and entry level technical support

**The calculations for average training hours by gender have been done using the approach suggested by GRI standards for this disclosure.

EMPLOYEE HEALTH AND SAFETY

OUR MANAGEMENT SYSTEM

The HSE culture of DEWA is an exemplary approach of integrating Quality, Health, Safety and Environment standards known as "Integrated Management Systems" for ISO 9001, ISO 14001 and OHSAS 18001.

DEWA has a dedicated Integrated Management System Policy at the corporate level aligned to its corporate IMS procedures and process maps. Our IMS has adopted all legal requirements of Dubai Government and the Dubai Vision 2030. It is also aligned to Federal Law Number 8 of 1980, Ministerial Order No. 32 of 1982; Dubai Municipality Code of Construction; Dubai Municipality Guidelines, the fourth Generation Dubai Government Excellence Program and further complemented by the 10X Strategy of Dubai Accelerators.

In addition, DEWA has a recognised risk management approach at corporate, divisional and departmental level whose findings are also taken into consideration in our OH&S management system.

DEWA's OHSMS Manual includes all related information for the scope of workers, activities, and workplaces covered by OH&S Management Systems. This also includes all temporary workers, consultants and contractors that are working in DEWA premises.

HAZARD IDENTIFICATION AND RISK ASSESSMENT

DEWA has a detailed written risk management procedure along with the risk management policy governed by Enterprise Risk Management of DEWA. The IMS procedure IMSP03 covers risk identification, risk control and mitigation qualitatively and quantitatively. It also covers aspect impact analysis for the environment as well as routine and non-routine risks as per the HSG 65 guidelines of HSE, UK.

DEWA ensures the competency of its dedicated H&S personnel through training and refresher training internally including British Safety Council certified training, which DEWA is certified to deliver as an affiliate. It is mandatory for line managers and HSE coordinators along with all DEWA staff to go through awareness for the same throughout the year.

The results or performance of H&S are based on the processes evaluated as per the RADAR methodology and the results are depicted at the departmental, divisional and corporate level in a Balanced Scorecard available for all employees.

The policies and procedures of H&S for workers are a part of the OHSMS Manual, Integrated Management System and the HR regulations. Workers are protected against reprisals as per Dubai government law, and accountability procedures of DEWA's HR regulation governed by the Legal Department of DEWA.

In addition, the processes to investigate work related incidents are covered under IMSP-10 procedure of DEWA that identifies the hierarchy of controls and are also aligned to corporate crisis management policies and external local authorities where applicable e.g. Dubai Police and Dubai Civil Defence. IMPS 03 supports in identifying the risks, hazards and their control measures along with mitigation steps.

OCCUPATIONAL HEALTH SERVICES

DEWA has a dedicated Occupational Health Section that governs the OH and wellbeing requirements of DEWA, working closely with corporate counselling section and employee happiness and wellbeing section of Human Resources.

The OH team carries out health screening for employees, nutritional screening, stress screening and wellbeing status periodically as per the Occupational Health Procedure (SP12) and follows a dedicated process for OH awareness, workshops and trainings.

All workers have access to these services irrespective of the hierarchy in the organisation.

In addition, there are a number of dedicated procedures for stress-management and counselling, welfare wellbeing and hygiene, control of substances hazardous to health and guidelines for people for determination, vibration, musculoskeletal conditions and HACCP. All the above are aligned to corporate risk management procedure, evaluation of compliance, incident management and crisis management.

H&S COMMUNICATION AND REPRESENTATION

As a part of the IMS and in line with OSHAS 18001 and DGEP, employee participation is one of the key drivers of DEWA's strategic intent and this is why at the corporate level, we have a dedicated procedure related to employee' participation, consultation and development, aligned vertically to all functional procedures and horizontally to operational procedures.

H&S follows the methodology of internal and external communication to communicate H&S amongst its employees. They are involved in performance analysis, risk assessment drives, management worker engagement drives and H&S trainings. All employees also have access to training through the Intranet portal and HSE mobile app.

DEWA's Health and Safety Committee includes representatives from DEWA and is headed by the EVP of Business Support and Human Resources. The committee plays an important role in avoiding work-related injuries and accidents in all our divisions and maintaining occupational health and safety procedures in the workplace as per the procedure (IMSP01-16) with assigned KPIs that have Target Achievement Levels (%TAL) apart from actual ones that make it more robust. It also ensures that measures to assist and retain health and safety rules, standards and procedures are carried out. The committee representatives meet at least once a month for high-risk departments, every two months for medium risk departments, and at least quarterly or when it is required for low risk departments.

H&S TRAINING

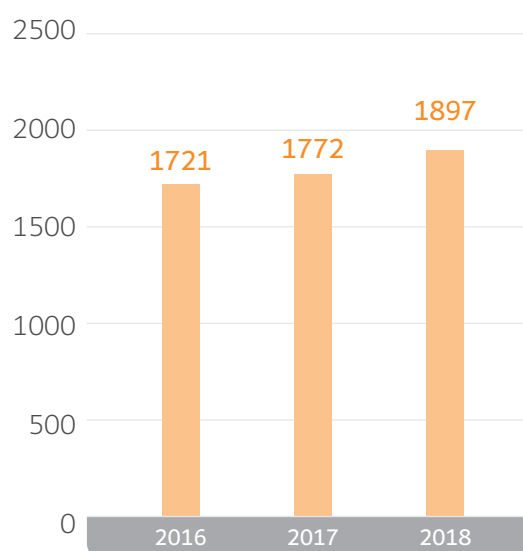
OH&S Staff as well as external parties, when required, extensively conduct training in DEWA. The OH&S training section and departmental HSE coordinators ensure that the workforce understands the importance of hazard communication and identification, how to recognise and minimise unsafe acts and conditions at the workplace, and instil not only the skills but also the attitudes necessary so that the Departmental OH&S objectives are met. OH&S Training section conducted 16 courses as per the below attached list:

Sr. No	Title
1	Induction Training
2	The Essentials of Health & Safety at the Workplace
3	Office Ergonomics
4	Emergency Planning & Preparedness
5	Risk Assessment
6	Hazard identification & Hazard communication (Urdu/ Hindi)
7	Accident prevention, Investigation& Reporting
8	Preventing Back Injury
9	Supervising Staff Safely in the Workplace
10	BSC Level 1 Award in Health and Safety at Workplace
11	BSC Level 2 Award in Health and Safety in the Workplace
12	BSC Level 2 Award in Risk Assessment
13	BSC Level 2 Award in DSE Risk Assessment
14	E Learning – Preventing Back Pain Training
15	E Learning – Display Screen Equipment

In 2018, 134 sessions were conducted and 1,897 staff attended. After every course, an evaluation report is prepared with graphical representation of the feedback obtained from the participants. Those scoring less than average marks are called to attend the course again.

The OH&S training section prepares a monthly staff awareness course on different OH&S topics and sends to all HSE coordinators to share and conduct toolbox talks to their staff.

Number of DEWA Staff attended H&S Training conducted by H&S Section from 2016 - 2018



PROMOTION OF EMPLOYEE HEALTH

Non-occupational and occupational healthcare services of DEWA employees are insured through Enaya, a Dubai government healthcare scheme. It covers life and medical requirements of DEWA employees worldwide. In DEWA, both on duty and off duty incidents are equally monitored and mitigated. All DEWA premises are robustly equipped with first aid boxes, evacuation chairs and provisions for people of determination. These include a Braille paved walkway, vibration loop and voice assist at customer care centres.

Voluntary health services are also undertaken through workshops, campaigns, vendor programmes, awareness sessions and participation in health campaigns by workers for basic screenings, eye tests, etc.

Intranet emails, campaigns, counselling sessions from third party and sports activities are planned annually and constitute an integral part of H&S services with dedicated participation and satisfaction rates. The Occupational Health section carries out campaigns based on the calendars from WHO, Dubai Health Authority and the United Nations. Chronic ailments, heat strokes, stress, wellbeing, metabolic conditions, hemodynamic and musculoskeletal conditions along with non-work-related conditions are all integral parts of our health promotions.

OUR COMMITMENTS

DEWA's OH&S covers all workers operating within DEWA premises. However, as a leading organisation, we recognise that we have a responsibility to make efforts in order to prevent and mitigate negative occupational health and safety impacts that are directly linked to our operations. We have an obligation to our contractors, subcontractors and vendors, and we comply with OHSAS 18001 and 18002 to ensure that we observe health and safety measures. Our

dedicated SP06 Health and Safety Procedure for Contractors and Consultants is also in place to promote a culture of health and safety and to improve the standards in all our projects, activities, and operations. We regularly audit our operations to assess how well we are performing to health and safety requirements. For H&S there is a corporate Global Hazard Codecs aligned to operations, products and services. The Supply Chain management follows the similar approach of H&S management from requisitions to deliverables along with quality and standards for H&S. DEWA has been a global benchmark amongst utilities globally. Winning the coveted Sword of Honour Awards for H&S consecutively for last 11 years and maintaining both IMS Certification and British Safety Council's Five Star rating since 2002. DEWA also won the best initiative in H&S Award at Business Awards (UK) and ME Electricity Awards for Sustainable Contractor Grading System in H&S. DEWA was the first organisation to launch its HSE app to its employees and customers. Since 2017, DEWA's H&S provisions for People of Determination has achieved excellence awards and 7 Star TISSE awards.

The Health and Safety at Corporate Level has categorised injuries into 'Major' and 'Minor.' A Major injury is, "a non-fatal injury that does not result in permanent total disability or permanent partial disability, but results in more than 7 lost workdays." Injury types are as under:



During 2018, we had 22 major employee-related injuries and 15 contractor-related injuries. We are proud to say that during 2018 we had zero employee or contractor-related fatality occurrence. DEWA monitors and reports on the following categories. Frequencies are calculated based on 1,000,000 and AIR based on 100,000 as AIR has been calculated previously using the same denomination. In DEWA, we consider Lost Time Injuries (LTI) as an injury sustained by an employee that results in loss of productive work, either in the form of absenteeism or delays as per International best practices.



Lost Time Injury – 36 numbers in 2018

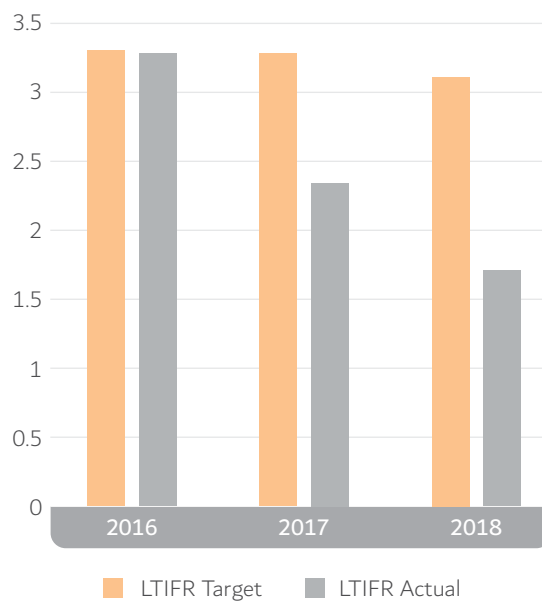
Lost Time Injury Frequency Rate (LTIFR) - 1.65

$LTIFR = LTI \times 1,000,000 / \text{Working man-hours}$

$$36 \times 1,000,000 / 21,836,250$$

Note: Please note that these 36 LTIs are injuries that resulted in claimed sick leaves or lost work-days by DEWA's permanent staff.

Loss Time Injury Frequency Rate (LTIFR) 2016- 2018



Note: Only DEWA permanent employees have been considered for all injuries-related calculations in this report. The work-related injuries for contractors are specified, wherever applicable.

All minor (first-aid level) injuries are excluded from the work related injuries.



Man Days Lost: 1481 man days

Total Hours Worked by DEWA employee: 21,836,250 Manhours

Total no. of staff x 7.5 (average working hours in a day)
x 250 (average number of days in a year)

$$11,646 \times 7.5 \times 250 = 21,836,250$$

One of the key indicators of our safety performance is the Accident/ Incident Ratio (AIR), which we have successfully reduced by approximately 79.32% between 2009 and 2018.

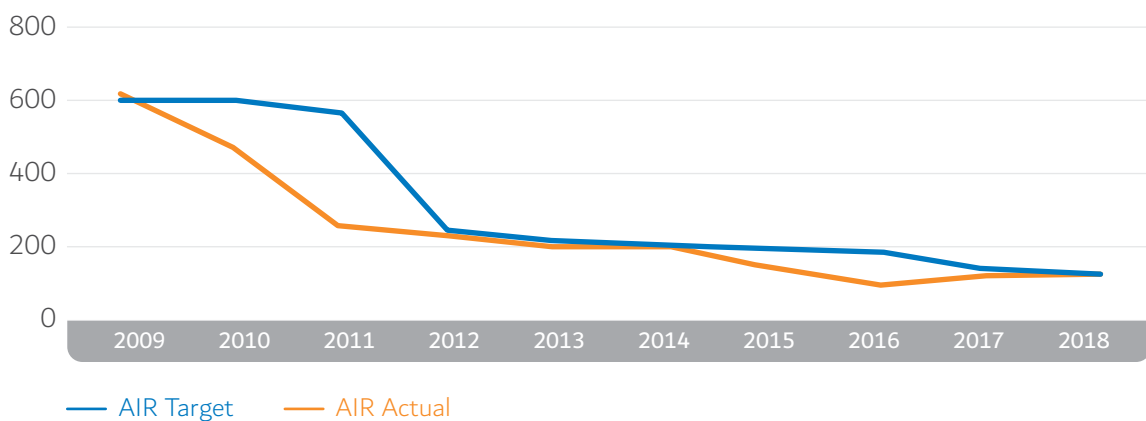


Accident Incident Rate (AIR) - 128.8

Number of RIDDOR incidents x 100000/ Total no. of staff =

$$15 \times 100,000 / 11,646 = 128.8$$

Accident Incident Ratio (AIR) 2009 -2018



AIR is Number of *RIDDOR Incidents x 100000/ Number of staff

* RIDDOR: Any injury due to an on duty incident having 7 or more than 7 consecutive days sick leave (away from work) excluding the date of incident but including weekends and rest days.

The work-related hazards that pose a risk of major injury are determined based on site inspections, risk assessments, historical performance data analysis and mitigation steps to control or remove risk as per IMSP03 Procedure of DEWA.

Key hazards to workers injury have been: Slips trips and fall, Road traffic accidents (predominantly third party), Foreign body into the eye and Sprains and fractures. We are pleased to state that no major injury or fatality occurred during 2018.

The hierarchy of control is intricately determined as per the IMSP03 procedure – Elimination, substitution, engineering controls, administrative controls and PPE. Corrective actions are recommended and once the actions are taken in an agreed period the corrections are recorded and shared.

Actions taken to eliminate other work-related hazards and minimise risks using the hierarchy of controls include predominantly elimination, administrative controls and regulated use of PPE.

OUR ACHIEVEMENTS

The positive culture in HSE has ensured zero fatalities with many awards. This would not have been possible without the positive approach of our stakeholders. To name a few of DEWA's main achievements:

- An intricately written and endorsed QHSE policy by the top management that is cascaded into approaches, processes, procedures and performance indicators in a Balanced Score Card (Kaplan & Norton).
- ISO9001, ISO14001 and OHSAS18001 certified enabling continuous improvement and management of our systems
- DEWA has twice won the DGEP Awards for Best Utility and HSE has been always scored above par (i.e. 98%).
- DEWA has always been marked as a safe organisation by Dubai Civil Defence for its firefighting systems and control mechanisms.
- DEWA has maintained the British Safety Council's Health and Safety Management 5-star certification since 2002.

- DEWA has been winning the Sword of Honour (for H&S) and Globe of Honour (for Environment) for the last 11 and 7 years respectively. We are proud to be the first utility in the MENA region to achieve this award.
- We have a Risk Management Policy, which has been developed in compliance with ISO 31000. This policy is the framework of HSE risk management across DEWA (i.e. both dynamic and consultative).
- DEWA has been a pioneering organisation towards bringing stress management and Estisharati (counselling services) to DEWA employees linked to health screenings, to improve health and wellbeing.
- DEWA achieved the 7 Stars grading in the TISSE audit in 2018 and we were acknowledged for best provisions for People of Determination in Health & Safety.

CAREER DEVELOPMENT

At DEWA, we continuously seek to promote our workforce and hire talented and skilled employees who can contribute to the success of our organisation. We are dedicated to help our employees on both levels - personal and professional in term of development. From job-focused trainings to general management trainings, our employees have the opportunity to develop their careers further. DEWA also conducts competency-based programmes and trainings for skill management and lifelong learning based on 9 behavioural competencies. These were determined in 2014 by an Assessment and Development Centre for 887 employees, based on their proficiencies. Performance appraisal is equally important, as it helps us evaluate in a systematic manner the performance of the employees, while also allowing us to understand their abilities to develop them further.

DEWA SPORTING CHALLENGES AND COMMITMENTS

In March 2018, DEWA announced its readiness to participate in the first Government Games initiative which was launched by His Highness Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, Crown Prince of Dubai and Chairman of the Executive Council of Dubai. The initiative was under the theme “One Team. One Goal” and aimed to ensure positive competition among employees and enhance employees’ mental and physical capabilities and skills in an innovative way. DEWA’s male and female teams took part in the inaugural Government Games to test their mental skills and physical strength from 9 to 12 May 2018, at Kite Beach, Dubai.

Furthermore, fifty employees from DEWA participated in the XDubai Spartan Race, which was organised in Hatta, Dubai. The Spartan Race is one of the most popular endurance races in the world and included the 5+ km Spartan Sprint with 20+ obstacles for athletes of different levels, and the 13+ km Super Race, with 25+ obstacles, in addition to the Spartan Kids’ race. The race also coincides with the Dubai Fitness Challenge, which was launched by HH Hamdan bin Mohammed bin Rashid Al Maktoum.

In 2018, DEWA organised a swimming tournament for its male staff at Al-Nasr Club, Dubai. 82 employees took part in the tournament across three races with the winners honoured with trophies and medals.

DEWA’s Women Committee kicked off a ‘Run for Zayed’ sports activity to celebrate the ‘Year of Zayed’ in the UAE, which marks 100 years since the birth of the country’s Founding Father, the late Sheikh Zayed bin Sultan Al Nahyan. This is also part of DEWA’s participation in the UAE National Sports Day 2018. The event aimed to encourage female employees to exercise by running and jogging on a 3-kilometre track in Nad Al Sheba Cycle Park, and to develop their sports spirit.



DEWA launched its Ramadan Sports Tournament 2018, the Sheikh Saeed Hall in Dubai World Trade Centre. This included badminton, basketball, volleyball, football, tennis and cricket. In addition, DEWA's teams also participated in the wheelchair basketball at Dubai Club for People of Determination, NAS Bicycle, and NAS Night Challenge, as part of the Nad Al Sheba Sports Tournament 2018 activities.

121 female employees participated in the sixth Sheikha Hind Women's Sports Tournament. DEWA's female team placed first in the road race and third in cycling.

DEWA YOUTH COUNCIL

DEWA Youth Council plays a pivotal and effective role in involving the youth in DEWA's efforts to achieve sustainability in all aspects of its work.

In lined with the vision of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, to ensure a bright future that depends on the youth's ability to develop and participate in the process of development, we have launched in 2018 the "Youth Sustainability Pledge campaign. The campaign is an interactive platform that ensures listening to the Youth's ideas and aspirations and promotes spreading a culture of sustainability, which is one of DEWA Youth Council's main pillars. This highlights our efforts in supporting DEWA's vision to become a leading sustainable innovative global corporation.

The Council is committed to empower and support young people, and engage them in the national quest for excellence and success. In 2018, the Council conducted the third 'Youth Talks' session under the theme 'Designing Buildings and Communities for a Healthier and Happier Life. The session comprised numerous awareness lectures and motivational workshops, adapted to the interests of the youth and highlighted DEWA's efforts in achieving its strategic goals by spreading positive energy and creating a pleasant work environment.

Throughout the year, the Council has raised awareness about its main goals and objectives by organising different activities and visits to DEWA branches. It also participated in "Their Suhoor is on us", an initiative organised by Community Development Authority (CDA)'s Youth Council to distribute Suhoor meals to workers during Ramadan.

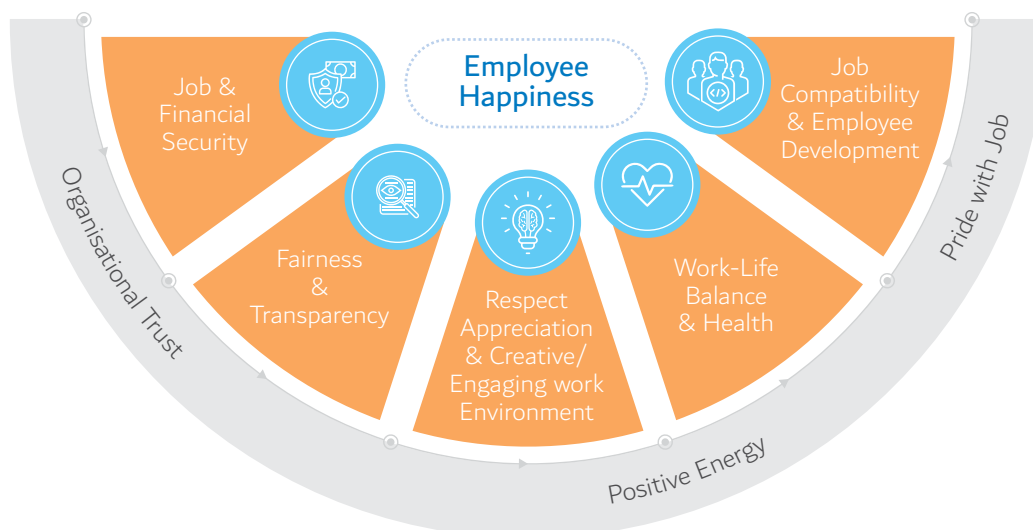


EMPLOYEE HAPPINESS

In DEWA, we believe that employee's happiness is of utmost importance and one of our top priorities to ensure efficiency, success, and continuous excellence of our organisation.

Our guiding principle of happiness revolves around our employees and focuses on satisfaction, happiness, and engagement. For that reason, we have continued conducting the Happiness Survey for employees to express their views and suggestions on topics of interest to them, and to measure their overall happiness regarding their work in DEWA. In 2018, our overall happiness score reached 87.75%. We analyse the results of this study to benchmark and realign DEWA's initiatives to meet employees' expectations.

Our happiness model consists of five main happiness keys which are: Job and Financial Security, Job Compatibility and Employee Development, Work-Life Balance and Health, Respect, Appreciation & Creative and Engaging Work Environment, and Fairness and Transparency.



Our Employee's happiness is also important in achieving a sustainable, productive, motivating and collaborative work environment. In DEWA, we have many areas that support and improve the physical working environment of our employees such as the Happiness Lounge and Creativity Rooms. Happiness lounges at our Head Office, Hudaiba, and Warsan branches, and the Creativity Rooms at Al Warsan provide services from online booking for workshops and brainstorming sessions for various activities, so our employees can excel in a positive and high-quality work environment.

Other initiatives that aim to create happier employees are listed below:

PARKING WITH SOLAR PANELS

As part of Shams Dubai initiative, and to increase the reliance on clean energy, in 2017, we launched carports at our headquarters with a total of 902 parking spaces and a capacity of 1,780 kilowatts (KW).

INTERNATIONAL DAY OF HAPPINESS

In celebration of the International Happiness Day, the Employee Happiness department invited all employees to enjoy the different activities taking place at DEWA's head office and branches

ANNUAL GATHERINGS

DEWA conducts several events such as the Barzatna Programme gathering, Gala Dinner, and a Suhoor gathering during Ramadan to bring its staff together as one family.

ANNUAL STAFF WEDDING

As part of our corporate strategy for the happiness of our employees, we annually organise and celebrate mass weddings for our employees. In 2018, we celebrated our 11th mass wedding celebration. 509 employees have got married since 2007 in this manner.

ESTISHARATI (DEWA EMPLOYEE ASSISTANCE PROGRAMME)

Estisharati is an employee-counselling programme to assist employees by providing an emotional well-being support through an active problem-solving approach to tackling the problems in hand to live a happy, stress free and fulfilled life.

DEWA SPORTS COMMITTEE

The Committee promotes employee wellbeing and fitness through sports activities. This includes Internal and external sports competitions, and recreational breaks for employees.

DEWA is a Government entity aligned with Dubai Government and regulations. Therefore, with regards to significant operational changes affecting our employees, while a specific notice period is not included in our standard employment contract, a sufficient notice period has historically been given when significant operational changes have been implemented. We also aim to create an environment that supports our employees' lifestyles. Part of this is achieved by encouraging gender diversity in our workforce. Some initiatives in place for this purpose include:

DEWA WOMEN'S COMMITTEE

The Women's Committee was created to empower women and provide them with a positive and stimulating work environment; helping them balance their professional and social lives.

In 2018, the women's committee organised several events and activities such as the open health day that raised awareness about breast cancer and other chronic diseases such as diabetes, and heart disease, as well as health problems related to nutrition and skin.

To develop the sports spirit among our female employees, the committee launched Run for Zayed for all female employees as part of DEWA's participation in the UAE National Sports Day 2018. The women's committee have also launched the 'Free Sports Classes' initiative to enable DEWA female employees to exercise three times a week after official working hours, under the supervision of a specialised trainer. This supports all our female employees, ensures their satisfaction and psychological stability, and motivates them in a healthy and unique environment.

The Committee also organised the 4th Emirati Women's Day Forum with the theme 'Women on the Course of Zayed'. On this day, we remember the achievements of Emirati women and their role in the development efforts of the UAE across various domains.



DEWA CHILD CARE CENTRES

Our Child Care Centres, located in the Head Office, Al Quoz and Al Warsan were created to provide care for our employees' children during the working hours. This initiative has been an outstanding success in helping employees to balance family and work duties.

PROMOTING EMIRATISATION

DEWA has always supported Emiratisation by increasing the number of Emirati employees and by helping the upcoming generations in developing their careers as it contributes to the UAE's vision. Our strategy mainly focuses on investing in our future Emirati workforce and DEWA is

committed to increase the percentage of Emirati youth and to develop their skills over the next few years. During 2018, approximately 26.70% of the new hired employees were UAE nationals. UAE nationals make up to 86.44% of our top management and leadership positions, 51.98% of our middle management positions, and 37.06% of our nonsupervisory positions.

One of DEWA's strategies and commitments is to continuously develop the skills of their employees according to the highest international educational and training standards. Therefore, DEWA launched a scholarship programme to sponsor Emirati students abroad. Furthermore, DEWA continuously strives to recruit qualified and talented young Emirati professionals and focuses on developing and empowering their skills by sponsoring them to study at top universities, colleges and institutes around the world. In 2018, employees had the opportunity to join the online Micro Master's programme at the Massachusetts Institute of Technology (MIT), USA. DEWA academy is accredited by the Business and Technology Education Council (Pearson BTEC) in the UK. The main purpose of DEWA academy is to raise a new generation of Emiratis both academically and vocationally. The Academy provides a number of scholarships for local high school students in order to train and prepare the next generation mainly for the nature of DEWA's daily work and practices.

RECOGNISING AND REWARDING EMPLOYEES

We continuously recognise our exceptional and remarkable employees, through the annual Internal Excellence Award and Recognition Programme. The award recognises outstanding groups and individuals on their performance and achievements during their duties across the year. It also promotes a culture of excellence and encourages positive competitiveness among the staff. In 2018, DEWA honoured 5,171 employees and rewarded 54 teams across DEWA. We have also implemented the Special Act award for employees who conserve DEWA's resources and make savings in costs. In 2018, we rewarded 3,517 employees for their special acts during the year that won local and international awards, saving costs, and completing various projects.

FOSTERING INNOVATION

Our employees are encouraged to share their innovative ideas on how to improve our working environment and services through our highly interactive platform known as Afkari. A number of ideas suggested by our employees have had an impact on our triple bottom line. In 2018, 2,639 participants used the Afkari platform, generating 7,064 proposed ideas. These saved AED 849 million to date, and in turn, we rewarded 536 creative idea owners, with awards totalling AED 739,900 in 2018. DEWA's employees can also access easily Afkari through the Smart Office app, allowing them to send, interact and collaborate on their ideas.

CASE STUDY

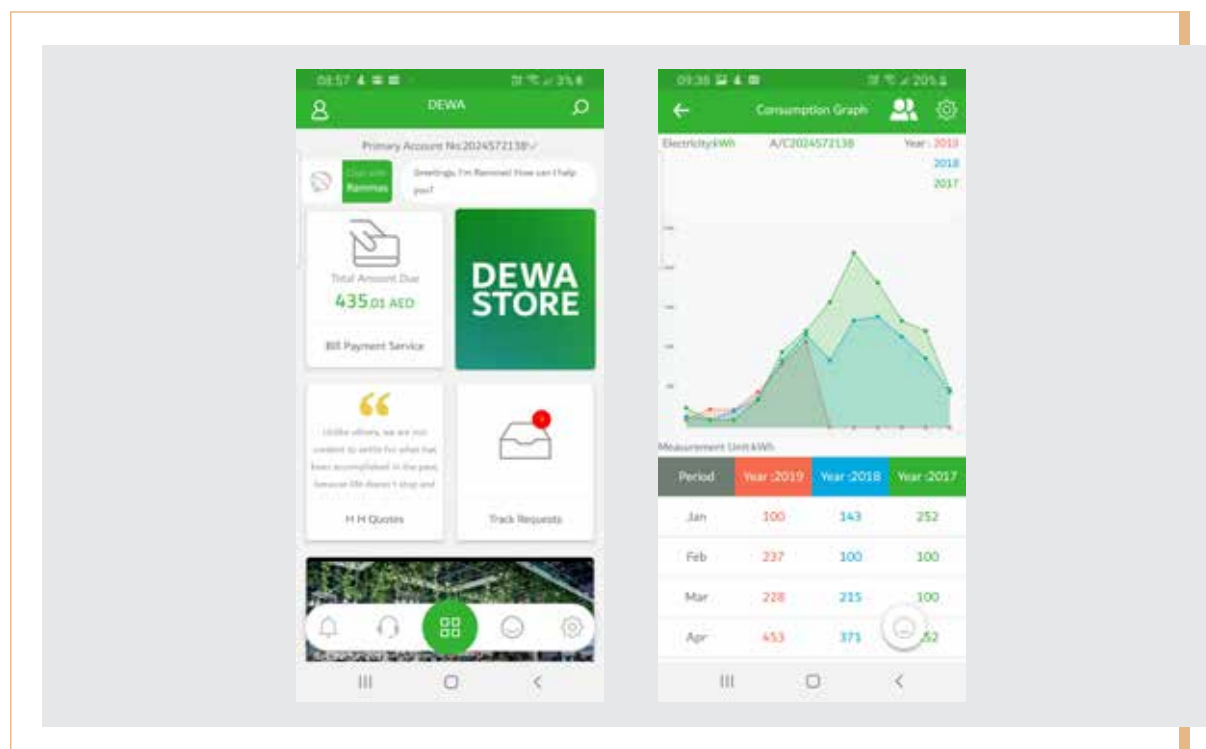
SMART OFFICE EMPLOYEE ASSISTANCE PROGRAMME

The Smart Office application is a digital workplace for DEWA employees with all enterprise requirements in one multi-platform mobile solution to improve employees' productivity, happiness, support people of determination and protect the environment.

The app facilitates their day-to-day activities securely in an intuitive design from anywhere at any time. It is aligned with the Dubai Paperless Strategy launched by HH Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, Crown Prince of Dubai and Chairman of the Dubai Executive Council and also supports the directives of HH Sheikh Mohammed bin Rashid Al Maktoum, to develop government services to the highest world-class standards.

The smart office app, operational from January 2016, has digitised 150+ business processes/ services and until the end of 2018 has contributed to 19.35 tons of CO₂ emissions saved with 79.3% rating in the Employee Happiness Survey.

The app is currently used by 9,500+ users, saving AED 35,965,531 and 105,925 hours.



CASE STUDY

WOMEN AMBASSADORS

In DEWA, we appreciate and acknowledge the effective role of women in developing society and building the UAE. This is why DEWA plays a key role in empowering women in the workplace and is one of the leading government organisations in empowering women in their personal and professional lives. We do this by providing our female staff with a positive and inspiring workplace, enabling them to achieve a healthy balance between their professional and personal lives. In November 2017, the L&D department in coordination with the Women's Committee established the "For Her" Programme to equip female employees in management category with the knowledge and skills needed to have greater impact and broader influence within DEWA. The main activities of this initiative include training and coaching by developing the necessary behaviour and skills to enhance women's personal and professional effectiveness as ambassadors.

This initiative contributes in attracting and retaining female talent, better preparing women to assume leadership positions, and creating a culture of equal opportunity and diversity within the organisation. Through this programme, participants learn how to manage and resolve conflicts, building effective teams, as well as develop their emotional intelligence and their presentation/ communication skills. Until the end of 2018, approximately 20 female employees have participated in the programme.



SOCIETY

Water contents
of things

www.waterra.com

How
much
Water
do
you
use?

The world is in our hands



Rolled out 40 social and humanitarian initiatives in 2018



14,813
Volunteering Hours

DEWA's CSR efforts over the last few years have contributed to an increase in community satisfaction and happiness levels, from 89.01% in 2016, to 90.04% in 2018

MANAGEMENT APPROACH

DEWA is committed to supporting and giving back to society and communities both locally and globally. From an early stage, DEWA has adopted an explicit policy for Corporate Social Responsibility (CSR) aligned with international best practices, regulations and laws. We have also set an integrated framework that meets CSR standards and requirements.

This framework includes social initiatives that are in line with the UAE Vision 2021, Dubai Plan 2021, DEWA Strategy 2021 and the Year of Zayed. Prior to the implementation of the CSR strategy, DEWA sets the goals based on stakeholder and community needs in order to ensure meeting their expectations and achieving the highest satisfaction level. DEWA's corporate social responsibilities initiatives are an integral part of our strategy plan that includes serving all segments of society.

2018 was designated as the "Year of Zayed" by HH Sheikh Khalifa bin Zayed Al Nahyan, President of the UAE, marking 100 years since the birth of the founding father of the UAE. Therefore, in line with the Year of Zayed, DEWA initiated 12 main programmes that provided 27 social and humanitarian initiatives, which adopted the theme of Zayed's national and humanitarian legacy. The main target of these initiatives was to promote the values of tolerance, progression, environmentalism and leadership as well as charity.

We use various channels of communication to determine our stakeholders' needs for CSR initiatives through:



In addition, all departments in DEWA contribute to the implementation of the common programmes related to society and support in many different ways such as participating in volunteerism in various CSR initiatives locally and globally.

OUR INITIATIVES DURING THE YEAR OF ZAYED

During 2018, none of our large projects physically or economically displaced people within our operational boundaries. Furthermore, our Corporate Social Responsibility (CSR) Programme coordinates a network of 24 divisional representatives responsible for managing the social and community initiatives related to their divisions. Those initiatives vary from community development projects such as school awareness programmes, charitable and humanitarian programmes in the UAE and abroad. During 2018, 97% of our social initiatives have been successfully carried out and achieved compared to last year 100%. Supporting the objectives of the year of Zayed and our social responsibility strategy, we have implemented different CSR initiatives:



UMRAT ZAYED

This initiative was launched to fund non-supervisory grades employees to visit Mecca and perform Umrah during the Holy Month of Ramadan. This enabled 100 employees to participate in this holy pilgrimage.

EDIYAT ZAYED

Collaborating with Al Ihsan Charity Association, DEWA employees contributed in filling individual boxes with Eid clothes for 300-orphans.

ZAYED HUMANITARIAN DAY

On an annual basis, DEWA employees raise donations on Zayed Humanitarian day to support and promote humanitarian and sustainable developments for poor communities overseas. This year, the donations reached AED 50,000 and were utilised to build an Islamic and Quranic Centre in Egypt. The building is under construction and will educate up to 40 students once completed.

RAMADAN TENT

DEWA organises and hosts an annual Ramadan tent to serve Iftar meals to employees and tent visitors. This increases unity and enhances the spirit of giving, in an environment that reflects our Islamic and UAE values, heritage and traditions. In 2018, we provided 2,300 meals on a daily basis in different locations in DEWA.

INTERNATIONAL WORKER'S DAY

At DEWA, we celebrate this day at all our branches to show and express appreciation to our employees. During the celebration, 4,150 workers received a complimentary meal and vouchers worth AED 500.

MY ABAYA AND MY KANDOORA INITIATIVES

Traditional clothes are donated by employees and well-wishers for families in need in the UAE. 24 CSR representatives collected, packed and delivered the *Kandooras* (male garments) to 400 families and *Abayas* (female garments) to 3000 women in need across the UAE. Both initiatives were carried out, in collaboration with Human Appeal International.

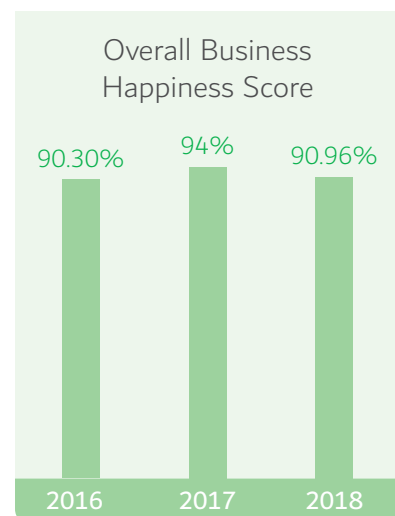
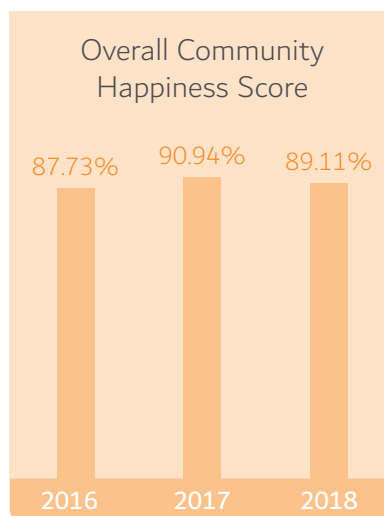
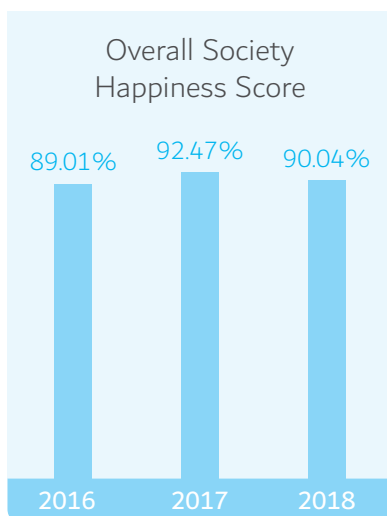
DAAM AND MUSANADAH FOR ELECTRICITY CONNECTIONS

In collaboration with the Community Development Authority (CDA), we waived new electricity connection charges *Daam* for low income Emiratis. We also implemented a *Musanadah* scheme to allow low-income society members to pay for their electricity connections in easy instalments.

FREE ELECTRICITY CONNECTIONS FOR CONDOLENCE TENTS

Since 2017, DEWA has exempted UAE citizens from paying any electricity connection fees for condolence tents. In addition, we provide a complimentary water tank for three consecutive days, during the mourning period.

DEWA continuously aims to increase overall satisfaction and happiness levels in society by implementing multiple initiatives and creating a positive impact. In 2018, we obtained a 90% score in overall society happiness, which is a clear proof of a wisely chosen and executed CSR plan.



PEOPLE OF DETERMINATION

We have taken huge steps in supporting and empowering people of determination by launching several initiatives and programmes, according to well-defined plans and strategies aligned with the best global practices and standards. This helps integrate people of determination and achieve their happiness by creating a friendly environment that allows them to unleash their capabilities and potentials. This also enhances their inclusion in society, as capable and creative individuals. These efforts have contributed to maintaining Social Happiness about DEWA's role as an organization that supports people of determination to 90% in 2018.

DEWA's role as an organisation that supports people of determination



As a people-of-determination-friendly government entity, DEWA participated in a session organised by Dubai Police in cooperation with Dubai Executive Council and other government partners to approve the inclusion of people of determination in Dubai's crisis and disaster management plans. The participants presented a number of recommendations, ideas, and suggestions to protect people of determination during crises and disasters, and provide them with the highest levels of security and safety, and their readiness to confront problems before, during and after a crisis.

We have also designed, initiated and implemented many different initiatives to support people of determination including:



ZAYED FARM

Zayed Farm is a workshop established by Rashid Centre that was re-opened in December 2018. We sponsored the development and renovation of the outdoor agricultural workshop, including adding greenhouses for organic agriculture, replacing the soil to suit the nature of the climate, improving the irrigation network, introducing a hydroponics system, as well as setting up outlets to sell students' harvests. The farm aims to enhance the skills of the students by providing them with opportunities to learn different professions and enable them to interact with the community. The farm products can be found at most Union Cooperative supermarkets, Rashid Market, and some shopping centres.

Number of students
enrolled in the
programme

25
Students



Number of students
benefiting from the
daily agricultural
sessions

Over
150
Students

AWARDS AND RECOGNITIONS

DEWA has received many local and international awards in CSR, including the Princess Haya Award for Special Education (PHASE), which aims to create a competitive environment that provides best practices in educating and rehabilitating special needs individuals according to the highest international standards and distinguished quality programmes that ensure successful results. DEWA also received the MVO8000 in CSR, becoming the first government organisation in Dubai to receive this global recognition. In addition, DEWA won the People-of-Determination-Friendly Government Entity award at the 21st Dubai Government Excellence Program 2018.



WETEX 2018

During WETEX 2018, in collaboration with DEWA's Advisory Council for People of Determination, we organised some specialised sessions for people of determination that highlighted their innovations and ideas. As part of our stand activities, we hosted Mohammed Al-Ghafli, a person of determination and government employee who shared his success story. Al Ghafli also presented a synopsis of his book 'Life has another Taste,' which embraced a detailed life experience among other range of activities and success stories.

Our offices are also disability-friendly, providing wheelchair access at our main entrances. Restrooms, meeting rooms, car parking and other main facilities are all suitably equipped emphasising the priority for people of determination. We also have tactile paved walkways in the main areas of our office to assist visually people of determination.

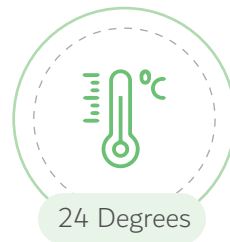
COMMUNICATION AND AWARENESS

Raising awareness and knowledge about water and electricity conservation in society, has always been our significant objective, as we believe in the importance of reducing the demand side and energy use, as well as increasing knowledge about sustainability topics. This is achieved through integrated marketing communication campaigns and well-planned community outreach activities during the year. Since 2011, we have started carrying out free energy audits for our commercial customers, and over the years, the initiative included governmental, commercial and industrial sectors, with the aim to decrease the use of water and electricity, protect the environment, and encourage the use of high-efficiency technologies. Our specialised teams go on field visits targeting 50 buildings every year. The audit includes inspecting lighting equipment, air conditioning, water connections, and opportunities to reduce electricity and water consumption. We also participate in cause-related events such as Earth Hour, World Environment Day, and World Water Day, World Energy Day, WETEX and Green Week. During these events, we ensure and encourage educational institutions and society members to take part in.



“LET’S MAKE THIS SUMMER GREEN”

We continue with our “Let’s make this summer green” awareness campaign that includes tips and guidelines for reducing electricity and water use. During this campaign, we encourage customers to limit the use of energy-hungry appliances during peak-hours from 12:00pm-6:00pm, set the temperature of the room to 24C, and fix water leaks before travelling and during the summer vacation. Our comprehensive programmes includes awareness seminars in government organisations, private companies, shopping malls, union co-ops, Ramadan Iftar tents, as well as other gatherings. The tips can be accessed on our smart app or website.



Between 2009 and 2018, our awareness campaigns and efficiency audits achieved electricity savings of 2 TWh and water savings of 7.4 billion imperial gallons, which is equivalent to cost savings of approximately AED 1.2 billion.

CONSERVATION AWARD 2018

In 2005, we launched the Conservation Award to target the educational institutions in Dubai in cooperation with the Ministry of Education and the Knowledge and Human Development Authority. This is a continuation of DEWA’s efforts to educate future generations about the importance of rationalising electricity and water consumption, adopting a sustainable lifestyle and raising knowledge on preserving natural resources. Over the years, DEWA has developed the programme to engage with the entire educational sector including schools, colleges, universities, and special learning centres through a developed outreach programme and continuous campaigns during the year. The programme is followed by field visits to evaluate and review the procedures applied by the educational institutions participating in any of the three award’s categories: Distinguished Educational Institution in Conservation, Distinguished Conservation Leader and Distinguished Conservation Team.

During the current award, 443 educational institutions demonstrated exceptional efforts and presented innovative and creative projects that serve the primary purpose of the award. They reflected the awareness of students, faculty and administrators of their responsibility to preserve natural resources. The cumulative saving results from the Conservation Award for the last 12 years include savings of 249 GWh of electricity, over 1.5 billion IG of water, a reduction of almost 133,000 tonnes of carbon emissions, all summing up to financial savings of about AED 168 Million.

Conservation Award Engagement



443 Educational Institutions



178 Lectures/
workshops
conducted



“WATER: THE GLOBAL PASSPORT” PROGRAMME

We are keen to raise knowledge among the future generations about the global water crisis and water scarcity, as well as teaching the youth about sustainability and rationalisation of resources. To ensure that, DEWA and UAE Water Aid (Suqia) collaborated with Surge Middle East to design and run “Water: The Global Passport” programme. The joint programme aimed to address water issues raising awareness among primary school children from ages 8-11. The programme instils a sense of responsibility for water usage, encourages good citizenship, sustainable behaviour, and fosters compassion among youth, which will lead to increased water conservation efforts in Dubai. The activities include water footprint, water competitions, seeds of hope, and others. We conducted 28 school visits during the academic year 2017-2018, reaching 4,077 students in public and private schools. We also delivered a short version of the programme during DEWA Fun Days in Zabeel Park and at WETEX, reaching an additional 990 students. Around 140 of our employee volunteers were trained to facilitate the programme throughout the year along with Surge employees.



FUTURE ENGINEERS CAMP 2018

To carry on our efforts in preparing the younger generation for a thriving future, “Future Engineer” camp continues running twice a year during the school winter and summer break. This year we held the camp in cooperation with Al Jalila Cultural Centre for Children in Dubai. The camp includes scientific activities that develop communications, teamwork and scientific research skills, as well as providing the opportunity to learn the basics of electronics and electricity through different workshops and lectures. In 2018, 40 students participated in the camp, recording 99.86% in the happiness score, among all participants. This programme is in line with UAE Vision 2021 that aims to make the UAE one of the best countries in the world, by training the new generations with the spirit of leadership, creativity, responsibility and ambition.

PROMOTING THE USAGE OF HIGHER-EFFICIENCY APPLIANCES

We collaborated with Mohammed bin Rashid Housing Establishment (MBRHE) and Etihad Energy Service Company (ESCO) to replace traditional light bulbs with LED light bulbs in different areas in Dubai. In 2017, our joint team undertook this mission in 1,700 villas, located in Al Barsha, Al Warqa, and Oud Metha. Given the success of phase 1 of the project and following the announcement of the 50-Year Charter by HH Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, we formed a special team from all relevant divisions to develop an integrated plan to implement the directives of His Highness to achieve energy self-sufficiency in 10% of citizens’ homes, changing their lifestyles and protecting the environment. As a result, we have launched a series of initiatives and projects to achieve these objectives, which include Installing solar panels in 5,000 homes (10% of citizen homes) and linking them to the DEWA grid, replacing traditional lightbulbs with energy-saving LED bulbs in target homes, and providing and installing water-saving devices in these houses.

ENVIRONMENTAL INITIATIVES

EARTH HOUR

As part of our commitment to sustainable development, DEWA completed 11 years of organising the Earth Hour in Dubai, achieving significant results in reducing electricity use and carbon emissions during Earth Hour 2018. We recorded savings of 323 megawatts (MW) in electricity consumption in Dubai, a 32% further reduction compared to the last year. This is equivalent to a reduction in CO₂ emissions of 140 tonnes. The people of Dubai and governmental entities joined millions of people around the world in expressing their solidarity with efforts to address the threats posed by global warming and climate change, as well as raising awareness about pressing environmental issues. During Earth Hour, the community is encouraged to turn- off all non-essential lights and appliances for one hour from 8:30pm to 9:30pm. For the third consecutive year, DEWA received an official Certified Emission Reductions (CERs) certificate issued by United Nations Framework Convention on Climate Change (UNFCCC) for the successful offset of emissions during Earth Hour 2018.

EMIRATES MARINE ENVIRONMENTAL GROUP

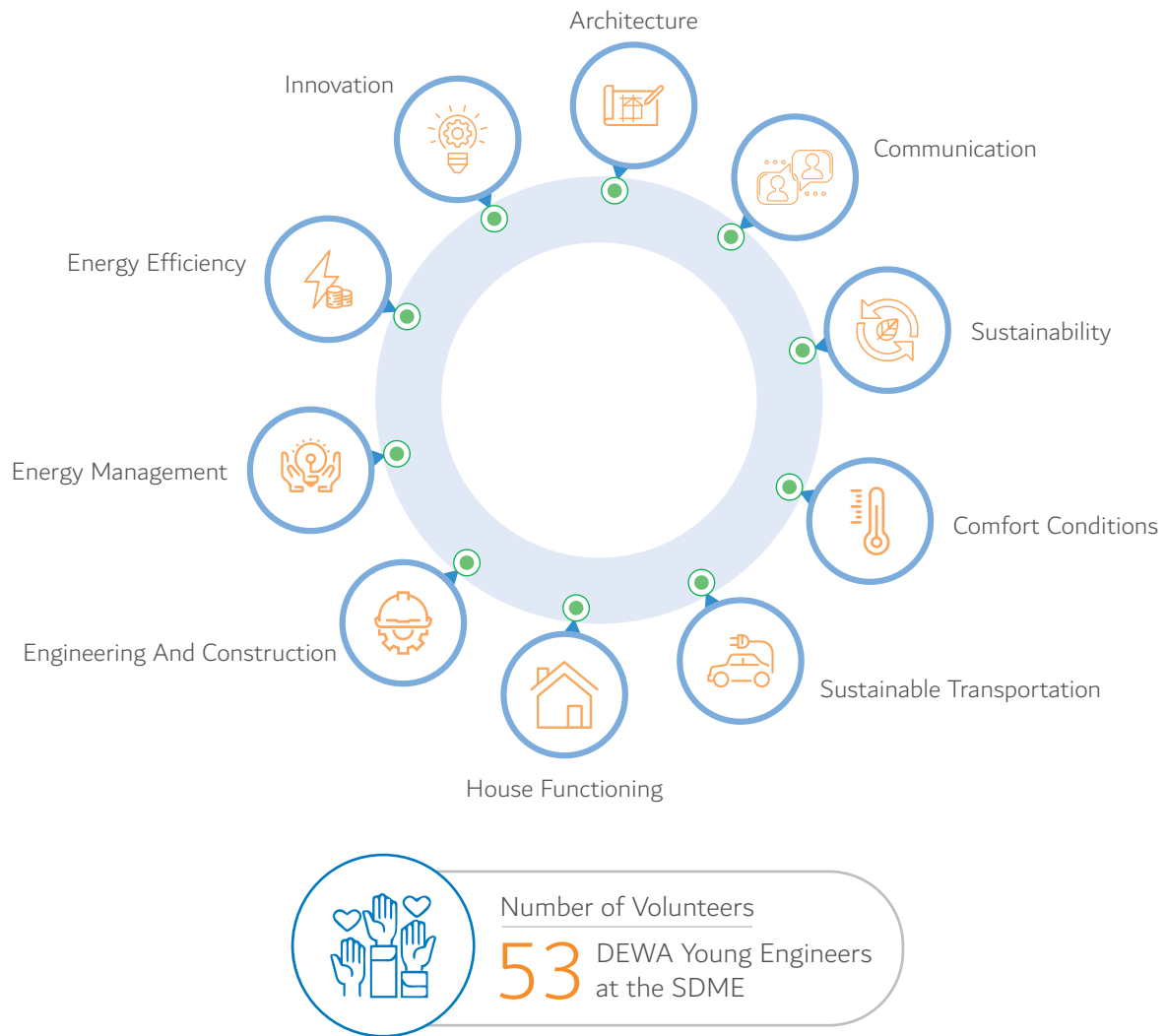
We continued our support and collaboration with Emirates Marine Environmental Group through 2018 and successfully engaged our employees and their families in different activities and environmental initiatives.



SOLAR DECATHLON MIDDLE EAST

Under the patronage of HH Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, Crown Prince of Dubai and Chairman of the Executive Council of Dubai, DEWA organised the Solar Decathlon Middle East (SDME) in November 2018. This was accomplished through an agreement between the Dubai Supreme Council of Energy, DEWA, and the US Department of Energy. The SDME is considered one of the world's largest, most competitive and challenging global competitions with universities from all over the world competing to design and build solar-powered smart homes that can adapt to the heat, dust and high humidity of this region. In collaboration with the government entities and sponsors, we provided all necessary means to successfully organise this global competition. More than 1000 students participated in SDME 2018. 15 teams reached the final phase, representing 26 universities from 11 countries. The Virginia Tech Team from US came first, while Desert Rose Team from University of Wollongong in Australia and Dubai, and TAFE New South Wales won the second place. The third place was won by Team Baity Kool from the University of Bordeaux, France; National School of Architecture and Landscaping of Bordeaux, France; Arts et Metiers Paris Tech, Nobatek-INEF4, An-Najah University, Palestine; and Amity University, Dubai. HH Sheikh Mansour Bin Mohammad Bin Rashid Al Maktoum handed the awards to the winners in the presence of HE Saeed Mohammad Al Tayer, MD and CEO of DEWA. The total value of all prizes amounting to AED 10 million was distributed among the winning teams who took part in the SDME 2018 Competition, and who fulfilled the following requirements:

- Submitted all the competition's deliverables
- Completed the assembly of their house in the Dubai Solar Hai
- Passed inspections and participated in the SDME contests



1st Place: Team Virginia Tech by Virginia Tech, US



2nd Place: Team Desert Rose by University of Wollongong Australia and Dubai and TAFE New South Wales



3rd Place: Team BaityKool by University of Bordeaux, France; National School of Architecture and Landscaping of Bordeaux, France; Arts et Metiers Paris Tech, Nobatek-INEF4, An-Najah University, Palestine; and Amity University, Dubai

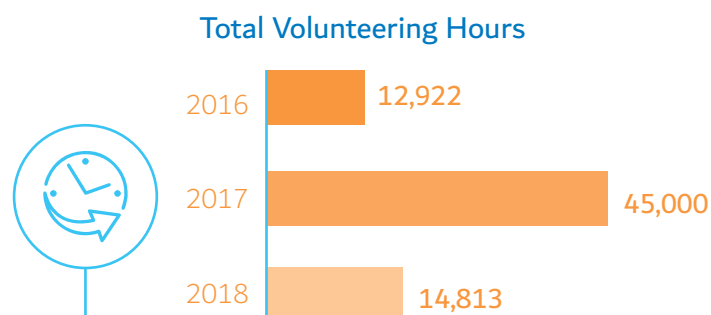


VOLUNTEERISM

In DEWA, we encourage the culture of volunteerism among our employees and their families. We consider that volunteering has a wide impact on our employees' lives as it gives them the chance to build confidence, adding a positive impact, meeting and interacting with people, and being an affective part of the community.



We have further expanded “DEWA Programme for Voluntary Work” launched in 2017. The programme allows DEWA staff and other members of the society to register and record their data on our website to participate in any upcoming voluntary work or events. The system lists initiatives and campaigns that are available by dates to participate in and provides documentary evidence of the numbers of volunteer hours performed by each employee. The programme’s main objective is to increase the contribution of time and efforts in the community services and charitable work. As per the calculation done by DEWA CSR team, in 2018, the number of volunteering hours done by DEWA employees reached approximately 14,813 hours, while the total number of beneficiaries from DEWA’s charitable initiatives reached 4,720,656 people around the world.



CASE STUDY

HANDS ON FOR WATER

DEWA SUPPORTS UAE WATER AID FOUNDATION, SUQIA

Believing in the importance of water for all, DEWA continued its annual support of the UAE Water Foundation, Suqia, under the umbrella of the Mohammed bin Rashid Al Maktoum Global Initiatives Foundation. Suqia's mission is to support happiness for poor and disaster-stricken communities by fostering and investing in innovative and sustainable solar powered potable water solutions through effective partnerships in a sustainable and efficient platform aligned with best international practices. Suqia has successfully provided water in 34 countries reaching more than 9 million people around the world.

In line with the Year of Zayed values of Sustainability, Tolerance, Respect and Human Development, DEWA's employees volunteered their time and efforts to support some of Suqia's programmes for Year of Zayed which included 100 Volunteers, 100 Letters to Zayed, International Initiatives and Suqia Zayed. The projects reflect the noble values and principles of philanthropy and wisdom, instilled by the late Sheikh Zayed in the hearts of Emirati people.



100 VOLUNTEERS INITIATIVE

Through this initiative, Suqia aimed to attract 100 volunteers from DEWA to work on various CSR initiatives during the year, which was successfully accomplished exceeding the target with 123 volunteers who actively participated in Suqia's initiatives. These included; an educational programme on water for elementary and middle school students in Dubai developed and organised as a collaboration between DEWA, Suqia and Surge, Ramadan campaigns to distribute water to mosques and Ramadan tents, as well as, voluntary field trips outside the UAE organised in cooperation with Mohammed bin Rashid Al Maktoum Humanitarian and Charity Establishment (MBRHCE). The main purpose of the initiative was to encourage a culture of volunteerism and humanitarian work among DEWA employees and youth.

INTERNATIONAL INITIATIVE

This initiative includes international voluntary field visits, carried out by Suqia, in cooperation with DEWA and MBRHCE, to implement sustainable projects, to serve the necessities of needy families and involve target communities in finding appropriate solutions to water problems, and raising awareness of the correct use of water.



100 LETTERS TO ZAYED

This is an innovative initiative by Suqia aimed at collecting messages of love addressed to the late Sheikh Zayed, from volunteers and staff members from DEWA. It allows community members, school students, and beneficiaries of Suqia's projects, to express their love and gratitude to the late Sheikh Zayed throughout the year.



SUQIA ZAYED

Through this campaign, Suqia provided more than 8 million drinking water cups in partnership with Mai Dubai, and in cooperation with 14 local associations including DEWA.

CASE STUDY

SOCIAL RETURN ON INVESTMENT-MBRHE LED PROJECT

In early 2016 DEWA collaborated with Mohammed bin Rashid Housing Establishment (MBRHE) to retrofit conventional lighting with energy efficient LED lighting in different areas in Dubai. In 2017, our joint team undertook this mission in 1,700 villas, located in Al Barsha, Al Warqa, Al Khawaneej, Al Quoz and Oud Al Mateena. The aims of the project were to raise awareness about energy efficiency, reduce the demand for energy as well as the long- and medium-term electricity costs for end users.

In 2018 DEWA carried out a Social Return on Investment (SROI) analysis to identify the social value created by Phase I of the MBRHE LED retrofit initiative. An SROI analysis determines the effectiveness of an intervention by looking at the total social and environmental value created compared to the total value invested.

DEWA is a prominent driver of national and Emirate-level strategies relating to carbon emissions, green economy and energy efficiency. This SROI report analyses the LED retrofit project for Emirati residential areas under MBRHE initiated by DEWA which improves Demand Side Management, contributes to less carbon intensive lighting, raises awareness about energy efficiency at home, and cultivates greater trust in DEWA as an organisation that is committed to the well-being of its stakeholders.

The result of the study shows a social return of AED 2.87 for every Dirham invested in the project. This means that DEWA's retrofit initiative has generated roughly 2.87 times that amount of social value compared to the total input investments made. The result has been accredited by Social Value UK, a third party assurer for SROI. DEWA is one of the first organisations in the region to use the SROI methodology and the first government organisation in the region to issue an accredited report to reflect the environmental and social value of investments, which is not reflected in traditional financial accounts.

Investment	Social Return on Investment Ratio
AED 1	AED 2.87

The MBRHE LED retrofit delivered between August 2016 and January 2017 has been effective in achieving its aim of reducing electricity costs over medium and long term, where medium term is defined as up to 3 years and long term as the lifetime of the LED (i.e. 8 years), and raising awareness about energy efficiency.

The evaluation suggests that home energy efficiency programmes have co-benefits including social and financial value. The outcomes experienced by residents show that responding to climate change presents an opportunity for supporting wider social objectives. It also brings benefits for participating organisations in relation to employee engagement and brand value.

GRI CONTENT INDEX





APPENDIX 1 -MATERIAL TOPICS AND THEIR BOUNDARIES

Material Topics	Material within the organisation or external	Relevant External Stakeholders					
		Customers	Suppliers	Partners	Society	Government	Investors
Economic							
Economic Performance	Both	√	√	√	√	√	√
Procurement Practices	Both		√	√	√	√	√
Innovation	Both	√	√	√	√	√	√
Availability and reliability	Both	√	√	√	√	√	√
Demand side management	Both	√			√	√	√
Research and development	Within						
System efficiency	Within						
Environmental							
Energy	Both	√	√	√	√	√	√
Water	Both	√	√	√	√	√	√
Emissions	Both				√	√	√
Effluents and waste	Both				√	√	√
Environmental Compliance	Both				√	√	√
Supplier Environmental Assessment	Both	√	√	√	√	√	√
Social							
Employment	Both				√	√	
Occupational health and safety	Both		√	√		√	√
Training and education	Within						
Diversity & Equal Opportunity	Within						
Non discrimination	Both		√	√	√	√	
Local Communities	Both				√	√	
Disaster/ Emergency Planning and Response	External	√	√	√	√	√	√
Customer Health and Safety	External	√			√	√	√
Customer Privacy	Both	√			√	√	
SocioEconomic Compliance	Both				√	√	√
Access	Both	√				√	√
Provision of information	Both	√	√	√	√	√	√
Stakeholders Happiness	Both	√	√	√	√	√	√

GRI CONTENT INDEX

GRI Standard	Disclosure	Description	Page	SDGs Linkage to GRI
GRI 101: Foundation 2016				
General Disclosures				
GRI 102: General Disclosures 2016	102-1	Name of the organisation	17	
	102-2	Activities, brands, products, and services	17-18	
	102-3	Location of headquarters	17	
	102-4	Location of operations	17-18	
	102-5	Ownership and legal form	17	
	102-6	Markets served	18, 106	
	102-7	Scale of the organisation	18 - 19, 30	
	102-8	Information on employees and other workers	127 - 128	8.5;8.6
	102-9	Supply chain	40 - 41	12.7
	102-10	Significant changes to the organisation and its supply chain	No significant changes	
	102-11	Precautionary Principle or approach	78	
	102-12	External initiatives	28 - 29	
	102-13	Membership of associations	23	
	102-14	Statement from senior decision-maker	11	
	102-16	Values, principles, standards, and norms of behaviour	19	
	102-18	Governance structure	20 - 23	16.3
	102-40	List of stakeholder groups	46	
	102-41	Collective bargaining agreements	No CBA in UAE	
	102-42	Identifying and selecting stakeholders	45 - 46	
	102-43	Approach to stakeholder engagement	47	
	102-44	Key topics and concerns raised	47 - 48	
	102-45	Entities included in the consolidated financial statements	16 - 18	
	102-46	Defining report content and topic Boundaries	16, 52	
	102-47	List of material topics	52	
	102-48	Restatements of information	16	
	102-49	Changes in reporting	No significant changes	
	102-50	Reporting period	16	
	102-51	Date of most recent report	16	
	102-52	Reporting cycle	16	12.6
	102-53	Contact point for questions regarding the report	16	
	102-54	Claims of reporting in accordance with the GRI Standards	This report has been prepared in accordance with the GRI Standards: Core option	
	102-55	GRI content index	167 - 174	
	102-56	External assurance	16, 179 - 180	

GRI Standard	Disclosure	Description	Page	SDGs Linkage to GRI
GRI G4 Sector Disclosures 2013 Electric Utilities	EU1	Installed capacity, broken down by primary energy source and by regulatory regime	65-66	7.2
	EU2	Net energy output broken down by primary energy source and by regulatory regime	65-66	7.2
	EU3	Number of residential, industrial, institutional and commercial customer accounts	106	
	EU4	Length of above and underground transmission and distribution lines by regulatory regime	66-67	
	EU5	Allocation of CO ₂ emissions allowances or equivalent, broken down by carbon trading framework	80	13.2
Material Topics				
Economic				
Economic Performance				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	30	
	103-2	The management approach and its components	30	
	103-3	Evaluation of the management approach	30	
GRI 201 Economic Performance 2016	201-1	Direct economic value generated and distributed	30	7a,8.1;8.2; 9.1,9.5
	201-2	Financial implications and other risks and opportunities due to climate change	31-32, 78-79	13.1;13.2
Procurement Practices				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	40-41	12.7
	103-2	The management approach and its components	40-41	12.7
	103-3	Evaluation of the management approach	40-41	12.7
GRI 204 Procurement Practices 2016	204-1	Proportion of spending on local suppliers	40-41	
Innovation				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	32-33	8.3;9.5
	103-2	The management approach and its components	32-33	8.3;9.5
	103-3	Evaluation of the management approach	32-33	8.3;9.5
Non GRI Disclosure		AFKARI Platform Results	144	
Availability & Reliability				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	68-74	7.1
	103-2	The management approach and its components	68-74	7.1
	103-3	Evaluation of the management approach	68-74	7.1
GRI G4 Sector Disclosures 2013 Electric Utilities	EU10	Planned capacity against projected electricity demand over the long term by energy source	68-74, 106-107	7.1;9.1;9.4

GRI Standard	Disclosure	Description	Page	SDGs Linkage to GRI
Demand Side Management				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	73-74	
	103-2	The management approach and its components	73-74	
	103-3	Evaluation of the management approach	73-74	
GRI G4 Sector Disclosures 2013 Electric Utilities		Management Approach: DSM programs	73-74, 111-112	7.1;7b;8.4; 9.4;12.8; 13.2;13.3
Research & Development				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	42-44	
	103-2	The management approach and its components	42-44	
	103-3	Evaluation of the management approach	42-44	
GRI G4 Sector Disclosures 2013 Electric Utilities		Management Approach: R&D activity & expenditure	42-44	7a;9.5
System efficiency				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	65-66, 71-72	7.3;8.4
	103-2	The management approach and its components	65-66, 71-72	7.3;8.4
	103-3	Evaluation of the management approach	65-66, 71-72	7.3;8.4
GRI G4 Sector Disclosures 2013 Electric Utilities	EU11	Average generation efficiency of thermal plants by energy source and by regulatory regime	71-72	7.1;8.4; 12.2;13.2
	EU12	Transmission and distribution losses as a percentage of total energy	66-67	7.1;8.4; 12.2
Environmental				
Energy				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	64-65	8.4
	103-2	The management approach and its components	64-65	8.4
	103-3	Evaluation of the management approach	64-65	8.4
GRI 302 Energy 2016	302-1	Energy consumption within the organisation	82-84	7.2;7a;7b; 8.4;9.4; 12.2
	302-4	Reduction of energy consumption	82-84	7.2;7a;7b; 12.8;13.2

GRI Standard	Disclosure	Description	Page	SDGs Linkage to GRI
Water & Effluents				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	90-93	6.4;6.5; 12.2
	103-2	The management approach and its components	90-93	6.4;6.5; 12.2
	103-3	Evaluation of the management approach	90-93	6.4;6.5; 12.2
GRI 303 Water & Effluents 2018	303-1	Interactions with water as a shared resource	90-92, 94-95, 97-99	6.4;6.5; 12.2
	303-2	Management of water discharge-related impacts	97-98	3.9;6.3; 12.4
	303-3	Water withdrawal	91-93	6.4;6.6; 14.3
	303-4	Water discharge	97-98	3.9;6.3; 12.4
	303-5	Water consumption	94, 106	12.2;6.1; 6.4
Emissions				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	78-80	3.9;13.1
	103-2	The management approach and its components	78-80	3.9;13.1
	103-3	Evaluation of the management approach	78-80	3.9;13.1
GRI 305 Emissions 2016	305-1	Direct (Scope 1) GHG emissions	79-80	3.9;12.4
	305-2	Energy indirect (Scope 2) GHG emissions	No power purchased during 2018	3.9;12.4
	305-4	GHG emissions intensity	79-81	3.9;12.4
	305-5	Reduction of GHG emissions	79-81	3.9;12.4; 13.2
	305-6	Emissions of ozone-depleting substances (ODS)	81-82	3.9;12.4; 13.2
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	81-82	3.9;12.4; 13.2
Effluents & Waste				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	85-86, 97-98	6.3;6.6
	103-2	The management approach and its components	85-86, 97-98	6.3;6.6
	103-3	Evaluation of the management approach	85-86, 97-98	6.3;6.6
GRI 306 Effluents & Waste 2016	306-1	Water discharge by quality and destination	97-98	3.9;6.3; 12.4;14.2
	306-2	Waste by type and disposal method	85-86	3.9;6.3; 12.5
	306-3	Significant spills	In 2018 there were no significant environmental impacts from spills	3.9;6.3; 12.4;14.1
	306-5	Water bodies affected by water discharges and/or runoff	85-86, 97-98	6.3;14.1

GRI Standard	Disclosure	Description	Page	SDGs Linkage to GRI
Environmental Compliance				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	78-79	
	103-2	The management approach and its components	78-79	
	103-3	Evaluation of the management approach	78-79	
GRI 307 Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations	78-79	13.2;13.3
Supplier Environmental Assessment				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	40-41	
	103-2	The management approach and its components	40-41	
	103-3	Evaluation of the management approach	40-41	
GRI 308 Supplier Environmental Compliance 2016	308-1	New suppliers that were screened using environmental criteria	40-41	
	308-2	Negative environmental impacts in the supply chain and actions taken	No such negative environmental impact in our supply chain has been reported during 2018	12.4;13.2; 13.3
Social				
Employment				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	126-127, 141	8.8
	103-2	The management approach and its components	126-127, 141	8.8
	103-3	Evaluation of the management approach	126-127, 141	8.8
GRI 401 Employment 2016	401-1	New employee hires and employee turnover	128	5.1;5.5;8.5; 8.6
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	129-131	
	401-3	Parental leave	131	5.1;5.5
GRI G4 Sector Disclosures 2013 Electric Utilities	EU15	Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region	129	8.3

GRI Standard	Disclosure	Description	Page	SDGs Linkage to GRI
Occupational Health & Safety				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	132-139	8.8
	103-2	The management approach and its components	132-139	8.8
	103-3	Evaluation of the management approach	132-139	8.8
GRI 403 Occupational Health and Safety	403-1	Occupational health and safety management system	132	8.8
	403-2	Hazard identification, risk assessment, and incident investigation	133	8.8
	403-3	Occupational health services	133	3.7;3.8
	403-4	Worker participation, consultation, and communication on occupational health and safety	133-134	8.8
	403-5	Worker training on occupational health and safety	133-134	
	403-6	Promotion of worker health	135	3.7
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationship	135-136	8.8
	403-9	Work-related injuries	136-138	8.8
Training & Education				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	132, 144	
	103-2	The management approach and its components	132, 144	
	103-3	Evaluation of the management approach	132, 144	
GRI 404 Training & Education 2016	404-1	Average hours of training per year per employee	132	4.3;5.1;5.5; 8.6
	404-2	Programs for upgrading employee skills and transition assistance programs	132, 144	4.4;8.6
Diversity & Equal Opportunity				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	126-127	
	103-2	The management approach and its components	126-127	
	103-3	Evaluation of the management approach	126-127	
GRI 405 Diversity & Equal Opportunity 2016	405-2	Ratio of basic salary and remuneration of women to men	129	5.1;5.5;8.5; 10.3
Non Discrimination				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	126-127	
	103-2	The management approach and its components	126-127	
	103-3	Evaluation of the management approach	126-127	
GRI 406 Non Discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	No incidents recorded during 2018	5.1;5.5;8.5; 16.3

GRI Standard	Disclosure	Description	Page	SDGs Linkage to GRI
Local Communities				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	148-149	
	103-2	The management approach and its components	148-149	
	103-3	Evaluation of the management approach	148-149	
GRI 413 Local Communities 2016	413-1	Operations with local community engagement, impact assessments, and development programs	148-149	1.4;9.1; 12.4
GRI G4 Sector Disclosures 2013 Electric Utilities	EU22	Number of people physically or economically displaced and compensation, broken down by type of project	149	1.4
Disaster/ Emergency Planning & Response				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	31-32	
	103-2	The management approach and its components	31-32	
	103-3	Evaluation of the management approach	31-32	
GRI G4 Sector Disclosures 2013 Electric Utilities		Management Approach	31-32	1.5;11.5; 11.6
Customer Health & Safety				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	106-108, 117-118	
	103-2	The management approach and its components	106-108, 117-118	
	103-3	Evaluation of the management approach	106-108, 117-118	
GRI 416 Customer Health & Safety 2016	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	No incidents of non-compliance reported during 2018	11.1
GRI G4 Sector Disclosures 2013 Electric Utilities	EU25	Number of injuries and fatalities to the public involving company assets, including legal judgments, settlements and pending legal cases of diseases	We suffered no work related fatalities during 2018	11.1
Customer Privacy				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	119	
	103-2	The management approach and its components	119	
	103-3	Evaluation of the management approach	119	
GRI 418 Customer Privacy 2016	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	There were no complaints received concerning breaches of customer privacy and losses of customer data in 2018.	16.3

GRI Standard	Disclosure	Description	Page	SDGs Linkage to GRI
Socioeconomic Compliance				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	20, 39	
	103-2	The management approach and its components	20, 39	
	103-3	Evaluation of the management approach	20, 39	
GRI 419 Socioeconomic Compliance 2016	419-1	Non-compliance with laws and regulations in the social and economic area	No significant monetary or non-monetary sanctions for non-compliance with the laws and regulations in the social and economic area	16.3
Access				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	110-117	
	103-2	The management approach and its components	110-117	
	103-3	Evaluation of the management approach	110-117	
GRI G4 Sector Disclosures 2013 Electric Utilities		Management approach: programmes, including in partnership with government, to improve or maintain access to electricity and customer support services	110-117	1.4;7.1; 11.1
	EU26	Percentage of Population unserved in licensed distribution or serviced area.	0%	1.4;7.1; 11.1
	EU28	Power outage frequency	107-108	7.1
	EU29	Average power outage duration	107-108	7.1
	EU30	Average plant availability factor by energy source and by regulatory regime	107-108	7.1
Provision of Information				
GRI G4 Sector Disclosures 2013 Electric Utilities		Management approach: practices to address language, cultural, low literacy and disability related barriers to accessing and safely using electricity and customer support services	108-110 151-153	1.4;7.1
Customers Happiness				
GRI 103 Management Approach 2016	103-1	Explanation of the material topic and its Boundary	107, 117-119	
	103-2	The management approach and its components	107, 117-119	
	103-3	Evaluation of the management approach	107, 117-119	
NON GRI DISCL		Results of surveys measuring customer happiness	107, 117-119	

ACRONYMS LIST

3DP	3D Printing
4G	Fourth Generation
ACWA	Consortium from Saudi Arabia
ADWEA	Abu Dhabi Water and Electricity Authority
AED	United Arab Emirates Dirhams
AF	Availability Factor
AI	Artificial Intelligence
AIR	Accident/ Incident Ratio
AJCCC	Al Jalila Cultural Centre for Children
AMI	Advanced Metering Infrastructure
Android	Mobile operating system developed by Google
ASN	Advanced Shipping Notification
ASR	Aquifer Storage and Recovery
AWG	Atmospheric Water Generation
BAIR	Berkeley Artificial Intelligence Research
BAU	Business as Usual
BCM	Business Continuity Management System
BCP	Business Continuity Plan
BIA	Business Impact Analysis
BIG	Billion Imperial Gallons
BIPV	Building-Integrated Photovoltaics
BSC	British Safety Council
BSC	Balanced Scorecard
BSI	British Standard Institution

BTEC	Business and Technology Education Council
CC&S	Climate Change & Sustainability Department
CDA	Community Development Authority
CDM	Clean Development Mechanism
CEO	Chief Executive Officer
CERs	Certified Emissions Reductions
CEN	European Committee for Standardization
CFI	Capital Finance International
CH ₄	Methane gas
CML	Customer Minutes Lost
CO ₂	Carbon Dioxide
COBIT	Control Objectives for Information and Related Technology
COP	Conference of the Parties
CSP	Concentrated Solar Power
CSR	Corporate Social Responsibility
DCCE	Dubai Carbon Centre of Excellence
DCES	Dubai Clean Energy Strategy
DCS	District Cooling Services
DEWA	Dubai Electricity and Water Authority
DFO	Diesel Fuel Oil
DGEP	Dubai Government Excellence Program
DM	Dubai Municipality
DSM	Demand Side Management
DUCAB-HV	Dubai High Voltage Cable Systems

DUSUP	Dubai Supply Authority
DVP	DEWA's Volunteering Programme
EMPOWER	Emirates Central Cooling Systems Corporation
EMS	Environmental Management System
ENMS	Energy Management System
EPC	Engineering, Procurement and Construction
ERM	Enterprise Risk Management
ESCO	Energy Service Company (Different from Etihad ESCO)
ETIHAD ESCO	Al Etihad Energy Service Company
EV	Electric Vehicle
FEWA	Federal Electricity & Water Authority
GCC	Gulf Cooperation Council
GCIIS	Global Continual Improvement & Innovation Symposium & Award
GDP	Gross Domestic Product Growth
GHG	Greenhouse Gas
GIS	Gas Insulated Switchgear
GRI	Global Reporting Initiative
GSO	GCC for Standardisation Organisation
GW	Gigawatt
GWh	Gigawatt hours
H&S	Health and Safety
HACCP	Hazard Analysis and Critical Control Points
HFC	Hydrofluorocarbons
HH	His Highness
HRSR	Heat Recovery Steam Generators

HR	Human Resources
HSE	Health, Safety and Environment
HVAC	Heating, Ventilation, and Air Conditioning
IBC	Intermediate Bulk Container
IEEE	Institute of Electrical and Electronics Engineers
IMS	Integrated Management System
INDCs	Intended Nationally Determined Contributions
IOS	Operating system used for mobile devices manufactured by Apple Inc
IoT	Internet of Things
IPP	Independent Power Producer
I-RECs	International Renewable Energy Certificates
ISAE 3000	International Assurance Standard 3000
ISO	International Standards Organisation
IT	Information Technology
ITIL	IT Infrastructure Library
IVR	Interactive Voice Response System
JAPS	Jebel Ali Power Station
KAM	Key Account Management
km	Kilometre
KPI	Key Performance Indicators
kV	Kilovolt
kW	kilowatt
kWh	kilowatt-hour
LCOE	Lowest Levelised Cost of Energy
L&D	Learning & Development

LED	Light Emitting Diode
LEED	Leadership in Energy and Environmental Design
LLC	Limited Liability Company
LTIFR	Lost Time Injury Frequency Rate
m ³	Cubic Metre
m	Metre
M	Million
MBR	Mohammed bin Rashid Al Maktoum
MBRGI	Mohammed bin Rashid Al Maktoum Global Initiatives
MBRHE	Mohammed bin Rashid Housing Establishment
MD	Managing Director
MENA	Middle East and North Africa
MFO	Medium Fuel Oil
MIT	Massachusetts Institute of Technology
MIG	Million Imperial Gallons
MIGD	Million Imperial Gallons per Day
MMBTU	Million British Thermal Units
MORO	Data Hub Integrated Solutions
MOU	Memorandum of Understanding
MRV	Monitoring, Reporting and Verification
MSF	Multi-Stage Flashing
Mt	Metric tons
MtCO ₂ e	Metric tons of CO ₂ equivalent
MW	Megawatts
MWh	Megawatt hours

MWp	Mega Watt peak
N ₂ O	Nitrous Oxide
NAS	Nad Al Sheba Sports
NCEMA	National Centre for Economic Management and Administration
NESA	National Electronic Security Authority
NIST	National Institute of Standards and Technology
NOx	Nitrogen Oxides
NOC	No-Objection Certificate
ODS	Ozone Depleting Substances
OECD	Organisation for Economic Cooperation and Development
OH&S	Occupational Health & Safety
O&M	Operation and Maintenance
OTF	Outdoor Testing Facility
PFC	Perfluorocarbons
PFI	Project Finance International
pH	Logarithmic scale used to specify the acidity or basicity of an aqueous solution
PHASE	Princess Haya Award for Special Education
PoA	Programme of Activities
POD	People of Determination
PPT	Parts Per Thousand
ppm	Parts Per Million
PV	Photovoltaic
PVRO	Photovoltaic Reverse Osmosis
P&WP	Power and Water Planning
Q2	2 nd Quarter

Q3	3 rd Quarter
Q4	4 th Quarter
QHSE	Quality, Health, Safety, Environment
R-22	Refrigerant 22
R407c	Refrigerant 407c
RO	Reverse Osmosis
R&D	Research and Development
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations
ROE	Return on Equity
RWE PI ME	RWE Power International Middle East
SAIFI	System Average Interruption Frequency Index
SAP	Systems, Applications and Products
SCADA	Supervisory Control and Data Acquisition
SCI	Sustainability Culture Indicator
SDGs	Sustainable Development Goals
SDME	Solar Decathlon Middle East
SE	Service Entry
SF ₆	Sulphur Hexafluoride
SLT	Sustainability Leading Team
SMEs	Small and Medium Enterprises

SMS	Short Message Service
SO ₂	Sulphur Dioxide
SRM	Supplier Relationship Management
SWOT	Strengths, Weaknesses, Opportunities and Threats
SWRO	Sea Water Reverse Osmosis
TAL	Target Achievement Levels
T&D	Transmission and Distribution
TICSI	The International Customer Service Institute
TISSE	The International Standard for Service Excellence
TSE	Treated Sewage Effluent
TWh	TeraWatt Hour(s)
UAE	United Arab Emirates
UFW	Unaccounted for Water
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UNGC	UN Global Compact
US	United States
USD	United States Dollars
WETEX	Water, Energy, Technology, and Environment Exhibition
WHO	World Health Organisation



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Independent Assurance Statement

To the Management of Dubai Electricity and Water Authority, Dubai, UAE

DEWA's 2018 Sustainability Report (the Report) has been prepared by the management of DEWA (the Company), who are responsible for the collection and presentation of the information reported. Our responsibility, in accordance with DEWA's management instructions, is to provide a 'limited level' assurance on selected sustainability information presented in the Report. Our responsibility in performing our assurance activities is to the management of the Company only. We do not accept or assume any responsibility for any other purpose or to any other person or organization. Any reliance any such third party may place on the Report is entirely at its own risk. This assurance statement should not be taken as a basis for interpreting the Company's overall sustainability performance, except for the aspects outlined in the scope below.

Scope of Assurance

The scope of our assurance covers:

- Data and information relating to DEWA's sustainability performance, for the period 1 January 2018 to 31 December 2018, specifically the sustainability performance indicators listed below as identified within the Report's Global Reporting Initiative, GRI Standard Index:

GRI 305-1	Direct greenhouse gas (GHG) emissions (Scope 1)
GRI 306-1	Water discharge by quality and destination
GRI 401-3	Parental Leave
GRI 403-9	Work-related injuries
GRI 404-1	Average hours of training per year per employee by gender and by employee category

- The Company's internal processes and controls relating to the collection and collation of the above sustainability performance data.

Level of assurance

This assurance engagement was planned and performed in accordance with International Federation of Accountants' International Standard for Assurance Engagements other than Audits or Reviews of Historical Financial Information (ISAE 3000). Our evidence gathering procedures were designed to obtain a 'limited level' of assurance (as defined by ISAE 3000) for the purpose of devising our conclusions. The extent of evidence gathering procedures performed is less than that of a reasonable assurance engagement (such as a financial audit) and therefore a lower level of assurance is provided for the aspects described under the scope of work.

Our Approach and Methodology

In order to understand the process used by DEWA to ascertain key sustainability issues and impacts, we reviewed the Sustainability Reporting process associated with the stakeholder engagement workshops that were performed by the Company. Our assurance team also visited DEWA's premises in Dubai (UAE) to review the selected topic-specific disclosures outlined in the *Scope of Assurance* above to review systems and processes for collecting, collating and reporting sustainability data. Evidences in support of the selected claims made in the Report were reviewed and clarifications sought where necessary. Our key steps were as follows:

- Engagement with key selected personnel (managers and data owners at DEWA headquarters, DEWA Academy and Jebel Ali Generation offices) to understand existing processes and controls for related sustainability activities;
- Engagement with the Sustainability Specialist and the Sustainability Team to understand current status of sustainability activities;
- Reviewed selected topic-specific data as per GRI standards mentioned under scope of assurance; and
- Reviewed and challenged supporting evidence for all selected indicators listed under the scope of assurance.

Our Assurance Team

Our assurance team, comprising multidisciplinary professionals, has been drawn from our MENA Climate Change and Sustainability Services Team, all of whom have undertaken similar assurance engagements with a number of other regional and global businesses.

Our Independence

This is the second year that Ernst & Young (Middle East) has provided independent assurance services in relation to DEWA's Sustainability Report. We have provided no other services relating to DEWA's approach to sustainability reporting.

Limitations of Assurance

The assurance scope excludes:

- Aspects of the Report and data/information other than those mentioned under the *Scope of Assurance* ;
- DEWA's statements that describe an expression of opinion, belief, aspiration , expectation and future intention; and
- Our work did not include physical inspections of any of operating assets and we did not verify the accuracy of source data. Our review was limited to the headquarter offices of DEWA, DEWA Academy and Jebel Ali Generation offices. Our assurance activities relating to aspects such as water discharge, fuel consumption, environmental emissions, and GHG emissions assessed the collation and accuracy of data conversion.

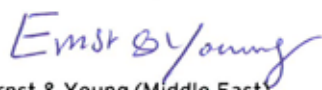
Observations

Our observations and main areas of improvement on the Report are as follows:

- Since DEWA has been conducting an external sustainability assurance on an annual basis, we observed a structured data collection process followed when collecting and reporting on the above-mentioned disclosures. The respective departments had implemented internal control measures to ensure data is reported in high quality.
- DEWA uses its internal corporate metrics to report on some of the social disclosures. We recommend DEWA to align its reporting approach with the GRI Standards recommendations, particularly when it comes to grouping and reporting on the average training hours for the employee categories.
- DEWA could consider implementing an internal assurance process between the departments and the sustainability team to avoid the occurrence of any misstatements and to ensure the departments are well prepared for the process before commencing the next external sustainability assurance process.
- We recommend examining the feasibility of implementing an integrated sustainability data management software that could streamline data collection process.
- We recommend DEWA to provide a walk-through training workshop on DEWA's data collection templates for the different data owners to keep them informed on the new disclosures that are being considered and how to align DEWA's corporate data with the GRI Standard disclosure requirements (qualitatively and quantitatively).

Our Conclusion

On the basis of our review and in accordance with the terms of reference for our work, nothing has come to our attention that would cause us not to believe that the Report presents DEWA's material performance covering key areas mentioned in the *Scope of Assurance*;



Ernst & Young (Middle East)
Dubai, United Arab Emirates

July 15th, 2019



DEWAOFFICIAL

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