

هيئة كهرباء ومياه دبي Dubai Electricity&Water Authority

# **DEWA SUSTAINABILITY REPORT 2015**



### OUR VISION

A sustainable innovative world-class utility.

### OUR MISSION

We are committed to the happiness of our stakeholders and promoting Dubai's vision through the delivery of sustainable electricity and water services at a world-class level of reliability, efficiency and, safety in an environment that nurtures innovation with competent workforce and effective partnerships; supporting resources sustainability.

### OUR MOTTO

For generations to come.



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

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We cherish our environment because it is an integral part of our country, our history and our heritage. On land and in the sea, our forefathers lived and survived in this environment. They were able to do so because they recognised the need to conserve it, to take from it only what they needed to live, and to preserve it for succeeding generations.



His Highness **Sheikh Khalifa bin Zayed Al Nahyan** President of the United Arab Emirates

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Our country is now blessed with greenery and continues to apply its strategies on conserving the environment and its natural resources, implementing its programmes for water and energy consumption, and increasing its natural reserves to achieve Vision 2021 for a sustainable environment and well-being, inspired by the vision of the late Sheikh Zayed bin Sultan Al Nahyan - an environmental advocate, leader of greenery and founder of sustainable environment - who encouraged agriculture so that it became a way of life in the UAE. Environmental effort is a collective responsibility which requires the participation of everyone who lives in a civilised society.

"



His Highness **Sheikh Mohammed bin Rashid Al Maktoum** Vice-President and Prime Minister of the UAE and Ruler of Dubai

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The UAE seeks to achieve sustainable economic diversification as part of UAE Vision 2021. The UAE, under the wise leadership of the President His Highness Sheikh Khalifa bin Zayed Al Nahyan, is committed to contributing to meet the growing global demand for energy through the development and deployment of renewable energy technologies.

Despite the UAE being an oil country, it seeks to reduce the causes of climate change and achieve sustainability in diversifying of energy sources. We hope that the UAE will be a role model.

"



# His Excellency Saeed Mohammed Al Tayer

Managing Director and Chief Executive Officer, Dubai Electricity and Water Authority

### MESSAGE FROM THE MD & CEO OF DUBAI ELECTRICITY AND WATER AUTHORITY

#### Dear Stakeholders,

Sustainability is an integral part of DEWA's vision and mission, in adherence with the directives of HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, as we continue to strengthen our sustainability strategy and incorporate it into all our activities, to enhance sustainable development.

We strive to achieve our vision to become a sustainable innovative world-class utility by implementing our strategy to ensure the happiness of everyone involved, adopt best practices in social responsibility and provide electricity and water according to the highest international standards.

DEWA works to implement all future plans and objectives in adherence with the Dubai Clean Energy Strategy 2050, to transform Dubai into a global hub for clean energy and green economy. DEWA also works to develop a new economic model, based on environmental sustainability and clean energy, to provide 75% of the Emirate's energy through clean energy sources by 2050. to become the city with the lowest carbon footprint in the world by 2050. Our strategy involves moving from a carbon-intensive economy to a greener one, via the Dubai Green Fund, which is worth AED 100 billion, and encourages green investment and green growth. This strategy relies on innovation, and Research and Development (R&D), as the basis for the future of energy, preparing the plans and initiatives to make developments in science and technology.

DEWA has updated its strategic plan to include the triple-bottom-line perspective covering the financial, environmental and social aspects of sustainability. This is why the Climate Change and Sustainability Department was formed within DEWA, along with these long-term priorities:

- Economic Priorities: Improving the efficiency of costs and revenues, boosting investment and driving sustained economic growth in Dubai through excellence in service, innovation, strategic Emiratisation and local supply chain diversification.
- Environmental Priorities: Efficient use of our natural resources and minimising our environmental footprint.
- Social Priorities: Our commitment to adopt the highest standards of corporate governance, business ethics and social responsibility to serve our customers, employees, suppliers, business partners, the community and government.

During our reporting period DEWA recorded further progress in increasing electricity system availability and reliability, reducing water line losses, reducing emissions and supporting our communities. I trust that you will find this report useful and transparent in recording our goals, progress and successes to date and urge you to adopt sustainability as a way of life yourself.

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# **ABOUT THIS REPORT**

This is DEWA's third annual sustainability report. It reflects our material economic, environmental, social, and governance issues with the purpose to communicate our sustainability performance and management practices to our stakeholders.

### **SCOPE AND BOUNDARY**

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 Joint Ventures and subcontractors is not reported unless otherwise stated.

The performance data provided in the report covers the reporting period from January 1st to December 31st 2015. Ongoing initiatives and activities commenced in earlier years have also been included in this report. Additionally, information deemed significant from our previous report has also been included. Note that there have not been any restatements or major changes to data measurement used compared to those employed in the previous report. Where differences do exist, this is clearly stated in the relevant section.

## **DEFINING THE CONTENT**

The Report seeks to present DEWA's sustainability performance and it is aimed at all of our organisation's stakeholder groups. DEWA is committed to reporting on its sustainability performance annually, and this Report follows the 2014 Sustainability Report. This Report was developed "In accordance" with the Global Reporting Initiative (GRI) G4 Guidelines' Core option. The GRI, produces a globally recognised sustainability reporting standard, used by organisations around the world to

communicate their sustainability performance and impacts. The process for defining the Report's content was based on the GRI quidelines as well as GRI G4 Electric Utilities Sector Disclosures. The principles of stakeholder inclusiveness, materiality, sustainability context and completeness were implemented. In addition, this Report has been developed using the principles outlined in the AA1000 Assurance Standard, which includes materiality, completeness and responsiveness.

## **EXTERNAL ASSURANCE**

KPMG has provided third-party verification of DEWA Sustainability Report 2015 to a limited assurance level 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 feedback from our stakeholders, so please send your comments, questions, or suggestions for improvement with regards to our third sustainability report to Nadia Nasser Bin Lootah sustainability@dewa. gov.ae

Please note that an electronic version of this report can be found on our website: http://www.dewa.gov.ae

### **DEWA AT A GLANCE**

The Dubai Electricity and Water Authority (DEWA) is a government owned utility with the sole responsibility for supplying electricity and water to the Emirate of Dubai. DEWA owns, operates and maintains 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. The Supreme Council of Energy 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:



### **HISTORY OF DEWA**



Due to the development of Dubai as an expanding port city during the 1950s, the need arose for a specific authority to become responsible for potable water production and power generation. Therefore, the Dubai Electricity Company and the Dubai Water Department were formed respectively in 1959 and 1961. The Dubai Electricity Company established its first two generating stations "A" and "B", between 1961 and 1973, to supply electricity to the inhabitants of Dubai through its modest distribution network. These stations depended on diesel fuel to run and had a total capacity of 60 MW. The early presence of these electricity and water services, rendered a strong basis for the rapid modernisation of Dubai. One of the first 360KW Diesel Engine-Alternator sets from "A" station can still be seen in our current headquarters, in Garhoud, Dubai. In 1992, The late Sheikh Maktoum bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai issued Decree No. (1) for the institution of Dubai Electricity & Water Authority (DEWA) as an independent public authority to be fully owned by the government and responsible for electricity and water production in Dubai. Since then our generation capacity has expanded to 9,656 Megawatts (MW) and our water production capacity to 470 Million Imperial Gallons per Day (MIGD), as of the year 2015.



### **OUR STRATEGY**



Sustainability is an integral part of DEWA's vision and mission. We have continued to work hard to place sustainability at the heart of our business and embed the concept of sustainability more fully into everything that we do. Our understanding of sustainability is extending beyond our own operations, into our supply chains, our communities, the wider society and Dubai's economy. This reflects the views of our stakeholders, who expect DEWA to lead as a responsible corporate citizen. Our strategy has evolved to place overarching economic, social and environmental goals alongside financial goals, giving us a fully integrated sustainable business strategy. In 2014, the UAE launched a National Innovation Strategy, which seeks to position the UAE as one of the most innovative countries in the world. In line with the "Year of Innovation" announced in 2015 by His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, we have further increased our focus on creativity and innovation as indicated by the change of our vision from "A Sustainable World-class Utility" to "A Sustainable Innovative World-class Utility" and the update to our mission statement.



### **STRATEGIC AMBITIONS INTO 2021**

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



# **STRATEGIC PLANNING APPROACH**

As part of our strategic planning approach, we conduct thorough strategic research and analysis which provides us with a holistic inside-out view of our operational context. We examine major emerging political, social, environmental, technological, legal, industry and market trends (PESTEL) as well as our historical performance to identify our strengths, weaknesses, threats and opportunities (SWOT). We consider a number of scenarios based on emerging trends and underlying drivers. We then identify the strategic implications over the specified time frame. This planning cycle witnessed a major milestone, the development of DEWA 2021. It charts DEWA's direction for the next 6 years and describes the principal initiatives and projects necessary to achieve its mission. Our strategy and roadmap are aligned to plans at the Dubai Emirate and UAE Federal level, including the UAE National Agenda 2021, Green Economy Initiative, Dubai Strategic Plan 2021, the Dubai Clean Energy Strategy 2050 and HH Sheikh Mohammed bin Rashid Al Maktoum's initiative, 'A Green Economy for Sustainable Development', and the National Innovation Strategy.



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### **KEY FACTS ABOUT DEWA**



### **YEAR OF INNOVATION**

As a utility that adopts creativity and innovation as a part of its culture, DEWA strives to achieve the vision of the country's leaders and continuously exerts efforts to develop the concept of creativity and innovation among the clean energy and water sectors. DEWA is making great progress in adopting innovative solutions for all of its operations. UAE Innovation Week acted as a platform from where we could present our latest innovative breakthroughs. It inspired the organisation of DEWA Innovation Week, which featured a host of 30 different innovative initiatives and activities including a Government Information Lab, where real-life devices could be used to promote development, in addition to 40 state-of-the-art renewable energy and water innovations. Conducted in conjunction with DEWA's Innovation Week, the Innovation Exhibition provided DEWA's employees, innovators and emerging businesses with information regarding DEWA's most recent innovative work. DEWA has also launched a highly transparent interactive platform, known as "AFKARI", to collect our employees' creative and innovative ideas. It allows our employees to vote for their peers' idea in a similar way to social networking sites. In 2015, approximately 5,139 ideas were collected from our employees with 183 ideas receiving approval and 66 ideas being implemented.



### **CORPORATE GOVERNANCE**

We are dedicated to conducting business in an ethical manner ensuring that accountability, fairness and transparency determine our relationships with all our stakeholders. We constantly seek to establish and maintain trust as well as act with integrity in everything we do, adopting world-class standards of corporate governance and decision making. Taking all of these factors into consideration, we have adopted and implemented a Corporate Governance structure which provides us with a framework of principles and procedures with regards to stakeholder management, internal audits, and risk management, while promoting an ethical culture among our employees.

We have a Code of Conduct that sets forth the standards for conducting our day-to day-activities and decision making procedures. All of DEWA's top and senior management are bound to act as role models for all employees by leading the way and adhering to the content of our Code of Conduct.

In 2008, we created a Corporate Governance Manual which provides a set of procedures, principles and standards in relation to matters such as DEWA's corporate structure, accountability and delegation of authority, internal audit, and establishment of management committees, risk management, internal and external reporting, social responsibility and retention of records. The manual also incorporates policies and procedures to protect against unlawful practices and corruption, including the acceptance of gifts and bribes, and enforces strict compliance of all employees.

### **OUR VALUES**

We have defined corporate values that represent what we stand for and how we interact among ourselves and with others. These corporate values are reflected in our Code of Conduct, which is shared with all staff in their staff handbook upon joining, and 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 informal way of promoting ethical behavior is further supported by formal communications and feedback systems. These enable our people to voice their opinions and provide feedback related to breaches of the Code of Conduct, the work environment and customer service, among others.

			Q	•
Stakeholders' Happiness	Sustainability	Innovation	Excellence	Good Governance
We commit to continuously exert our best effort and dedicate the right and adequate resources to foresee, analyse, deliver and exceed our stakeholders' needs and expectations to surpass their satisfaction towards their happiness.	We commit to deliver value to our stakeholders while balancing environmental, social and economic impacts and act responsibly towards long-term preservation of resources for our future generations.	We commit to continuously develop and seek new trends and realise our stake holders' ideas which create new public values through an agile approach that appreciates risk and rewards principles.	We commit to continuously be in a journey of excellence that drives continuous improvement towards implementing best in class efficiency and effectiveness practices delivering sustainable results to our stakeholders on all fronts.	We commit to abide by UAE laws and preserve highest levels of transparency, integrity, fairness, involvement, effectiveness and accountability in our dealings and value delivery to our stakeholders.

### **BOARD OF DIRECTORS**

The Board of Directors of DEWA monitors all of our 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 the Dubai Government is DEWA's sole owner, the Board and the Managing Director & CEO are appointed directly by government decree. The current Board was appointed in 2015 and consists of 9 members. Matar Humaid Al Tayer currently serves as Chairman of the Board, while Saeed Mohammed Ahmad Al Tayer is DEWA's Managing Director & Chief Executive Officer and a Member of the Board.



### **OUR CORPORATE GOVERNANCE STRUCTURE**

Beneath the Board of Directors there are a number of subcommittees and management teams that govern the way our business operates. The current Board has two subcommittees. The first is the Budget Committee, which is responsible for reviewing and approving DEWA's annual budget and the remuneration of DEWA's staff. The second committee of the Board is the Risk Committee, responsible for reviewing and approving DEWA's risk management processes and reviewing any risks that are escalated to it. The daily running of DEWA is the responsibility of the Management team, who work closely with DEWA's divisions to set strategy and monitor performance. The Management team ensures the implementation of sustainable development policies and the achievement of sustainability objectives.

### **DEWA ORGANISATIONAL CHART**



### 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, 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, and others.

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### **RISK MANAGEMENT**

DEWA is committed to adopting, embedding and sustaining risk management as a core competency and strategic decision making tool throughout our organisation. DEWA has developed a framework to guide all of DEWA's Divisions on the management of risk, in-compliance with the principles and guidelines set forth in ISO 31000; the International Standard on Risk Management. ISO 31000 recommends a 7-step Risk Management Process which is deployed at DEWA. Based on the Risk Management Process, DEWA has identified 15 Corporate Risks which have been mapped to DEWA's Strategic Objectives. Progress on the status of the treatment plan implementation for these risks are reported to the Enterprise Risk Management Committee (ERMC) quarterly.



### ISO 31000 Risk Management Process

Our Crisis Management Plans clearly identify causes, consequences, preventive measures, corrective measures, and implementation status. We have also developed contingency plans to mitigate the consequences in case of occurrence of a number of scenarios such as the occurrence of an oil slick, red tide event, etc. Periodic audits and mock drills are conducted to test and improve performance of operation staff to handle these scenarios.

### **OUR SUPPLY CHAIN**

At DEWA, we understand that our overall environmental and social impacts extend beyond our own direct operations. Therefore, we have implemented a Supplier Relationship Management (SRM) system, which allows us to establish and maintain long term relationships with our suppliers and improve the quality of services and value to our supply chain. We categorise our suppliers as either "strategic", "core", or "basic", based on our expectations of the suppliers. During 2015, we worked with a total of 3,182 suppliers, of which 56 were strategic suppliers, 781 were core suppliers and 2,345 were 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. To increase our utilisation of local products and services, DEWA has established a Local Purchase Committee. The committee defines the criteria that has to be met before purchasing local products and services. During 2015, we conducted 11,863 local transactions, equivalent to approximately AED 259 million.

We aim to roll out our Green Procurement Programme throughout our supply chain. The programme aims to assess the environmental consequences of the products purchased by DEWA at the various stages of the product's lifecycle to help us avoid selecting products with adverse environmental impacts. We are also interested in purchasing products that reduce energy, contain recycled materials, are less toxic, and can help conserve water or address social impacts. At DEWA, we are committed to business practices that adhere to international standards. 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. Since 2009, DEWA has also been certified to SA8000. An internal network of SA8000 representatives and auditors ensure compliance in this area, on a regular basis, through a process that includes conducting site visits and awareness sessions for our employees. We are extending this commitment to good labor standards to our supply chain, including our contractors, subcontractors and suppliers.

### STRATEGIC PARTNERSHIPS ALONG THE VALUE CHAIN

DEWA engages in strategic relationships with suppliers, customers and other business partners, including through Joint Ventures. Such strategic partnerships help reduce transaction costs by building trust, enabling economies of scale, supporting risk management and fostering the exchange of knowledge, technology and best practices. DEWA categorises its partners as either strategic or main based on their degree of importance and the intensity of their impact on DEWA. Through our dedicated Partnership Portal, we have further enhanced and strengthened relationships with our partners, while achieving integration with other government organisations within the UAE. We also engage with our partners through a number of workshops organised annually. DEWA has also become a founding member of the Dubai Green Economy Partnership (GEP), launched by His Highness Sheikh Hamdan Bin Mohammed Bin Rashid Al Maktoum, Crown Prince of Dubai. Its members, from both the public and private sector, are committed to the sustainable and green growth development of Dubai and the UAE through the investment and acceleration of green projects and technologies.

### **WORLD-CLASS MARKET PERFORMANCE**

At DEWA, it is our fundamental mission to continue to deliver world-class electricity and water services to meet Dubai's current and future needs, which is the underlying foundation for economic development.



### **FINANCIAL SUSTAINABILITY**

At DEWA, our corporate strategy is designed to closely align with strategic government initiatives, such that we contribute to achieving the UAE's and Dubai's vision and goals for a sustainable economy. A leading example of this is the UAE Vision 2021, which places a high priority on the development of a competitive knowledge economy. This vision aims to diversify the UAE economy away from oil and gas-related GDP growth, improve the business environment, attract Foreign Direct Investment, invest in innovation and knowledge, and substantially increase the proportion of Emiratis in the workforce. We effectively contribute both directly and indirectly to the Dubai and UAE economies. We aim to maximise our direct economic contribution through sound management of our core business, our investments and innovation, and through the development of our people. Our indirect contribution is a consequence of our procurement, investments and the involvement of local people and businesses in our supply chain. Furthermore, we have a catalytic impact on the Dubai and UAE economies through our provision of essential electricity and water services, which create an attractive business environment.

# WE MANAGE OUR ECONOMIC DEVELOPMENT IMPACT THROUGH:

Prudent financial management and business diversification	<ul> <li>We manage our finances in a prudent way</li> <li>We invest in business diversification initiatives to build a resilient business</li> </ul>
How we distribute the wealth we create	• We distribute the wealth we create to a range of stakeholders including employees, capital providers, suppliers and the Dubai Government
We invest in fixed assets and innovation	<ul> <li>We engaged in a long-term expansion plan to increase Dubai's generation, transmission and distribution infrastructure</li> <li>We constantly drive innovation with our employees and business partners</li> </ul>
We actively engage local businesses	• We seek to source products and services locally to build capability and capacity in the region
We are a major employer in Dubai	• We employ just over ten thousand people, many of whom have engineering backgrounds.
We promote Emratisation	• We involve Emiratis in our own business and supply chain

### **DISTRIBUTION OF WEALTH**

By being a financially resilient organisation, DEWA can provide that same security to all the households and businesses that depend on our essential services and therefore positively contribute to Dubai's economy. To manage our costs, we have applied a range of cost-reduction initiatives such as optimising our operations, re-engineering our business processes and long-term contracting. Additionally, our tariffs are set by the government at a level which is both affordable for our residential and business customers and ensures that we cover our costs, support our investments, and provide a reliable income source for our sole shareholder, Dubai Government. Part of our approach to remaining a financially resilient company is through the diversification of our own business. We constantly look for new business opportunities that add to our revenue stream while building on the core strengths of our organisation.



In 2015, our revenue from operations increased to AED 19,067 million. Along with other diversified income sources, total revenue increased to AED 20,076 million. Additionally, profit after tax and interest increased to AED 6,353 million for the year 2015. This wealth is distributed between a wide range of stakeholder groups, including our employees, capital providers, suppliers and the Dubai Government. So as to continue to meet the demand for electricity and water in Dubai, we have long-term plans for expanding our generation capacity. Therefore, we require substantial capital investment in our fixed assets (power and desalination plants and infrastructure). Therefore, our procurement activities generate a ripple effect through the local economy, contributing to the generation of additional wealth and employment in Dubai and the UAE. Such procurement provides for the profits and wages of our suppliers and business partners, while simultaneously stimulating additional economic activity further down in the supply chain. In 2015, AED 4,965 million was spent on capital expenditure involving a range of industry players both locally and abroad.

### **DEWA FINANCIAL DATA 2015**



### **RESEARCH AND DEVELOPMENT**



At DEWA, we have a project approval and investment appraisal process in place to assess all requests for investment. During this process, our expert teams consider the technical feasibility and risk profile of the investment. Their assessment is passed to management for approval, who then allocate investment budget accordingly. At DEWA, we are committed to investing in our assets, research, and people so that we can continue to deliver electricity and water services at a world-class level. Therefore, for 2015, we allocated AED 15.7 million to be spent on research and development with the aim to further improve the reliability of our electricity and water supply. In 2016, we plan to start construction on our R&D Centre, which seeks to provide research infrastructure and build capabilities to support our strategic projects, with a focus on four research areas (renewable energy generation, smart grid, energy efficiency, and water). During 2015, our outdoor testing facility was also commissioned. It includes both monitoring and instrumentation rooms for the evaluation of 31 different photovoltaic technologies under the operating conditions in the Mohammed bin Rashid al Maktoum Solar Park. Other projects initiated include novel approaches for load analysis and forecasting, electric vehicle chargers, and drone development. A full research lab for drones is currently being planned to accommodate both indoor and outdoor testing, 3D prototyping and drone intelligence development for purposes such as the monitoring of our assets and protection of our infrastructure.





# SUSTAINABLE DEVELOPMENT



### **MANAGEMENT APPROACH**

DEWA is committed to continuously aligning its strategic plan and operating model with major industry and market trends as well as national development goals and plans, such as the Dubai Clean Energy Strategy 2050, the UAE National Agenda 2021, Dubai 2021, the National Innovation Strategy and, HH Sheikh Mohammed bin Rashid Al Maktoum's initiative, 'A Green Economy for Sustainable Development', thus contributing to the long-term success of our organisation and ultimately the prosperity of Dubai. Acknowledging the immense impact of our organisation on the achievements of the national and local development plans, we undertake all the 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.

At DEWA, Emiratisation is considered to be 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 the community role played by both public and private sectors towards achieving the strategic objectives of the Government of Dubai. As of one of Dubai's larger employers, we are committed to supporting and advancing the sustainable development of the UAE and therefore increase participation of Emirati nationals in this endeavour. In 2015, approximately 85% of our top management and leadership positions were held by UAE nationals. DEWA recruits, trains, and integrates UAE nationals at all levels of our organisation in an effort to enhance Emirati skills and knowledge along the way and ensure their continuous development.

### **ASSOCIATIONS/ORGANISATIONS**

DEWA actively participates in a number of national organisations, councils and committees to engage in constructive partnerships in the energy and industrial sectors and to further promote good sustainability practices. Some of these are:



### SUSTAINABILITY GOVERNANCE

At DEWA, we have established a Sustainability Leading Team (SLT) composed of representatives from each of DEWA's divisions. The SLT has played a pivotal role in highlighting the implications of sustainability for DEWA as a whole, and the respective roles of each of the divisions in responding to the needs that arise out of this. Its members oversee DEWA's current efforts with regards to embedding sustainability into our business. They act as champions in their respective divisions, by engaging with colleagues and setting up division-specific sustainability action plans and initiatives. The SLT is chaired by the Climate Change and Sustainability Senior Manager, under the Strategy & Business Development Division. Some of the Climate Change and Sustainability efforts across DEWA's divisions, stakeholder engagement and external reporting. The DEWA management team receives updates regarding sustainability issues from the Executive Vice-President of Strategy and Business Development, who is also a member of the management team.

### **2015 SUSTAINABILITY MANAGEMENT HIGHLIGHTS**



**1st in MENA, and 4th internationally** as per World Bank's ranking of the UAE (represented by DEWA) for **"ease of access" to electricity** in the World Bank Doing Business Report 2016, for the third consecutive year

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### **STAKEHOLDER MANAGEMENT**

Our organisation is answerable to Dubai's residents, the communities we work in, our own employees and those we work with including our government, suppliers and partners. Our stakeholders are identified as those categories of individuals, groups and institutions whose contribution is required for DEWA to carry out its mission. As such, we place our stakeholder's needs, expectations, and happiness at the core of our strategy to provide reliable electricity and water infrastructure needed to sustain Dubai's economic growth. At DEWA, we identify, assess, and weigh the interests and expectations of our various stakeholders through continuous and constructive dialogue, which aims to create shared solutions for managing potential disputes and creating value from opportunities. To achieve this, we regularly engage with our stakeholders through a number of engagement channels, including satisfaction surveys and road-shows, joint ventures and collaboration with government authorities on regulatory priorities as described throughout this report. Through our stakeholder management framework, we aim to fully determine the methods for delivering high quality and inclusive engagement practices with valuable outcomes, in line with the principles of both the AA1000 Stakeholder Engagement Standard 2015 and the Global Reporting Initiatives' Sustainability Reporting Guidelines.

#### Our key strategic objectives relating to our stakeholders include:

- Hosting stakeholder engagement workshops for our key stakeholder groups
- Defining our stakeholder value proposition for each group
- Responding to stakeholders' needs and expectations
- Seeking new opportunities to collaborate with key partners to advance sustainable development
- Establishing community initiatives that benefit Dubai and the UAE



Stakeholder Groups	Stakeholder Sub-groups
Government	Federal Local
Customers	Contractors   Residential   Commercial   Industrial   Others
Employees	Board   Top Management   Middle Management   Non-Supervisory   Other
Partners	Strategic Partners   Main Partners
Suppliers	Strategic   Core   Basic
Providers of Capital/Investors	Institutional Investors both local and foreign   Banks   Financial Services   Solar Manufacturers
Society and Future Generation	Environmental Entities   General Public   Media and Opinion Leaders

### **DEWA STAKEHOLDER ENGAGEMENT ACTIVITIES**



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### **STAKEHOLDERS 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.

#### Customers

- Quality safety and cost effectiveness of service
- Reducing the environmental impact of organisation activities
- Ethical business

### Partners

- Sharing best practices
- Continuous and systematic dialogue and engagement
- MOUs to collaborate on issues

### Suppliers

- Supplier qualification based on cost and quality including environmental and social assessment
- Transparent procurement processes
- Profitability

#### Government

- Aligning with national development plans and programmes
- Commitment to good citizenship
- Regulatory compliance

### Employees

- Secure working environment
- Competitive salaries
- Ethical behaviour
- Career progression & recognition
- Non-discrimination & equal opportunities
- Investment in professional development

### Society and the Future Generation

- Transparency and effective communication
- Raising awareness on sustainability issues
- Management of environmental impacts of organisation activities
- Supporting social and cultural initiatives

### Providers of Capital / Investors

- Creating value in the short & long term
- Reliability, Profitability, Transparency
### **STAKEHOLDER HAPPINESS**

Our annual Stakeholder Satisfaction Survey addresses our stakeholder's expectations regarding several issues related to both DEWA and each respective stakeholder group. Since sustainability is embedded in DEWA's vision, mission, motto, and corporate values, it is vital that we ensure the effectiveness of our sustainability communications. Therefore, DEWA has developed sustainability related questions in each of our respective stakeholder surveys to assess its effectiveness. The results of our 2015 stakeholder satisfaction surveys reveal that, across all of our stakeholder groups, the majority of our stakeholders were highly aware of DEWA's annual sustainability report and highly satisfied with our sustainability performance.

### STAKEHOLDER SUSTAINABILITY SATISFACTION SURVEY 2015



### SUSTAINABILITY CULTURE INDICATOR

In an effort to further track our progress in embedding sustainability in our organisational culture and evaluate the effectiveness of our various engagement activities, DEWA utilises 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. According to the results, which emerged from the participation of over 2,000 of our employees, DEWA's effort with regards to sustainability was rated 5.1 out of 6 (equivalent to 85%), exceeding the average of all other organisations who have completed the SCI.



The following main areas of strength have been identified for DEWA:

### DEWA'S STAKEHOLDER ENGAGEMENT WORKSHOP ON SUSTAINABILITY

In 2015, for the third consecutive year, we hosted our annual stakeholder sustainability workshops in DEWA's Sustainable Building in Al-Quoz, to further the dialogue on sustainability with our stakeholders. The findings from the workshop have provided us with deep insight into what our stakeholders value and which sustainability issues are most important to them. Some of the key issues and/or recommendations that were raised through our stakeholder engagement were utilised as part of our materiality process and as inputs in our strategic plan.

### **MATERIALITY ASSESSMENT**

One of the most 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. Within this context, and in order to determine which issues are material to us, we have actively involved our stakeholders in order to arrive at a list of issues for this edition of our Report. In selecting and ranking our material issues, we have used a detailed procedure based on the principles of relativity, importance, and ranking, as seen below:

# **BO1**

Determination and understanding of the issues deemed significant to our stakeholders, through a process of research and focus groups made up of employees, government, society, suppliers, partners and customers, through benchmarking in the electric utilities sector, and through alignment with UAE Federal and Dubai Emirate sustainable development objectives.

## ₿**02**

Identification and understanding of significant issues, as these arise from the corporate strategy of DEWA, through internal procedures. For issues which can be measured in quantitative terms, such as greenhouse gas emissions, there are recognised methods of determining their materiality. For issues of a qualitative nature, various methods were used to assess their materiality, with the involvement of stakeholders and also through a benchmarking process.

## **HO3**

Bringing together of the results into a matrix, an evaluation of each issue was conducted on the basis of its social, environmental and economic impact. Each issue was evaluated and given a materiality ranking in accordance with its importance to our stakeholders and to our organisation. Subsequently, the final materiality matrix was then reviewed and approved by DEWA's Top Management, with the issues located in the top right corner of the matrix regarded as the most material.

# **±04**

Subsequently, the Report included all issues with the highest level of materiality. Issues of less materiality are mentioned only if they are affected by or dependent on issues of greater materiality.

# **BO5**

The issues included were checked for completeness, relativity and balance by an external assurance company.

The results of our 2015 materiality assessment process are illustrated in our materiality matrix. It shows the relative importance of each issue for DEWA's performance and for our stakeholders. The boundaries for each material aspect can be found in Appendix 1.

### **MATERIALITY ASSESSMENT MATRIX**



#### **Material Aspects**

- 1. Availability and Reliability of Electricity
- 2. Water Availability & Quality
- 3. Occupational Health & Safety
- 4. Stakeholder Happiness
- 5. Access to Electricity
- 6. Disaster/Emergency Planning and Response
- 7. Economic Presence
- 8. System Efficiency
- 9. Compliance with Laws and Regulations
- 10. Training and Education
- 11. Research and Development
- 12. Demand-side Management
- 13. Energy Consumption
- 14. Emiratisation
- 15. Compliance with Environmental Laws and Regulation
- 16. Customer Health and Safety
- 17. Market Presence

- 18. Emissions
- 19. Local Communities
- 20. Supplier Environmental Assessment
- 21. Provision of Information for Customers
- 22. Employment
- 23. Labour/Management Relations
- 24.Impact of Products and Services
- 25. Anti-corruption
- 26. Procurement Practices
- 27. Effluents and Waste
- 28. Supplier Assessment for Labour Practices

#### Key:

- Environmental Aspects
- Economic Aspects
- 💔 Social Aspects

### AWARDS AND DISTINCTIONS FOR SUSTAINABILITY LEADERSHIP & INNOVATION, 2015

Quality Achievement Award 2015 -European Society for Quality Research

"Globe of Honour" award in the environmental field from British Safety Council

Process Improvement & Health & Safety Award - IdeasUK's 29th International Conference

Commitment to Learning and Development award - Global Risk Awards 2015/ The Institute of Risk Management (IRM) – UK

Green Initiative and Technology awards -10th International Ideas. Arabia Conference

Princess Haya Award for Special Education (PHASE) in the Outstanding Special Needs Supporter in the Public Sector category

Best Roof-top Solar Project of the Year and Best Government Entity Effective Policy of the Year - Middle East Solar Awards

'Smart Utilities Initiative' and 'Smart Technology for Smart City'- Asian Smart Cities Awards Innovation Award - Zad Zayed International Award

Best Employee Idea 2015 -German Institute for Ideas and Innovation Management

World Wide Best Practice Assessment Award- CISCO International Systems

> Energy Company of the Year' -Gulf Business Industry Awards

Corporate Finance Deal award - Institute of Chartered Accountants in England and Wales (ICAEW) at the Middle East Accountancy and Finance Excellence Awards

DEWA honoured at Unilever Sustainable Living Plan conference for its effort in supporting sustainability

Leader of the Year Award for the engineering sector - Society of Engineers (Sustainable Project of the Year for the Sustainable Design, Project Planner of the Year in the Individuals category)



### CASE STUDY: CONSERVATION AWARD FOR A BETTER TOMORROW

In line with the Demand Side Management 2030, we continuously roll out various awareness raising campaigns, aimed at all of our stakeholder groups, which promote best practices and sustainable behaviour with regards to electricity and water consumption. One such strategically important activity is the 'Conservation Award – For a Better tomorrow' programme, specifically reaching out and engaging with the education sector of Dubai. 'Conservation Award - For a Better Tomorrow', in partnership with the Knowledge and Human Development Authority (KHDA), is an awards programme, launched in 2004, which aims to promote and instil a culture of conservation amongst the learning community in nurseries, schools, colleges, universities and special needs centres. We not only honour the educational providers for their electricity and water conservation efforts, but also highlight the achievements of individuals such as students, staff/faculty and members of the facility management and administration of the participating institutions.

Saving Figures	2011	2012	2013	2014	2015	
Electricity (kWh)	28,139,429	20,639,861	22,836,388	11,795,665	8,813,990	
Water (IG)	123,150,809	143,589,600	128,123,447	102,460,653	64,752,497	
AED	17,363,780	15,630,007	15,949,796	10,077,836	7,039,509	
CO <sub>2</sub> (Tons)	16,884	9,515	10,528	5,438	5,365	

### **OUR COMMITMENTS 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 increase our direct and indirect economic contribution to the Dubai economy. To maintain world-class standards of quality, reliability, efficiency, availability of electricity and water To invest and develop renewable supply for Dubai. energy technologies. To continue to improve our stakeholders' happiness. To minimise our environmental Ôfootprint and ensure that our operations satisfy all environmental To increase solar capacity to 7% by regulatory controls. 2020 and 25% by 2030. To contribute to Dubai Carbon Abatement Strategy that targets the reduction of CO<sub>2</sub> emissions by 16% in To improve water efficiency within 2021. our production and distribution networks. J. To reduce our employee turnover rate and increase the proportion of UAF nationals in our workforce. To fully integrate green procurement into DEWA's entire supply chain To further implement new CSR í!i projects to create shared value and assess the social impact To contribute to Dubai's Smart City Initiatives with: "Shams Dubai" (Connecting solar energy in houses and building) Smart Applications via Smart Grid
  - Infrastructure and Electric Vehicles Charging Stations

and Meters

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# ENERGY & CLIMATE CHANGE





### **MANAGEMENT APPROACH**

Due to the urgency of the issue, climate change has risen to the top of the UAE political and business agenda. In the UAE, we are vulnerable to the impacts of climate change. Key risks for the UAE include rising sea water temperatures, rising sea levels, adverse fluctuations in the hydrological cycle, and changes in the level of rainfall. These events could have an impact on DEWA's coastal power and water generation plants since the capacity of power generation and water production is dependent on sea water temperatures. This would lead to additional stress on our existing water and power resources.

The UAE government is committed to confronting climate change through innovative and coordinated action aimed at minimising the risks to its natural environment and economic activity. Several policies, from both the UAE Federal Government and Dubai Government, include objectives focused on the mitigation of climate change impacts. During 2015, the UAE government submitted its intended national contribution strategy outlining its national efforts towards low-emissions and climate resilient development. Dubai in particular has established ambitious clean energy goals, with DEWA playing a critical role by increasing its renewable energy targets, managing energy demand, and further reducing carbon footprint in accordance with the comprehensive strategic guidelines established by the Dubai Supreme Council of Energy. The delegation from DEWA and the Dubai Supreme Council of Energy. The delegation from DEWA and the Dubai supreme council of Energy the global climate change conference in Paris where an international accord aimed at transforming the world's fossil fuel-driven economy within decades and slowing the pace of global warming to well up to 1.5°C was adopted.

As Dubai's sole provider of power and water, we recognise that we have an integral role in helping to achieve these policy objectives by reducing the carbon intensity of electricity and water production and enabling our stakeholders to reduce their consumption and ultimately save costs. We believe that the challenges posed by climate change demand coordinated and decisive action. Our aim is to reduce our climate impact while maintaining a secure, reliable and affordable supply of power and water. DEWA is implementing innovative solutions to improve supply side efficiency, to apply demand side management initiatives, and to reduce transmission and distribution losses, under the umbrella of our smart grid initiative, which is line with UAE Vision 2021, Dubai Clean Energy Strategy 2050, Dubai Carbon Abatement Strategy 2021, 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.

### **ENVIRONMENTAL PROTECTION AND COMPLIANCE**

At DEWA, we understand that environmental protection is a key requirement for the continued success of our organisation and ensuring the wellbeing of future generations. Therefore we have embedded the concept into both our vision and mission. We believe that environmental protection should be upheld throughout the entire value chain of our operations, in the way we purchase products and services, the way we manage operations, and the way we educate our customers on water and energy conservation. We continuously seek to minimise our impact on the surrounding ecosystem through reducing our air emissions, reducing our waste, and ensuring we are compliant with all relevant environmental legislation. At DEWA, we abide by the precautionary principle with regards to the environment. We have corporate policies and procedures that describe the preventative actions that

#### DEWA - Sustainablility Report 2015

should be taken to eliminate the cause of any potential non-conformity, defect, or other undesirable situations in order to avoid the occurrence. To ensure that we effectively manage these risks and meet industry and legal standards, we have implemented an ISO-14001 certified environmental management system (EMS) which has been maintained at the corporate level since 2006 and in our Generation Division since 1998. It has provided the foundation for continuous improvement in the way we manage our environmental impacts. The success of our environmental management system has been recognised by the British Safety Council (BSC), with DEWA maintaining the BSC Environment 5 Star certification since 2011. DEWA has also won the BSC's Globe of Honour, for the fourth consecutive year in recognition of our commitment to achieve all-round excellence in environmental management.

Prior to the construction of any new DEWA project, an environmental impact assessment is first conducted by independent consultants, using international standards, before any construction can commence. To ensure a healthy marine ecosystem, DEWA also commissions specialist consultants to conduct ecological surveys throughout the year so as to monitor the populations of marine organisms in our area of operations. While environmental specialists monitor our wastewater discharge points to identify any potentially harmful algal blooms that could lead to 'red tide' events – these are events where algae grow out of control, produce toxins and deplete oxygen in the water, which is harmful to other marine life and our water production facilities. Additionally, contingency plans are in place to combat red tide and oil slick events in the Arabian Gulf to ensure that our potable water is safe and in line with the World Health Organisation's Drinking Water Guidelines. DEWA complies with all relevant environmental regulations set forth by both the UAE Federal Government and the Dubai Municipality. These regulations set standards for regulating aspects of health, safety, security and environmental quality and impose civil and criminal penalties for any violations. In addition, we also comply with any special permit provisions where we operate in environmentally sensitive areas. During 2015, we have not been in violation of any environmental regulations nor have we received any complaints relating to environmental matters.

### **CO<sub>2</sub> EMISSION REDUCTION PROGRAMME**

DEWA has developed a Carbon Dioxide Emission Reduction Programme, setting out the course of short, medium, and long term emissions reduction actions leading up to 2030, which takes into consideration Dubai's energy and water growth requirements, Dubai's water and electricity consumption rationalisation initiatives, DEWA's supply side efficiency improvements, and the diversification of DEWA's power and water generation plant additions. We have also become one of the first entities in the region to be IS014064 certified for our established corporate greenhouse gas monitoring, reporting and verification system. Our Programme has also been aligned with the Dubai Carbon Abatement Strategy 2021 target.

At DEWA, we understand that improved carbon efficiencies translates into effective resource management and associated economic benefits. In 2015, our total carbon emissions were 21.02 million metric tons of CO<sub>2</sub> equivalent (MtCO<sub>2</sub>e) compared to 23.18 MtCO<sub>2</sub>e business as usual estimate. The majority of our carbon emissions emitted comes from the combustion of natural gas to generate power and desalinated water. Along with generation, the transmission and distribution of electricity needs to be included as a considerable means of reducing emissions. DEWA is also

meeting environmental and operational goals through cost-effective solutions to manage SF<sub>6</sub> in high voltage circuit breakers and phase out restricted refrigerants. In 2015, the carbon intensity of electricity generated improved up to 0.4241 tCO<sub>2</sub>e per MWh comparing to 0.4307 tCO<sub>2</sub>e per MWh for 2014, due to DEWA's focus on improving the efficiency of generation, transmission and distribution of power and water, introduction of renewable energy in the grid, and reduction of customer demand through the promotion of energy conservation. For DEWA, effective monitoring, reporting and verification (MRV) of greenhouse gas (GHG) emissions is critical for tracking progress towards the achievement of emission reduction targets. We are also introducing a quarterly activity data gathering cycle in order to ensure early detection of emissions trends and determine our actions to mitigate adverse environmental impacts.

Mt of CO<sub>2</sub>e and percentage of CO<sub>2</sub>e emissions by source, 2015



Carbon emissions intensity,  $tCO_2e$  per MWh of electricity generated, 2010-2015



### **MINIMISATION OF AIR EMISSIONS**

Air emissions have adverse effects on our local climate, ecosystems, and air quality. In Dubai, regulations are in place to control nitrogen oxides ( $NO_x$ ) and sulphur dioxide ( $SO_2$ ) emissions. Due to continuous improvement in the efficiency of our plants, we have achieved excellence in  $NO_x$  and  $SO_2$  emission reduction. DEWA's strategy to reduce  $NO_x$  emissions starts at the design stage of any power and water plant by specifying stringent  $NO_x$  emission limits for gas turbines. For example, our average annual  $NO_x$  emissions from all units for 2015 was 23.42ppm, inclusive of all fuel types, gas turbines, and boilers, which is less than 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  $SO_2$  emissions, DEWA has maintained very low emissions due to the burning of sweet natural gas. Regarding the stand-by diesel fuel, DEWA has started procuring diesel fuel with <10ppm sulphur content instead of < 500ppm sulphur content, 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. Since implemented, 28.8 % of R-22, a refrigerant, has been phased out, as of 2015. In addition to our major initiatives for reducing greenhouse gas emissions from our production facilities, we have also focused on a number of smaller-scale initiatives for reducing the leakage of a potent greenhouse gas called SF<sub>6</sub> from switch gears used to control, protect and isolate electrical equipment. SF<sub>6</sub> (Sulphur Hexafluoride) has a global warming potential of 22,800 times that of carbon dioxide and so any leakage could be significant. All SF<sub>6</sub> gas leaks from 132 & 400 kV GIS are promptly attended by our maintenance team with the aim of achieving 100% rectification of identified SF<sub>6</sub> gas leaks. Moreover, we also believe that low carbon practices should be embedded throughout our entire operations, including the way we manage our vehicle fleet, business processes and buildings. An excellent example of this is our service centre in Al Quoz, the largest government building in the world to be LEED Platinum-rated.



Annual NO<sub>x</sub> air emissions, 2007-2015

#### Annual SO<sub>2</sub> air emissions, 2007-2015



# ENSURING LONG TERM AVAILABILITY & RELIABILITY

Our fundamental mission is to supply essential electricity and water to meet Dubai's current and future demand. We place the utmost importance on our duty to deliver electricity and water services to the market and our customers, and in doing so we strive for world-class standards of performance. In 2015, our total gross generation was 42,006,335 MWh, which was produced mainly through the usage of natural gas. We recognise that high-dependence on natural gas makes us vulnerable to shortages and future commodity price fluctuations. Therefore, part of our long-term energy strategy is to diversify our energy sources, as part of the Dubai Clean Energy Strategy 2050, and ensure that future demand is met at all times.

	Total Gross	Natural Gas		Diesel Fuel Oil		Medium Fuel Oil		Solar	
Year	Generation	Generation	% of total	Generation	% of total	Generation	% of total	Generation	% of total
	(MWh)	(MWh)	generation	(MWh)	generation	(MWh)	generation	(MWh)	generation
2012	36,297,050	36,238,642	99.84	58,242	0.16	167	0.0005	-	-
2013	37,478,845	37,393,705	99.77	79,641	0.21	177	0.0005	5,322	0.01
2014	39,516,459	39,431,699	99.79	56,202	0.14	147	0.0004	28,411	0.07
2015	42,006,335	41,942,125	99.85	36,729	0.09	1	0.00003	27,479	0.07

#### Net Energy Output Broken Down By Primary Energy Source

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

### **DIVERSIFICATION OF FUEL MIX**



#### Solar Energy

This includes the Mohammed Bin Rashid Al Maktoum Solar Park and distributed renewable resources generation via solar PV panels within rooftop installations, ground mounted and building integrated photo voltaic systems through DEWA's "Shams Dubai" Initiative. The Mohammed Bin Rashid Al Maktoum Solar Park, located in Seih Al Dahal, is the first photovoltaic power plant in Dubai. The first phase of the project started operation in 2013 with a capacity of 13MW, which is the largest photovoltaic power plant of its kind in the Middle East and North Africa region. The second phase of the Solar Park, under the independent power producer (IPP) concept, will have a capacity of 200MW and be operational by April 2017. DEWA is reshaping the solar energy market in the region as evidenced by setting a new world standard in photovoltaic power projects based on the IPP model by obtaining the lowest price globally of US 5.62 cents per kWh for the second phase of the Solar Park. This will ultimately lead to more investments in renewable energy in Dubai, the region, and the world.

### Clean Coal Energy

DEWA awarded the first phase of 1200 MW Hassyan Clean Coal Project to ACWA Power / Harbin Electric consortium and further expanded the capacity to a total of 2,400MW. The first phase of the project now comprises four 600MW units and has a planned commercial operation date of March 2023. We are working with our independent power producer (IPP) partners to ensure that the Hassyan Clean Coal Project will use the best available technologies and the highest global standards in this field such as the ultra-supercritical technology to reduce our environmental impact. The project 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

To meet our nuclear energy target, as part of our diversification strategy, DEWA has initiated negotiations and dialogue with regards to nuclear power import from the Barakah Nuclear Plant in Abu Dhabi. DEWA is also investigating the feasibility of constructing a nuclear power plant in Dubai, as a potential second option.

#### **DUBAI CLEAN ENERGY STRATEGY 2050 Clean Energy Sources in Dubai** 2020 7% 25% 2030 2050 75% Dubai will be the city with • Nuclear Solar the lowest carbon footprint • Clean Coal Building Natural Gas in the world by 2050 Environmen Capacities tally-Friendly and Skills Energy Mix DUBAI **f** m Mohammed bin Rashid **CLEAN ENERGY** Al Maktoum Solar Park **STRATEGY** Infra-Funding **PILLARS** • DEWA Innovation structure Establishment of Centre Dubai Green Fund worth USD 27 billion Dubai Green Zone Legislation • The first phase will be implemented by "Shams Dubai" • The Second phase includes a set of plans on the integration of consumption

### Energy Mix by 2030



conservation technology and energy production in buildings

### **REGIONAL GRID CONNECTIVITY**

To ensure a reliable supply of electricity throughout the UAE, the Emirates National Grid (ENG) was established to interconnect the electricity transmission grids of the four Authorities and allow them to purchase electricity from one another. The ENG forms part of a Gulf-wide regional grid system, linking the national grids of the Gulf Cooperation Council (GCC).

- ADWEA: Abu Dhabi Water and Electricity Authority
- DEWA: Dubai Electricity and Water Authority
- FEWA: Federal Electricity and Water Authority
- SEWA: Sharjah Electricity and Water Authority

### **MEETING FUTURE DEMAND**

Whilst ensuring that Dubai has a reliable, available, high quality and efficient water and electricity supply today, we are also committed to safeguarding long-term energy and water security. Our Power and Water Planning Division gathers and analyses demand growth data, anticipating demand growth and producing short and long-term demand forecasts. They maintain a Master Plan that combines demand analysis with fuel forecasts and planned additions or upgrades to our generation capacity and distribution networks. They use system modelling techniques to provide our business with intelligence that allows us to develop our strategic plan for the future, which ensures that summer peak demand of electricity and water are met with a reserve margin minimum of 15%. Resources for future DEWA plants' additions have already been identified and budgeted on an annual basis as per the Master Plan, which will allow us to meet forecasted demand until 2030.



Peak Power Demand and Planned Capacity Additions (2015-2030 Likely Scenario)

### **SUPPLY SIDE ENERGY EFFICIENCY**

DEWA produces electricity and water mostly by cogeneration; a process in which waste heat from the burning of natural gas to produce electricity is captured through heat recovery steam generators (HRSG) and used to produce steam (i.e. no fuel), which is used to produce water through the desalination process of multistage flashing or to generate additional free electricity through back pressure steam turbines. Over a number of years we have invested in efficiency improvements including converting many simple cycle gas turbine plants into more efficient combined cycle plants and installing cooling systems in our gas turbines. Overall, between 2006 and 2015, we have achieved a cumulative efficiency improvement of 27%, equivalent to 32.82 million tons of CO<sub>2</sub> emission displacement. 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 dioxide saved through efficiency measures.

#### Optimum Power Plant Design:

For DEWA, deciding on the optimum design depends on the power to water requirements. In general, the optimum power and water production design is achieved in a hybrid system where water production is shared between several technologies – multi-stage flashing desalination and reverse osmosis, which will result in the minimum cost and highest efficiency throughout the lifecycle of the plant.

#### Power Augmentation:

In the summer months, with ambient temperatures reaching 45°C, gas turbine generation capacity typically drops by around 20%, which reduces power output and efficiency, and increases emission intensity and costs. The recovery of this power loss and efficiency is possible using several cost effective and proven power augmentation options. Through the use of these technologies, DEWA has cost-effectively increased capacity by over 350MW by 2015 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. An example of this would be the advanced compressor coating on gas turbines.

#### Optimised Operation:

During times of low demand, some electricity generation units have to be shut down to avoid running inefficiently at low load levels. In DEWA, cyclic operation of units is completed on the basis of less efficient units being shut down first in order to permit operation of the remaining units at higher loads and improved efficiency.

#### 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.

### Cumulative Efficiency Gains from improvement in Gross Heat Rate 2007-2015 with respect to 2006



Cumulative carbon reduction due to efficiency improvements and reduced auxiliary power consumption (MtCO<sub>2</sub>) 2007-2015 with respect to 2006



### **REDUCING SYSTEM LOSSES**

It is also vital that we transport electricity to our customers in a way that enhances both reliability and efficiency as it travels through our transmission and distribution (T&D) network. We are making substantial investments to reduce losses from our networks through new substations and the implementation of our Intelligent Metering System and Smart Grid. Our continued efforts to optimise our network has resulted in our 2015 electricity line losses being 3.3% compared to 5-7% in US and EU, a 30% improvement since 2007.

Туре	Voltage Category (kV)	Length of Transmission and Distribution lines (km)
Overhead	400	1120
	132	437
	33	113
	6.6&11	666
	400	23
Underground	132	1712
	33	2049
	6.6&11	28176

#### **CASE STUDY: DEWA SMART POWER PLANT SYSTEM** Intelligence 2016-17 Knowledge 2015 Analytical Application for **Operational & Business Intelligence** Information 2013 **Building Centralised** Knowledge Database Data Establishing Secured & 2011 **Resilient Communication** Modernising Data Source & Integrity

In line with the Smart Dubai initiative launched by His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, DEWA has launched its Smart Power Plant (SPP) system. The SPP system takes the existing 'Operational Excellence Management' System, based on manual data collection from various power stations and laborious offline data computation, to the next level of online intelligence and automation with precision. The system supports decision making at all levels, highlighting the importance of data in this modern era of Information Technology, by implementing the best in-class power generation analytical applications. The system possesses intelligence by transforming the plant data into information as it captures the experience and knowledge of DEWA experts and embeds it within the system. The system can not only provide real-time data but also develops automated intelligent reports, dashboards and KPIs, thus transforming data management. The SPP system also provides better visibility and further insight into any possible issues and their root causes. To diminish the probability of cyber risk, we have also developed in-house our One-way Data System (ODS), which ensures the physical isolation of the control systems from the outside world.

### **CARBON MARKETS**

DEWA and the Dubai Carbon Centre of Excellence are working together on a project-based Clean Development Mechanism (CDM) under the Kyoto Protocol that enables the generation and issuance of certified emission reductions (CERs) from eligible CDM project activities. Such a mechanism is designed to control the volume and reward the reduction of carbon dioxide equivalent. The credits can be used to meet our own emission reduction commitments or to generate additional revenue by trading them in the international carbon markets. We are currently in the process of registering a number of carbon reduction projects with the CDM Executive Board, such as the 200 MW Photovoltaic Plant and the UAE Small Scale Solar Programme of Activities while three of our CDM projects have already been registered. We acquired 10,635 certified emission reduction credits from the 13 MW Photovoltaic Plant and are applying for more than 105,000 credits from the DEWA Chiller Station L.

### **DEMAND SIDE MANAGEMENT**

DEWA supports the Demand Side Management 2030 plan to reduce energy demand in Dubai by 30%, compared to the business as usual scenario, by 2030. DEWA has launched a number of initiatives to enhance the efficient use of power and water. Through these initiatives, we have succeeded in reducing the annual per capita consumption rate of electricity to 13,626kWh in 2015. Within DEWA's own buildings, we have reduced our electricity consumption to 323kWh/m<sup>2</sup> during 2015, a reduction of 17% compared to 2012. Additionally, we have reduced our water consumption in DEWA buildings by 47% compared to 2012.



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### **CASE STUDY: SOLAR ROOFTOP**



DEWA is constantly seeking to promote and invest in innovative renewable energy technologies for the Emirate of Dubai. In 2014, during a "sustainable initiatives & ideas" brainstorming session, DEWA employees proposed a project that would utilise the 23,000 m<sup>2</sup> of potable water roof surface in the Jebel Ali Power Station Complex by installing photovoltaic solar power generating features, which would connect to the power station grid. After conducting all necessary feasibility studies and ensuring the viability of the initiative, the 1,570 kW<sub>dc</sub> PV Project was awarded to a local EPC Contractor in early 2015. The installed 5,240 PV modules, with 16% efficiency, will generate 2,666MWh per year of clean electrical energy exported through 60 string inverters to the grid at 400 V<sub>ac</sub> level, one of the largest single-rooftop arrays in the Middle East and North Africa region. The project will not only increase the power station efficiency through partial compensation of station auxiliary power consumption but also reduce the amount of CO<sub>2</sub> emissions by approximately 1,600 tons per year. DEWA is planning to extend the initiative to other potable water reservoirs within the Jebel Ali Power Station Complex in the near future.







During 2015, we reduced our water losses to 8.2%, one of the lowest worldwide, compared to approximately 11% in North America

Met 100% of Dubai's water needs during 2015

Over 100,000 smart water meters installed in Dubai during 2015

### **MANAGEMENT APPROACH**

At DEWA, we continuously seek to maximise water efficiency in our own operations and to help our customers minimise their usage of water. We are committed to maintaining water quality – not only with regards to the water that we deliver to our customers, but also that of the fresh and marine water resources that we rely on to produce potable water. Our management approach with regards to water issues focuses on six main areas:



### WATER PRODUCTION



The majority of the water we produce, comes from the desalination of the Arabian Gulf seawater. The seawater is pumped to our Jebel Ali Power and Desalination complex, where it is chlorinated, conditioned, and filtered, and subsequently used for either water production or for cooling of power plant equipment. One challenge for DEWA is that the quality of the seawater intake can be

WATER

impacted by rise in seawater temperature, oil spills, algal blooms, seasonal seaweeds, and high turbidity due to industrial development. The lower the quality of seawater intake, the higher the amount of energy required in the pre-treatment and desalination processes. Therefore, we continuously monitor the intake water quality situation. There are three main desalination processes, multi-stage flashing (MSF), multi-effect desalination process (MED), and reverse osmosis desalination (RO). At DEWA, we utilise mainly MSF technology in most of our water production facilities, with a small portion using RO technology.

In 2015, our installed capacity from our desalination plants was 470MIGD. We met the peak daily and monthly demand for 2015, with substantial reserves. The peak daily water demand of 349MIG was on the 5th of September 2015, an increase of 7.24% growth compared to 2014. While the peak monthly average of 337MIGD occurred in August 2015, an increase of 6.76% growth compared to 2014. Our installed capacity from undergrounds wells, mainly used as a reserve for contingencies, was approximately 20.8MIGD. During 2015, we utilised approximately 1.3MIGD from underground wells, equivalent to approximately 6% of the installed capacity of the underground wells. In the UAE, groundwater abstraction from underground wells (driven largely by agriculture) is depleting groundwater reserves. We recognise that the use of water from underground wells needs to be managed carefully and therefore we mainly use the water during emergencies or when water is required in areas where water networks are unavailable.

Total water production capacity 2015 (million imperial gallons per day)



#### DEWA - Sustainablility Report 2015



#### Total water produced from 2009 to 2015 (million imperial gallons)

### WATER TRANSMISSION AND DISTRIBUTION

In 2015, we continued to be successful in meeting the water needs of 100% of our customers, reflecting our commitment to supplying Dubai's population with basic needs. Once produced, potable water is stored in the Jebel Ali reservoir complex. To ensure that we never run short of water, we store enough in our reservoirs to satisfy approximately 2.7 days of peak demand. Water drawn from the reservoirs is distributed to our customers through a network of pipes. We manage our water pipelines to minimise losses of water, for example through leakages or unbilled meters, which we monitor using our 'Unaccounted for Water' (UFW) metric. We are proud to announce that, during 2015, our unaccounted for water was 8.2%, one of the lowest worldwide, compared to approximately 11% in North America. This was an improvement of 45% with respect to 2010. This was possible due to launching a number of major projects to improve our water transmission and distribution networks.



#### Annual Unaccounted For Water (UFW) as percentage of total water supplied

### WATER QUALITY

The safety and quality of potable water is of the utmost importance to DEWA. It is our responsibility to ensure that the quality of water from our production facilities meets our specifications, which are even more stringent than the World Health Organisation Drinking Water Guidelines. Full compliance is ensured through our integrated management system (IMS), which is certified by external auditors. We monitor water quality across our network, collecting water samples from pumping stations, reservoirs and well fields across Dubai. Samples are tested by portable equipment on site to measure pH, turbidity, residual chlorine dioxide, and electrical conductivity, while the remaining sophisticated testing is performed in DEWA's central lab, to check conformance with DEWA's specifications. DEWA has also made great strides to ensure that our potable water is nearly 100% free from bromate.

It is estimated that roughly only 5% of water supplied to Dubai residents is used for drinking purposes, while the remaining 95% is used for other purposes such as washing, cooking, gardening, district cooling, soft drink production, bottled water production, etc. This is because, although water quality is good to the meter, thereafter water is stored in tanks in residences and these are generally not well maintained. This problem with water quality can be rectified, at least in the short term, by having households fit water tap filters. To raise awareness of this issue, DEWA has run public awareness campaigns and we now put messages on household bills to emphasise the importance of tank cleaning and maintenance.



### CASE STUDY: COLLABORATION WITH UAE WATER AID FOUNDATION



مبادرات محمد بن راشد آل مكتوم العالمية Mohammed Bin Rashid Al Maktoum Global Initiatives





DEWA is committed to investing in research and development, which supports sustainable solutions. Therefore, during 2015, DEWA partnered with the newly established UAE Water Aid Foundation (Suqia), under the umbrella of Mohammed bin Rashid Global Initiatives Foundation, to support their purpose of providing sustainable pure water solutions for communities that suffer from scarcity and contamination of drinking water.

In collaboration with UAE Water Aid "Suqia" Foundation, DEWA designed, developed and manufactured two mobile, photovoltaic (PV) Powered Reverse Osmosis (RO) Desalination & Mobilisation prototype units, which produce clean potable water from brackish well water through solar energy. The "SUQIA1" PVRO prototype units contain adjustable modules of 1200 W<sub>dc</sub> installed Photovoltaic (PV) technology, which provide all electrical energy needed for pumping, supply and processing of the brackish water (total dissolved solids of 1200ppm). After passing the two stage filtration without any chemical pretreatment, the dissolved salts from the brackish water are removed through a semi-permeable membrane, a process known as reverse osmosis. While the advanced Ultraviolet (UV) disinfection system ensures that the water is free from bacteria prior to being stored in the sterilised permeate (potable) water tank on board the unit. By utilising 7 hours of sunlight a day, the PVRO units can produce 1700 Imperial Gallons (7.7m<sup>3</sup>) per day of potable water, fully compliant with the most stringent World Health Organisation Drinking Water Guidelines. With an assembly time of less than 15 minutes, each "SUQIA 1" unit is able to cover the daily requirement for safe potable water for 513 people, while also being environmentally friendly.

### WASTEWATER DISCHARGE MANAGEMENT

DEWA is responsible for managing the discharge of process wastewater generated from our desalination and power production plants. In Dubai, municipal wastewater treatment falls under the responsibility of Dubai Municipality. In 2015, our total volume of wastewater discharge was 5160.24 million cubic meters, primarily comprising process wastewater from our power and desalination plants, which is discharged to the Arabian Gulf. We also produced smaller volumes of effluent from our water treatment plants (89576 m<sup>3</sup>) and on-site treated sewage effluent (235139m<sup>3</sup>), out of which 103815m<sup>3</sup> was discharged to land for landscape irrigation inside the premises and the remaining 131324m<sup>3</sup> of treated sewage was discharged to the sea along with other process wastewater. A total of 84% of the total wastewater (process waste water and treated sewage effluent) generated was re-used in the Jebel Ali Power Station Complex.

Type of effluent	Total volume (million m³) discharge			
Process water from Power plant	1659.15843			
Process water from Desalination plant	3500.75672			
Water treatment plant effluent	0.089576			
Treated sewage water (to land)	0.103815			
Treated sewage water (to sea)	0.131324			
Treated sewage water	0.235139			
Waste Water Discharged to Marine and Land	5160.23987			

Volume of wastewater discharge (million m<sup>3</sup>) by source 2015

Our desalination plants produce brine, a high saline water that remains after freshwater has been extracted from the seawater. We recognise that brine outfall has the potential to impact the environment. We monitor our wastewater discharges monthly and collaborate with regulators to make sure we are within the permissible limits for wastewater discharge quantity and quality in terms of salinity and temperature. We have installed a continuous monitoring system to monitor the temperature, salinity, pH and dissolved oxygen at 500m, 1km and 1.5km away from the discharge points between D-Station and M-Station, for which real time data accessibility was given to Dubai Municipality. Bimonthly and quarterly ecological assessments (phytoplankton/zooplankton and macro benthos respectively) are also carried out at 300m and 1.5km away from the discharge points of D-Station, K-Station, by specialised international companies, as per the requirements of the wastewater discharge permit issued to DEWA by Dubai Municipality.



#### Seawater temperature (°C) 2015



#### Seawater salinity (ppt) 2015

#### Notes:

1) Seawater at mixing zone is sampled at a point 500m away from the wastewater discharge outlet point

- 2) Ambient seawater is sampled 1,500m away from the coastline and represents the condition of seawater outside the immediate influence of DEWA's wastewater discharge.
- 3) Readings are based on single random sampling performed monthly throughout the year.

### **WHOLE WATER CYCLE APPROACH**

At DEWA, we recognise that water production is both capital and energy intensive. Therefore, to ensure the fulfillment of our vision and mission, we are keen to successfully implement the Demand Side Management 2030 plan, set by the Dubai Supreme Council of Energy, to reduce demand by 30% compared to the business as usual scenario by 2030. On the supply, transmission, and distribution side, we are continuously improving our efficiency and reducing losses. While on the customer side, we are implementing many programmes to promote water conservation. We believe that the advancement in water production and treatment technology, combined with more integrated water resource management, will be an essential prerequisite for sustainable development in the Gulf region. We see water within the system wide context of the whole water cycle and believe that Dubai will need to employ more holistic water management approaches to meet the water resource challenges ahead. We believe that we can work more closely with our customers to help them identify opportunities for reusing, recycling, and reducing water within their own processes.

### WASTE MANAGEMENT

DEWA has implemented an effective waste management system, through which we aim to reduce the amount of solid and liquid waste we produce by using resources efficiently and recycling or recovering when possible. Our waste management system allows us to be completely compliant with all relevant national and international regulations, policies, and procedures. We are also in the process of bench-

marking our waste management system with other organisations internationally. Reducing our waste not only minimises our environmental impact, but also generates cost savings. In 2015, we earned AED 960,146 from selling scrap waste materials from our Jebel Ali Power Station Complex. An example of the business benefits of waste management is evident in our efforts to recycle waste oils. In the Jebel Ali power station complex, used lubricant, transformer and hydraulic oils are recycled for use in boiler furnaces when oil firing is required. Additionally, large amounts of insulation oil are used in distribution equipment for insulation and cooling. By using recycled oil we are able to significantly reduce our consumption of new oil and minimise waste (and the associated costs for waste disposal). In 2015, we recovered 6,025 litres of oil for reuse. Additionally, wastewater is recovered from our power stations and reused and during 2015 we recovered approximately 183 MIG of wastewater.

Masta Figuras	Unit	Year			
Waste Figures		2013	2014	2015	
General waste sent to landfill	Tons	1,534	1,599	2,038	
Hazardous waste (local disposal)	Tons	57.9	71.2	264	
Wooden packing reused	Cubic Foot	5,958	5,297	6,608	
Waste water recovered	MIG	209	266	183.4	
Waste oil recovered for use	Litres	126,421	19,143	6,025	
Revenue from scrap/waste materials sold	AED	1,396,910	830,020	960,146	
Savings from selling waste oil	AED	513,538	228,771	161,866	

Waste Figures from the Jebel Ali power station complex, 2013-2015

### **CUSTOMER WATER USE**

Under our demand side management strategy, we have succeeded in reducing the annual per capita consumption rate of water to 38,554 gallons in 2015, with further reduction targets up to 2030. Each year, DEWA organises events for the United Nations World Water Day in collaboration with Dubai Municipality and other community organisations, where we raise awareness about water efficiency. DEWA also provides a programme for free power and water audits that provides DEWA customers with recommendations for electricity and water conservation. We introduced a slab tariff structure in 2008 and a fuel surcharge system in 2011. Our tariffs rates change depending on the volume of water consumed. Tariff design is one area that we continue to analyse to better understand how we can incentivise water efficiency. However, DEWA still continues to offer water at competitively low rates. As part of our smart grid initiative, we have begun to implement our Smart Networks and Meters project, which will see the replacement of all mechanical and electromechanical meters with state-of-the-art smart meters. The intelligent meters are part of a bidirectional digital communications system that can automatically send data to DEWA. The meters will also provide customers with detailed information on their consumption, so that they can identify the best ways to reduce both water and energy use and their bills.



# **CUSTOMERS**

In 2015, we served 708,148 electricity customers and 626,117 water customers

1st in MENA, and 4th internationally, World Bank's ranking of the UAE (represented by DEWA) for "ease of access" to electricity in the World Bank Doing Business Report 2016, for the third consecutive year

In 2015, our Customer Minutes Lost from unplanned outages was 3.87 minutes, compared with approximately over 14 minutes recorded by counterparts in Europe and the US.

### **MANAGEMENT APPROACH**

As the sole power and water utility for the Emirate of Dubai, we strive to ensure that all of Dubai's residents, businesses and organisations have access to both power and water. Therefore, the provision of access to electricity and water for all of Dubai's residents is of utmost importance to us, as clearly reflected in our mission, vision, core values, and strategy. With regards to customer happiness our vision is as follows: "A sustainable innovative world-class utility. We constantly focus on customer happiness."

We define our responsibilities for delivering customer happiness in three key areas under the overall theme of excellence in customer service:

#### 1. Excellence in customer service

- Improving the quality and speed of our customer interactions
- Listening and responding to customer feedback, needs and expectations.

#### 2. Smart technology for more effective customer service

- Providing our customers with accurate, comparable and timely information through e-services and smart services
- Investment in intelligent metering

#### 3. Access to electricity and water services

- Ensuring easier connections
- Providing access to services for customers with language barriers and physical challenges

### **DEWA'S CUSTOMERS**

As Dubai's population and economy continues to grow, so does our customer base. At DEWA, our four main customer categories are: commercial customers, residential customers, industrial customers and governmental customers.


# **OPERATIONAL EXCELLENCE**

At DEWA, excellence has been embedded in all aspects of our operations. We continue to be leaders in system availability and reliability by upholding the highest standards and deploying the latest technological advancements. In 2015, with respect to 2006, we have achieved a 27% improvement in efficiency, primarily through optimising the design and utilisation of power and water co-generation plants. While our transmission line availability is typically above 99.9% reflecting world-class standards of performance. Our operational management approaches adhere to our Integrated Management System (IMS). Our IMS complies with internationally recognised standards for health, safety, environment and quality (ISO 9001, ISO 14001 and OHSAS 18001) and provides guidance to all business divisions about how activities should be executed to uphold DEWA's expectations for operational excellence. To measure our performance in supplying power, we look at three key indicators: System Average Interruption Frequency Index (SAIFI), Customer Minutes Lost (CML) and Availability Factor (AF). The SAIFI measures the average number of interruptions experienced by each customer in one year. In 2015, our SAIFI was approximately 0.14, continuing the downward trend since 2009. While CML (Customer Minutes Lost) measures our ability to restore power during planned outages for maintenance and unplanned outages (in emergencies). During 2015, our CML from unplanned outages was 3.87 minutes, compared with approximately over 14 minutes recorded by counterparts in Europe and the US. Subsequently, the availability factor (AF) is a measure of the percentage of time that our plants are available to produce power. Power availability is especially important during the summer months, when the demand for electricity increases. We are proud to announce that, during 2015, our availability factor was 98.61% for the summer period, while our overall availability factor for 2015 was 88.27% due to maintenance conducted during the winter period.



System Average Interruption Frequency Index (SAIFI): Target and Actual, 2015 CML unplanned: Target and Actual, 2015



Availability Factor (summer): Target and Actual, 2015



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# **SMART SERVICES**

The Smart Dubai Initiative launched by His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, seeks to significantly advance customer services, transform Dubai into the smartest city in the world with all services and utilities run by integrated and connected smart systems, and support the sustainable development of Dubai. To support this initiative, DEWA completed the smart transformation of all of its services during 2014. DEWA has also developed a comprehensive strategy to implement smart water and electricity infrastructure, which will provide advanced features and includes automated decision-making and interoperability across the entire electricity and water network.

The Smart Grid strategy defines eleven programmes that will be completed over the short, medium and long term (2014-2035):

1.	Advanced Metering Infrastructure for Electricity
2.	Advanced Metering Infrastructure for Water
3.	Asset Management
4.	Demand Response
5.	Distribution Automation
6.	Information Technology Infrastructure
7.	Substation Automation
8.	System Integration
9.	Telecommunication
10.	Big Data and Analytics
11.	Security

# DEWA has also launched three initiatives to support the Smart Dubai Initiative:



#### First initiative – "Shams Dubai"

In 2015, DEWA launched the "Shams Dubai" initiative, which allows our customers to install solar PV systems at their premises and connect them to the distribution grid, thereby benefiting from a net metering scheme. Under this initiative, our customers can now generate their own green electricity, with any surplus injected into the grid deducted from their future bills. A number of PV systems have already been connected, and the rich and growing project pipeline will ensure that further projects will come online in 2016. Apart from projects initiated by our customers, we are also installing solar panels at selected DEWA premises, while also sponsoring a number of projects for other Dubai Government entities, as further proof of our commitment to this initiative and ensure cooperation and mutual support between Dubai Government entities in the area of sustainability.

To support the successful implementation of the "Shams Dubai" initiative and ensure the safety of our customers and installers, we have developed equipment standards and connection guideline according to international best practices, and set up a dedicated enrollment scheme for solar PV consultants and contractors, together with an equipment eligibility scheme. By the end of 2015, 30 solar PV consulting and contracting companies have enrolled with DEWA, employing 127 solar PV professionals trained and certified by DEWA, thus showcasing how "Shams Dubai" is contributing towards the creation of green jobs in the Emirate. Also, more than 50 PV panel manufacturers and 10 inverter manufacturers have registered under the DEWA solar PV equipment eligibility scheme, creating a competitive equipment market with clear benefits for our customers.

#### Second initiative – Smart Applications via Smart Grid and Meters

Smart Applications speed up connections and ensure faster reconnections, while conserving smart consumption due to smart meters. Over 100,000 electrical smart meters and smart water meters have been deployed in 2015 at various customers' premises in Dubai with fully automated and secured advanced metering infrastructure using the most modern technologies. We seek to ensure that all electricity and water meters in Dubai will be smart meters by 2020.

#### Third initiative – EV Green Charger

DEWA supports the introduction of electric vehicles in Dubai by introducing charging stations for electric vehicles. DEWA has established the infrastructure in collaboration with several stakeholders and has initially installed 100 charging stations in various parts of Dubai by 2015.



**CUSTOMERS** 

At DEWA, we know that your time is precious. This is why we ensure that all our services make your life comfortable, so that you can enjoy it with total peace of mind. Rest assured, we are there when you need us, with Hadhreen - At Your Service. The following are the list of services we provide.

 E-Services
 Mobile Services
 Multiple Ways to Pay
 Green Bill

The gateway through the dewa portal, https://e-services.dewa.gov.ae for customers and stake-holder to enjoy a variety of general, customer and business-related services

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

# To provide added

convenience to customers, multiple methods of payment (around 17 channels) were developed. For a fast, secure and eco friendly monthly consumption bill sent to the customer's registered email.



from customers.

# PROVIDING ACCESS TO CUSTOMERS WITH LANGUAGE BARRIERS AND PHYSICAL DISABILITIES

In line with Dubai's strategy, we have implemented a range of processes at our customer happiness centres to increase the accessibility to our products and services. For our visually-impaired customers. we have introduced Braille versions of our Customer Guide Booklet created in coordination with the Emirates Association for the Blind. For our hearing-impaired customers, we have staff proficient in sign language at our Customer Happiness Centres, to aid them with all their requirements. Moreover, our service channel called "Ash'ir" (Arabic for "to signal"), a live video chat service, allows customers to communicate directly with DEWA staff using sign language, a first for a government organisation in the UAE. The service is available on DEWA's smart app, winner of the Mobile Applications Excellence Award at the 20th Middle East eGovernment and eServices Awards, which offers over 150 services and features around the clock. While for our elderly customers, we are participating in the Community Development Authority's "Thukhr" Card Programme, Elder Emirati discount programme (Above age 60) and "Sanad" for customers with special needs. Card-holders have access to wheelchair assistance at designated counters where they can enjoy DEWA services. To meet the needs of customers with different cultural backgrounds, we print our communication material in Arabic and English. In addition to this, we recruit employees who are able to deliver the services in different languages such as Farsi, Urdu, Chinese, French and many more.

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# CASE STUDY: "MOHAMMED BIN RASHID SMART MAJLIS"



### مجلس محمد بن راشد الذكي MOHAMMED BIN RASHID SMART MAJLIS

The "majlis" has always been a national cornerstone in the UAE, a place where people gathered to share ideas and create solutions. In time, it grew bigger than ever and solutions transformed the city of Dubai. Currently, in the era of the smart city and the growing community of Dubai, the need arose for a smart "majlis". A smart "majlis" that opens its doors to everyone and strengthens the position of Dubai in various fields and sectors. Therefore, His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, launched the "Mohammed Bin Rashid Smart Majlis", which allows Dubai's residents and visitors and fans of the city to contribute to the development of Dubai and further its attractions through their innovative ideas, feedback, and brainstorming exercises regarding various issues raised by His Highness.

In 2015, DEWA received 301 innovative ideas and 34 development comments from the "Mohammed bin Rashid Smart Majlis". DEWA has honoured Ayad Shoura who submitted an idea to use nano technology to put out fires inside electricity distribution boxes and contain them inside the boxes. We have also honoured Majed Aljenaibi who submitted an idea to turn people's kinetic energy when exercising into electricity. DEWA noted that this idea is already under implementation as part of its "Al Saada" (Arabic for 'happiness') initiative to create a smart innovative entertainment platform that focuses on turning people's kinetic and mechanical energy from exercise into electricity. This is achieved by specially-designed innovative recreational equipment.

DEWA has also honoured Fatma Moosa Nawabi, who submitted an idea to use drones equipped with cameras, to inspect power lines and photograph faults, especially in mountainous areas. DEWA noted the idea is part of its "Sirb" (Arabic for fleet) initiative, which uses drone technology to support Dubai's infrastructure. Drones are used to accurately detect failures and provide early detection by using thermal imaging for overhead power lines. The drones use state-of-the-art upgradable technologies such as high-definition cameras that are equipped with night-vision and laser technologies, GPS sensors, and can measure pressure, height, and use ultrasound scanning. DEWA also honoured Niamat Karmally who submitted an idea to prepare a brief feature to spread awareness among customers on the consequences of overusing water on future generations. DEWA noted that its conservation initiatives and campaigns have various media and educational material on the importance of using electricity and water wisely.

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## **CUSTOMER HAPPINESS**

In line with our commitment to ensure the happiness of all our stakeholders, DEWA has adopted an integrated communications system that makes use of the latest and most advanced techniques and solutions to adhere to the highest standards of communication between DEWA, its customer happiness team, stakeholders and partners, contractors, and developers. DEWA has launched a beta version of the "Rammas" artificial intelligence service. DEWA is one of the leading government organisations to use this technology, emphasising our commitment to adopting technological innovation as a key approach in our operations. "Rammas" acts as a virtual employee available round the clock on DEWA's smart app to reply to customers' enquiries. "Rammas" provides an innovative form of service delivery. It can accommodate a large amount of data simultaneously, search customers' records to find what they need, and answer their queries straight away.

DEWA received over 1.4 million calls in 2015. DEWA's Call Centre, the Customer Care Centre, answered 665,343 calls, with 754,190 calls managed by its Interactive Voice Response system, enabling our customers to make use of our services smartly and efficiently. Our Customer Care Centre also received up to 93,000 emails from different customers with varying requests and requirements. In 2015, DEWA's Customer Care Centre recorded a 93.76% quality rate for taking calls, and answered phone calls within an average of 12 seconds. Our Mystery Shopper survey recorded a 98% result, one of the highest outcomes globally. DEWA has also launched the "Hayak" service, which is an online video-chat service that allows customers to communicate directly with DEWA's call centre staff, available on DEWA's smart app and website. DEWA's customer care centres operates at all hours, on weekends, and during public holidays. It accepts calls via its emergency number 991. Customers calling with any complaints can reach DEWA's Call Centre on 04 601 9888. For customers wishing to use email for general queries or complaints, they can send them to customercare@dewa.gov.ae

We also gain feedback from the annual Dubai Government Excellence Programme (DGEP) customer studies which results in a 'Customer Happiness Index' for DEWA. We conduct annual customer happiness surveys, a daily customer happiness index since 2015, mystery shopper studies, mystery customer calls in addition to customer complaints and suggestions to identify our current and future customers' needs and expectations and to improve DEWA's customer experience. While for 2015, we also achieved 95.7% on the Dubai Government Excellence Programme (DGEP) Customer Happiness Index (CHI) results and achieved 96% on our Customer Happiness Index. We will continue to engage our customers to continually improve our services for Dubai's residents and our other customers. We have also received the ISO-10002 certification for quality customer service. Our customer satisfaction surveys are not just about ratings. We also gather feedback from customer ers on how we can improve. Based on previous customer feedback, we have increased our focus on improving our turnaround times in responding to information requests, customer complaints and queries, improving the accessibility of information regarding our service offerings, and improving our transparency in our communications to our customers.



#### DGEP CHI for DEWA 2011-2015



# **EMPLOYEES**

Awarded British Safety Council Sword of Honour in Health and Safety for the eighth year

80% decrease in accident incident ratio between 2009-2015

### **MANAGEMENT APPROACH**

We firmly believe that we have a responsibility to provide a happy and positive work environment that supports our employees in doing their jobs effectively and efficiently. Our leadership is committed to the development of our employees and has launched multiple Employee Relations Programmes that enable staff to actively participate, to be heard and to be recognised for performance excellence. Since 2009, we have achieved certification to the Social Accountability International SA8000 Standard, which is one of the world's first auditable social certification standards for decent workplaces based on conventions of the International Labour Organisation, United Nations, and national law. The standard helps guide our operations to protect and empower all personnel within DEWA's scope of control and influence. That includes our employees and the employees of our suppliers, contractors and sub-contractors. At DEWA, we continually strive to understand and respond to our employees' needs and expectations, which include employee welfare, reward, development, security, happiness and positive work environment.



#### The key pillars of our approach to managing our workforce are:

### **A WORLD-CLASS WORKFORCE**

In 2015, we employed a total of 10,793 people, which makes us one of Dubai's larger employers. Our organisation is an important employer of engineers in the region. Engineering is considered a high value-added activity and an important source of innovation. We also employ people in other highly qualified job positions including management, business modeling and finance. Our people possess a wide range of skills, and we are committed to their continuous development. To ensure the sustainability of our organisation, we are also taking the necessary measures to monitor the retiring rate of our employees so as to be able to replace their specialised proficiency with trained new joiners.

Total workforce by gender, type, and region, 2015

Region	Men	Women	Total	% of Workforce
Africa	143	23	166	1.54 %
Asia	7,021	224	7,245	67.13 %
Europe	39	10	49	0.45%
Middle East	1,908	1,396	3,304	30.61%
North America	15	7	22	0.20 %
Oceania	5	1	6	0.06 %
South America	1		1	0.01%
Grand Total	9,132	1,661	10,793	

# New employee hires by age group, gender, and region, 2015

New employee hires 2015							
Category	Number of Employees						
By	Age						
Under 30	551						
30-50	474						
Over 50	10						
By Ge	ender						
Women	211						
Men	824						
By Re	egion						
Africa	15						
Asia	610						
Europe	10						
South America	1						
North America	3						
Oceania	1						
Middle East	395						
Total	1035						

# Employee turnover by age group, gender, and region, 2015

Employee turnover 2015						
Category	Number of Employees					
By <i>i</i>	Age					
Under 30	63					
30-50	191					
Over 50	23					
By Gender						
Men	231					
Women	46					
By Re	egion					
Africa	7					
Asia	148					
Europe	5					
North America	2					
Middle East	115					
Total	277					

Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region, 2015

Retirement After 10 Years									
Decion	Women				Men				
Region	Management	Non supervisory	Total	Leadership	Management	Non supervisory	Total	Total	
Africa	5		5		23	32	55	60	
Asia	1	10	11		155	933	1088	1099	
Europe	1		1	2	6		8	9	
Middle East	2	8	10	13	32	46	91	101	
North America					1	4	5	5	
Oceania				1 1			1	1	
Grand Total	9	18	27	15	218	1015	1248	1275	

	Retirement After 5 Years								
Region	Women				Men				
Region	Management	Non supervisory	Total	Leadership	Management	Non supervisory	Total	Total	
Africa	3		3		2	11	13	16	
Asia		3	3		64	401	465	468	
Europe				1	2		3	3	
Middle East		2	2	6	12	24	42	44	
North America						1	1	1	
Grand Total	3	5	8	7	80	437	524	532	

#### **EMPLOYEE BENEFITS**

We recognise that making DEWA a workplace with world-class standards also requires us to consider how we reward our employees. Our Personnel Committee reviews employee performance appraisals, promotions, salary increments and other personnel matters to ensure that our employees are rewarded fairly and in line with their performance. Periodically, we review and analyse job roles, matching them with people that have the skills and academic qualifications to fill the requirements, to ensure that these are kept updated. To enhance our employee engagement and performance levels in our organisation, we facilitate and meet our employees' necessities by offering our full-time employees a wide range of rewards and benefits. The benefits listed below include various leaves, numerous allowances, accommodation entitlement and medical insurance to maintain a positive and happy work environment.

To further support our worldclass workforce, our employees are entitled for parental leaves. In 2015, 491 of our employees availed parental leaves. Approximately 95% of these employees resumed working after their parental leave ended, which shows that we facilitate and ensure our employees' welfare.



#### Employee Parental Leave and Resumed Duty, 2015

Leave Type	<b>Availed Leave</b>	<b>Resumed Duty</b>
Paternity Leave	326	326
Maternity Leave	165	141
Total	491	467

#### We offer our employees a range of additional benefits through initiatives such as:

- **"TAKAFUL":** This fund is open only to DEWA employees and was launched in 2009 to provide financial support in case of emergencies. In 2015, we were able to provide approximately AED 3.6 million to help approximately 344 of our employees during their times of need.
- **"Waffer" Programme:** The programme provides competitive offers and discounts for DEWA staff for various shops, hotels, and other services.
- **Excellence Award & Recognition Programme:** The aims to appreciate and reward the employees (individual or groups) who have excelled in their achievements.

To monitor our employees overall satisfaction regarding various work dimensions in our organisation, we conduct regular surveys which give our employees the opportunity to express their views and opinions on their work environment.

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# **TRAINING & DEVELOPMENT**

To further develop and retain our world-class workforce, we provide all possible support to our employees to further improve their talents and skills, and strengthen social cohesion. One of the key ways in which we support our employees at all levels of our organisation is by providing training to continually enhance their skills. Since 2010, we have witnessed a steady increase in average leadership training hours, manager training hours and non-supervisory employee training hours. We also run a career development and succession planning programme at DEWA. In 2015, we developed our technical competency frameworks and updated our behavioral competency frameworks. A portion of our employees attended our development centres, with individual development plans produced for each delegate. 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. As a result succession planning for up to 81 critical positions in our organisation has been carried out, with the majority of the positions to be held by UAE nationals.



#### Average Training Hours by Grade, 2015

Average training hours by grade	2010	2011	2012	2013	2014	2015
Leadership	39.8	70.6	71.89	78.18	99.38	97.00
Management	39.02	47.22	43.85	44.76	52.13	51.37
Non-supervisory	31.94	30.02	24.44	33.51	32.87	32.54

## **CAREER DEVELOPMENT**

At DEWA, we continuously seek to promote our workforce and hire talented and motivated employees who can contribute to the success of our organisation. Our organisation is committed to both the personal and professional development of our employees. From job focused trainings to general management trainings, our employees have the opportunity to further develop their careers. DEWA also conducts competency based programmes and trainings for skill management and lifelong learning based on 9 Behavioural Competencies. These were determined through an Assessment and Development Centre conducted for 887 employees based on their proficiency levels in 2014. We are currently building in-house capabilities to handle the next cycle, as a project cycle is from 18 months to 3 years. Performance appraisal is equally important, as it helps us evaluate in a systematic manner the performance of the employees, while also allowing us to better understand the abilities of our employees for the purpose of further growth and development.

# CASE STUDY: CAMBRIDGE SUSTAINABILITY LEADERSHIP PROGRAMME



To further develop and retain our world-class workforce, we organised a special programme for our top management, senior managers, and sustainability specialists, in collaboration with the Cambridge Institute for Sustainability Leadership (CISL). The CISL is an institute within the University of Cambridge dedicated to building the capacity of leaders to respond to the critical global challenges of the 21st century. It was the first time such a programme was conducted in the Middle East and North Africa region. The programme focused on best international practices in sustainability and organisational excellence.

## **EMPLOYEE HEALTH AND SAFETY**

The health and safety of our people is our leading priority. We are committed to applying international best practice standards in relation to health and safety management and we strive for continuous performance improvement in this area. Our management approach to the health and safety of employees, suppliers and contractors is enshrined in our policies and management systems.



DEWA is ISO-9001, ISO-14001 and OHSAS-18001 certified, enabling continuous improvement and management of our systems.



DEWA has maintained the British Safety Council's Health and Safety Management 5 star certification since 2002. Those that achieve the certification can then compete for the Sword of Honour award, which DEWA has been awarded for 8 years starting from 2007. We are proud to be the first utility in the MENA region to achieve this award. We have also been awarded the British Safety Council's Globe of Honour for environment for the fourth year.



We have a dedicated QHSE Approach governed by a series of assessments and we use Document & Controlled Procedures (IMSP01-16 & SP01-15) to ensure that we implement best practice OH&S standards. We use proactive monitoring such as inspections, surveys, surveillance, health screenings and internal audits.



We have a Risk Management Policy, in compliance with ISO-31000, which governs our activities and ensures that an appropriate assessment of risks (including health and safety risks) are considered prior to the approval of major activities, projects and changes to our business.



We require all contractors and technicians to qualify for an Electrical Contractor's Competency License in order to install electrical connections in any dwelling or building in Dubai.



We also maintain quality control procedures for the purchase of any equipment exceeding AED1 million in value.

We have an obligation to our contractors, subcontractors and vendors, and we comply with OHSAS 18001 and 18002 to ensure that health & safety measures are observed. In addition to this, our dedicated SP06 Health & Safety Procedure for Contractors & Consultants is also in place. In 2015, 41% of contractors and subcontractors have undergone Professional health and safety training. To raise safety awareness amongst our contractors, we have also launched a Health and Safety Week as part of DEWA's strategy to enhance HSE and sustainability standards. Since 2011, we have also organised a contractors' Health & Safety Awareness Day for employees, contractors and consultants on an annual basis. We regularly audit our operations to assess how well we are performing to health and safety requirements. This includes assessments conducted by our Internal Audit team, and also by independent external auditors. The certification of our health and safety management systems is also re-verified once every three years. To track our health and safety performance, we monitor indicators of safety at a strategic level and set ourselves targets to drive continuous improvement. One of the key indicators of our safety performance is the Accident/Incident Ratio (AIR), which we have successfully reduced by approximately 80% between 2009 and 2015.

DEWA's Health and Safety Committees play a vital role in preventing work-related injuries and accidents in all of our divisions and maintaining occupational health and safety procedures in the workplace. With representatives from various departments at DEWA, the committees ensure that measures to assist and retain health and safety rules, standards and procedures are carried out. Health and Safety 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.



#### Accident/incident Ratio (AIR), 2015

Note: (Number of RIDDOR Accidents x 100000 / Total number of staff)

#### **EMPLOYEE HAPPINESS**

During 2014, we launched our Happiness Department to support our strategic objective to achieve the happiness of all our stakeholders, including our employees. We believe that happiness is the foundation of a secure and productive organisation. Our happiness guiding principles revolve around our employees and they focus on satisfaction, happiness, and engagement. Furthermore, our happiness model consists of five main happiness indices which are: Job and Financial Security, Job Compatibility and Employee Development, Work-Life Balance and Health, Respect, Appreciation & Creative / Engaging Work Environment, and Fairness and Transparency.



Our employee happiness and engagement initiatives are keys to achieving a sustainable, productive, stimulating and collaborative work environment. One of the tools we utilise to better understand and meet our employee's expectations is the "Al Sa'ada Survey" (Happiness Survey). The "Al Sa'ada Survey" is an instrument developed to capture and understand the main happiness drivers for our employees. We encourage our employees to participate in identifying and prioritising areas which require further improvement. In 2015, our overall happiness score reached approximately 83%. The results of this study are used to benchmark and realign DEWA's initiatives to meet employees' expectations.

To further improve the physical working conditions of our employees, DEWA introduced the Happiness Lounge in 2015, located at our Head Office to promote a stimulating work environment. The Happiness Lounge provides a selection of services from online booking for workshops and brain storming sessions to various activities which encourage our employees to excel in a positive and high-quality work environment. DEWA also launched "For Your Happiness" Campaign that aims to explain and communicate our Employee Happiness Initiatives to all DEWA offices. In 2015, over 1,400 employees attended our sessions. DEWA is a Government Authority aligned with Dubai Government and regulations. Therefore, with regards to significant operational changes affecting our employees, while a specific notice period is not yet 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. We have put the following initiatives in place for this purpose:

• "AFKARI": Employees are encouraged to provide us with 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.

- Women's Committee: The Committee encourages women expanding their creative roles and supports women's insights into decision making to increase DEWA's female employee satisfaction.
- DEWA Child Care Centres: Our Child Care Centres, located in the Head Office, Al Quoz and Al Warsan were created to provide care during the working hours for our employees' children. This initiative has been an outstanding success in helping employees to balance family and work duties.
- Employee Counseling in DEWA: The Happiness Department conducts various employee counseling session to support and meet the demands of the employees and workplace. Such sessions include the Employee Assistance Programme and "Know Your Stress" Survey.

### **PROMOTING EMIRATISATION**



DEWA continuously seeks to support government efforts to increase local employment as well as to train the next generation of professionals, as it represents the economic and social reality of the Emirate of Dubai. We are committed to increasing the proportion of staff who are UAE nationals and to develop their training and expertise. Of the new hires during 2015, approximately 30% were UAE nationals. Additionally, within our organisation UAE nationals held 38 of our top management and leadership positions, 606 of our middle management positions, and 1,715 of our nonsupervisory positions within DEWA during 2015. We strive to attract new and gualified UAE national professionals and focus on strengthening their skills by providing them with scholarships and training courses at various universities, colleges and institutes around the world. In this way, we support the burgeoning demand in the educational sector, whilst also driving our own strategy and investing in our future workforce. We launched a scholarship programme in 2013, aimed at educating Emirati students abroad on renewable energy. We also launched the DEWA Academy, accredited by the Business and Technology Education Council (Pearson BTEC) in the UK, which aims to foster a new generation of Emiratis both academically and vocationally. Additionally, we offer a number of scholarship programmes for local high school students in engineering fields to train the next generation of our workforce, particularly in relevant technical gualifications. Sponsorships for study and research projects connected with the nature of our work are also available to UAE nationals. We also offer a range of employee benefits that particularly appeal to UAE nationals to bolster our Emirati recruitment and retention rates.





# SOCIETY

148% of social initiatives implemented in 2015

#### 10,862 volunteering hours

### MANAGEMENT APPROACH



At DEWA, we understand that responsibility towards the wider society and communities in Dubai is essential. From an early stage, we have adopted an explicit policy for Corporate Social Responsibility (CSR) aligned with international best practices. We have also set an effective framework which meets CSR standards and requirements. In order to develop and implement our CSR strategy, we have set an action plan based on studying the actual needs of our stakeholders in relation to sponsoring, implementing and assessing our internal and external CSR initiatives and figuring out how they are meeting our stakeholders' needs.

We are using various channels of communication to determine our stakeholders' needs for CSR initiatives such as through:

1	Surveys
2	Official meetings
3	Official correspondences
4	Site visits
5	Government directives
6	Social events and occasions
7	Internal (staff) and external (partners & customers) proposals
8	Cooperation with concerned specialised entity and benchmarking
9	Recommendations of DEWA's top leadership

We also collect and identify the opinions, comments and feedback of our stakeholders - especially that of the society, on DEWA's social initiatives and projects with the aim to continuously improve our initiatives and projects. All internal departments in DEWA are supporting the management and implementation of the common programmes related to the society. Additionally, we empower internal volunteering participation on CSR initiatives and programmes through incentives and award programmes for DEWA's employees and departments.

## **OUR INITIATIVES**



During 2015, none of our large projects physically or economically displaced people within our operational boundaries. Additionally, our Corporate Social Responsibility (CSR) Programme coordinates a network of 28 divisional representatives who are responsible for coordinating our social and community initiatives. We are proud to announce that we have delivered 197 community initiatives accumulative from 2013 to 2015, contributing approximately 26,071 volunteer hours. Initiatives range from local community development programmes such as awareness programmes in schools, to blood donation drives. While during 2015, 148% of our social initiatives were implemented, exceeding our target. The initiatives related to the following four pillars of sustainability: Workplace, Marketplace, Society and Environment.

### **"RUWAD" PROGRAMME**



In line with the UAE Initiative for Connection with Orphans and Minors, launched by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, we have organised the "Ruwad" (Pioneers) Programme. The programme was launched in two phases (internally & internationally) to allow for the review of international programmes and benefit from world-class social experience. During the first phase of the DEWA "Ruwad" initiative, we successfully organised three training courses in Dubai which focused on work readiness and entrepreneurship. Sponsored by DEWA, the vibrant workshops engaged over 50 AMAF (Awqaf and Minors Affairs Foundation) students, where they worked with volunteers from MetLife Foundation, Bechtel, Deloitte and Dubai Eye and competed to qualify for the international training exchange programme in Singapore. During the second phase of the programme, we sent 20 high school students to Singapore for a week, where they participated with students from Singapore in an innovation camp. While at the camp, the students focused on swapping ideas and taking part in competitions to develop their creativity.

#### **DEWA GREEN BILL**

In line with the vision of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai for a "Green Economy for Sustainable Development", DEWA launched its Green Bill. Our Green Bill replaces paper bills with electronic bills, thereby granting ease of access to our customers and ensuring the security and accuracy of the bill.

Our Green Bill benefits not only our customers but also our environment and organisation, in the following ways:



By the end of 2015, there were 667,000 Green Bill subscribers representing 91.23% of DEWA customers.

## **"TAKAFUL" CONTRIBUTION FUND**

The "Takaful" Contribution Fund at DEWA was launched during 2009, to assess the needs of our employees for a social programme. Through this fund, DEWA annually contributes AED 3,600,000. The main objective of the fund is to provide financial support for participating employees whenever they have an emergency that falls under the approved entitlement, and the subscription is only open to DEWA's employees. During 2015, approximately 344 employees benefited from this fund.

### **CASE STUDY: DEWA 2021 STREET ART COMPETITION**

In line with the directives of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai. who declared 2015 as the Year of Innovation, DEWA has launched the DEWA2021 Street Art Competition. During this competition, five teams from four national universities competed to visualise the DEWA 2021 strategic themes. Each team was mentored by a member of DEWA's senior management, highlighting the importance of engaging and developing local winners talent. The were chosen through an external public vote via social media, using the hashtag *#*DEWA2021Art and an internal vote by DEWA staff, to achieve the goals of the initiative in cooperation with the community. The award ceremony took place during UAE Innovation Week 2015, with the first place team receiving AED 100,000 to support innovation and scientific research in their respective university.



Strategic Theme: Competent Capabilities and Happy Culture that Fosters National Identity University: The American University in the Emirates



Strategic Theme: Strategic Innovation University: Zayed University



Strategic Theme: Stakeholder Engagement University: The American University of Dubai



Strategic Theme: Sustainable Growth University: The American University in the Emirates

### "AL NAMOOS" WORKSHOP

During 2015, we organised workshops for over 250 consultants and contractors to engage with them about our recently launched "Al Namoos" service. The workshop allowed us to build closer ties and strengthen cooperation with our consultants and contractors, to engage with them on DEWA's initiatives for improvements, to find recommendations for streamlining and accelerating the process of providing electricity and water services according to world-class practices, and to improve the excellence of our operations for all of our stakeholders. This is with the aim of achieving the happiness of all stakeholders, and furthering the UAE's ambition of meeting the highest levels of excellence in providing electricity.

### **SOLAR DECATHLON MIDDLE EAST**



Solar Decathlon Middle East (SDME) is an international competition created through an agreement between the Dubai Supreme Council of Energy, DEWA, and the US Department of Energy. Through this competition, universities from all over the world compete to design, build, and operate solar powered energy efficient houses, which not only contributes towards environmental protection but also be capable of adapting to the region's weather. After successes in the USA, Europe, China, Latin America, and the Caribbean, Dubai will host the first two rounds of the Solar Decathlon, which is to be held for the first time in the Middle East, in 2018 and again in 2020 to coincide with World Expo in Dubai.

At DEWA, we have always invested in developing people capable of spearheading research and development in clean and renewable energy to further preserve natural resources and protect the environment. To that end, we are providing all the necessary support to contribute towards the success of Solar Decathlon Middle East, as part of our mission to deliver sustainable electricity and water services at a world-class level of reliability, efficiency, and safety in an environment that nurtures innovation, and achieve our vision to become a sustainable innovative world class utility. DEWA is hosting this competition to support the Dubai Clean Energy Strategy 2050, to transform Dubai into an international hub for clean energy and green economy.

## **UAE WATER AID FOUNDATION "SUQIA"**



مبادرات محمد بن راشد آل مكتوم العالمية Mohammed Bin Rashid Al Maktoum Global Initiatives



His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, launched in June 2014 the UAE Water Aid "Suqia" initiative during the Holy month of Ramadan. The initiative which was supervised by the UAE Red Crescent, was a remarkable success, collecting over AED180 million, enough to provide access to clean drinking water to over 7 million people around the world. Following the success of the initiative, HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minster of the UAE and Ruler of Dubai, established the UAE Water Aid Foundation "Suqia", a member of Mohammed bin Rashid Al Maktoum Global Initiatives Foundation, as a non-profit organisation with the goal of providing pure sustainable water through innovative solutions. "Suqia" has been annexed to DEWA, where we support the Foundation with any budget and operational requirements needed.

#### Research and Development

"Suqia" aims towards the development of new technologies that produce clean water using solar energy through a strong research and development programme. In this regards, "Suqia" is cooperating with DEWA on desalination and purification of water using solar energy. Current joint projects include:

- A portable Photovoltaic Reverse Osmosis (PVRO) unit operated by solar panels, which has a water production capacity of 1,700 Imperial Gallons (7.7m<sup>3</sup>) per day.
- A larger scale, solar panel powered PVRO unit with energy storage and a production capacity of 11,000 Imperial Gallons (50 m<sup>3</sup>) per day.

#### Humanitarian Work

Since the launch of the initiative and the establishment of the foundation, "Suqia" has undertaken a number of water projects benefiting 3,674,953 people around the world, in collaboration with the UAE Red Crescent and the Mohammed bin Rashid Al Maktoum Charity and Humanitarian Establishment. "Suqia" has also participated in the UAE Response to the Humanitarian Situation in Yemen in cooperation with the Ministry of Foreign Affairs and International Cooperation to provide humanitarian assistance to the affected Yemeni people. During the Holy month of Ramadan 2015, "Suqia" distributed water as part of daily iftar meals to iftar tents and mosques in collaboration with associations and charities in the UAE.

#### Mohammed bin Rashid Al Maktoum Global Water Award

Tying in with the UAE's ambition to become a knowledge-based economy with a strong focus on technology, R&D and innovation, His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, announced the launch of a USD 1 million global award to find sustainable solutions to water scarcity across the world. The Mohammed bin Rashid Al Maktoum Global Water Award aims to encourage leading corporations, research centres, institutions and innovators from across the world to compete to find sustainable and innovative solar energy solutions to the problem of water scarcity. The award is comprised of three categories: Innovative Projects Award, Innovative Research & Development Award, and Innovative Youth Award.

### **COMMUNICATION AND AWARENESS**

Through integrated marketing communication campaigns and well-planned community outreach activities, DEWA continuously seeks to raise awareness and educate our stakeholders on water and electricity conservation. We also undertake energy audits for high volume commercial customers so that the finding report will enable to take necessary remedial measures towards reducing their consumption levels. We also participate in cause-related events such as Earth Hour, World Environment Day, and World Water Day. Likewise, the holy month of Ramadan is an important occasion for us to drive home the message of 'responsible utility consumption'. Between 2009 and 2015, our awareness campaigns and efficiency audits achieved electricity savings of 1,344 GWh and water savings of 5.6 billion imperial gallons, which is equivalent to cost savings of approximately AED 841 million.

## VOLUNTEERISM

At DEWA, we believe that volunteering is an important sustainable practice towards our society. We continuously seek to expand our employees' engagement initiatives with our community. Since 2010, we have seen a constant increase in our total volunteerism hours. In 2015, our employees took part in a total of 10,862 volunteering hours. Volunteering gives our employees the opportunity to learn more about social issues and environmental impacts facing our society today. Moreover, it enhances their skills in leadership, teamwork and communication while reinforcing our corporate values.



Year	2010	2011	2012	2013	2014	2015
Total volunteering hours	916	1,320	1,555	8,014	8,039	10,862
Total volunteering days	38	55	64	333	334	565

### **CASE STUDY: CLIMATE CHANGE CHAMPION PROGRAMME**



In line with our strategic objective of minimising our environmental footprint, DEWA annually sends employees to participate in climate change leadership programmes around the world, as part of its Climate Change Champion Programme. During the first year of the programme, DEWA sent 5 employees to Antarctica to participate in the "Leadership on the Edge Programme", organised by 2041, a first for a government organisation worldwide. The champions returned to DEWA, where they began a year-long commitment to increase awareness about the issue of climate change and sustainable behavior, reaching over 1,000 of our stakeholders through a number of awareness sessions. For the second year of the programme, DEWA sent an additional 5 employees to participate in a climate change programme based in the Peruvian Amazon Rainforest during May 2016, where they studied the implications of climate change on biodiversity, ecosystems, and human communities within the Amazon, in collaboration with the Amazon Centre for Environmental Education and Research Foundation.



# **APPENDIX 1: MATERIAL ASPECTS AND THEIR BOUNDARIES**

Material Aspects	Material within the organisation or external		Relev	ant Exteri	nal Stakel	holders	
		Customers	Suppliers	Partners	Society	Government	Investors
Economic							
Economic Performance	Both	~	$\checkmark$	$\checkmark$	$\checkmark$	~	~
Market Presence	Both				$\checkmark$	$\checkmark$	
Procurement Practices	Both		$\checkmark$	$\checkmark$	$\checkmark$	~	~
Availability and reliability	Both	~	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Demand side management	Both	$\checkmark$			$\checkmark$	$\checkmark$	$\checkmark$
Research and development	Within						
System efficiency	Within						
Environmental	1			1		-	<u> </u>
Energy	Both	~	~	~	~	~	~
Water	Both	~	~	$\checkmark$	√	~	~
Emissions	Both				$\checkmark$	$\checkmark$	$\checkmark$
Effluents and waste	Both				~	$\checkmark$	$\checkmark$
Products and services	Both	$\checkmark$	~	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Supplier Environmental Assessment	Both	~	~	$\checkmark$	$\checkmark$	~	$\checkmark$
Compliance	Both				$\checkmark$	~	$\checkmark$
Social	1	1		<u> </u>		-	<u> </u>
Employment	Both				~	~	
Labour/management relations	Both					~	
Occupational health and safety	Both					~	~
Training and education	Both					~	
Supplier Assessment for Labor Practices	Both		$\checkmark$	$\checkmark$	$\checkmark$	~	$\checkmark$
Local Communities	Both				$\checkmark$	$\checkmark$	
Compliance	Both				$\checkmark$	~	$\checkmark$
Product and service labelling	Both	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Access	Both	~				~	$\checkmark$
Customer Health and Safety	External	~			~	~	$\checkmark$
Provision of information	Both	~	~	$\checkmark$	~	~	$\checkmark$
Disaster/Emergency Planning and Response	Both	~	$\checkmark$	$\checkmark$	~	~	~
Anti-corruption	Both	~	$\checkmark$	$\checkmark$	$\checkmark$	~	~

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Occupatio	onal Health and Safety	
G4-DMA	Management approach	84-85
G4-LA5	Percentage of total workforce represented in formal joint management–worker health and safety committees that help monitor and advise on occupational health and safety programme	85
		85
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days and absenteeism, and total number of work-related fatalities	We are pleased to state that we suffered no work-related fatalities during 2015
Training a	nd Education	
G4-DMA	Management approach	83
G4-LA9	Average hours of training per year per employee by gender and employee category	83
G4-LA10	Programmes for skills management and lifelong learning that support continued employability of employees and assist them in managing career endings	83, 86-87
Supplier A	Assessment for Labour Practices	
G4-DMA	Management approach	23
G4-LA15	Significant actual and potential negative impacts for labour practices in the supply chain and actions taken	No such negative impacts with regards to labour practices in our supply chain have been reported during 2015
Society		
Local Com	nmunities	
G4-DMA	Management approach	32-34, 90-96
G4-S01	Percentage of operations with implemented local community engagement, impact assessments, and development programmes	91-96
EU22	Number of people physically or economically displaced and compensation, broken down by type of project	91
Disaster/I	Emergency Planning and Response	
G4-DMA	Management approach	22

#### DEWA - Sustainablility Report 2015

Anti-Corru	Anti-Corruption		
G4-DMA	Management approach	19-21	
G4-S05	Confirmed incidents of corruption and actions taken	No incidents during the reporting period	
Complian	Ce		
G4-DMA	Management approach	19-21, 30-31	
G4-S08	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	No fines during the reporting period	
Product R	esponsibility		
Customer	Health and Safety		
G4-DMA	Management approach	70-77, 85	
G4-PR2	Total number of incidents of noncompliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	No incidents during the reporting period	
EU25	Number of injuries and fatalities to the public involving company assets, including legal judgements, settlements and pending legal cases of diseases	We are pleased to state that we suffered no work-related fatalities during 2015	
Product a	nd Service Labelling		
G4-DMA	Management approach	70-77	
G4-PR5	Results of surveys measuring customer satisfaction	77	
Access			
G4-DMA	Management approach: programmes, including in partnership with government, to improve or maintain access to electricity and customer support services	70-77	
EU26	Percentage of Population unserved in licensed distribution or serviced area.	0%	
EU28	Power outage frequency	71-72	
EU29	Average power outage duration	71-72	
EU30	Average plant availability factor by energy source and by regulatory regime	13, 72	
Provision	of Information		
G4-DMA	Management approach: practices to address language, cultural, low literacy and disability related barriers to accessing and safely using electricity and customer support services	75	



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#### Independent Limited Assurance Statement to Dubai Electricity and Water Authority on their Corporate Sustainability Report 2015

#### To the Management of Dubai Electricity and Water Authority, Al Garhoud, Dubai, UAE

Dubai Electricity and Water Authority (the 'Company' or 'DEWA') has requested KPMG in the Lower Gulf (KPMG) to provide an independent assurance on its Sustainability Report 2015 ('the Report').

The Company's management is responsible for identifying its key material issues, engaging with its stakeholders and developing the content of the Report.

KPMG's responsibility is to provide limited assurance on the Report content as described in the scope of assurance.

#### **Reporting Criteria**

DEWA applies its own sustainability performance reporting criteria, derived from the Sustainability Reporting Guidelines (G4) of Global Reporting Initiative (GRI) including the Electric Utilities sector disclosures as detailed in the 'Report scope and boundary'.

#### Assurance Standards Used

We conducted limited assurance in accordance with the requirements of International Federation of Accountants (IFAC) International Standard on Assurance Engagement [(ISAE) 3000, (Revised) Assurance Engagements Other than Audits or Reviews of Historical Financial Information]

Under this standard, we have reviewed the selected information presented in the Report against the principles of relevance, completeness, reliability, neutrality and understandability.

#### Scope, Boundary and Limitations

The following is covered under the scope and boundary of the assurance engagement:

- The scope of assurance covers DEWA's sustainability performance disclosures for the period of 01 January 2015 to 31 December 2015, as per the table below.
- The boundary of the report includes the data and information from DEWA sites located within the emirate of Dubai and as explained in the report

The assurance scope excludes:

- Aspects of the report other than those mentioned above;
- Data and information outside the defined reporting period and boundary;
- The Company's financial performance;
- The Company's statements that describe expression of opinion, belief, aspiration, expectation, aim or future intention provided by the Company and assertions related to Intellectual Property Rights

The General and Specific Standard Disclosures subject to assurance were as follows:

General Standard Disclosures	Specific Standard Disclosures		
Strategy and Analysis- G4-1	• Environment- Energy Consumption Within the Organization (G4- EN3), Direct		
• Organizational Profile – G4-3 to G4- 10, G4-12, G4-13, G4-15 and G4-16	Green House Gas Emissions (G4-EN15), NOx, SOx and other significant a emissions (G4-EN21), Total Water Discharged by Quality and Destination (G4-EN22) and Total Weight of Waste by Type and Disposal Method (G4-EN23)		
Identified Material Aspects and Boundaries- G4-18 to G4-22	<ul> <li>Labor Practice and Decent work- Total Number and Rates on New Employee Hires and Employee Turnover by Age Group, Gender and Region (G4-LA1).</li> </ul>		
• Stakeholder Engagement- G4-24 to G4- 27	Return to Work and Retention Rates after Parental Leaves, by Gender (G4-LA1), Average Hours of Training per year per Employee by Gender and, by Employee		
Report Profile- G4-28 to G4-33	Category (G4-LA9)		
Governance- G4-34	Product responsibility- Results of Surveys Measuring Customer Satisfaction (G4-		
<ul> <li>Ethics and Integrity- G4-56</li> </ul>	PR5)		
	<ul> <li>Electric Utilities Sector – Number of Residential, Industrial, Institutional and Commercial Customer Accounts (G4-EU3)</li> </ul>		

#### Methodology Adopted for Assurance

We have obtained sample evidence, information and explanations that were considered necessary in relation to the assurance scope and to arrive at conclusions mentioned below. Our work included a range of evidence-gathering procedures including:

- Assessing that the report is prepared in accordance with the Sustainability Reporting Guidelines of the Global Reporting Initiative (GRI G4 – in accordance "Core" criteria)
- Reviewing the Report to ensure that there is no misrepresentation of disclosures as per scope of assurance and our findings.
- · Reviewing of materiality and stakeholder engagement framework deployed at DEWA
- Understanding the appropriateness of various assumptions, estimations and materiality thresholds used by DEWA for data analysis.

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- Assessing the systems used for data collection and reporting of the General Standard Disclosures and Specific Standard Disclosures of material aspects as listed in the assurance scope above
- Verifying of systems and procedures used for quantification, collation, and analysis of sustainability performance indicators included in the Report.
- Testing on a sample basis, the evidence supporting the data and information
- Holding discussion on sustainability with senior executives at the different plant locations and at the corporate office to understand the risk and opportunities from sustainability context and the strategy DEWA is following.
- Assessing of data reliability and accuracy.
- Verifying select key performance data through site visit to operational locations at Jabel Ali and its corporate office in Al Garhound for:
  - Testing reliability and accuracy of data on a sample basis
  - Assessing stakeholder engagement process through interactions with relevant internal stakeholders and review of relevant documentation
  - Limited review of materiality assessment process
  - Reviewing the processes deployed for collection, compilation, and reporting of sustainability performance indicators at corporate and plant level.

Appropriate documentary evidence was obtained on a sample basis to support our conclusions on the information and data verified. Where such documentary evidence could not be collected on account of confidential information our team verified the same at DEWA's premises.

#### Conclusions

We have reviewed the Sustainability Report of DEWA. Based on our review and procedures performed as described above, nothing has come to our attention that causes us not to believe that the sustainability data and information presented in the Report is appropriately stated, in material aspects, and in line with the reporting principles of GRI G4 Guidelines on Sustainability Reporting.

#### Observations

The following is an excerpt from the observations and opportunities reported to the management of DEWA. These do not, however, affect our conclusions regarding the Report

- DEWA has identified aspects that are material within and outside the organization. The company may monitor and report
  on indicators relevant to identified material issues outside the organization.
- DEWA may undertake quantitative targets, and report its progress against it in subsequent reports on indicators relevant to its key material issues.
- The Company has been monitoring and disclosing key performance in the sustainability report. However there is a scope
  for further strengthening the data monitoring and compilation processes in order to enhance reliability of the information
  being presented in the Report.

#### Independence

The assurance was conducted by a multidisciplinary team including professionals with suitable skills and experience in verifying environmental, social and economic information in line with the requirements of ISAE 3000 standard. Our work was performed in compliance with the requirements of the IFAC Code of Ethics for Professional Accountants, which requires, among other requirements, that the members of the assurance team (practitioners) as well as the assurance firm (assurance provider) be independent of the assurance client, in relation to the scope of this assurance engagement, including not being involved in writing the Report. The Code also includes detailed requirements for practitioners regarding integrity, objectivity, professional competence and uc care, confidentiality and professional behavior. KPMG has systems and processes in place to monitor compliance with the Code and to prevent conflicts regarding independence. The firm applies ISQC 1 and the practitioner complies with the applicable independence and other ethical requirements of the IESBA code.

#### Responsibilities

DEWA is responsible for developing the Report contents. DEWA is also responsible for identification of material sustainability issues, establishing and maintaining appropriate performance management and internal control systems and derivation of performance data reported. This statement is made solely to the Management of DEWA in accordance with the terms of our engagement and as per scope of assurance. Our work has been undertaken so that we might state to DEWA those matters for which we have been engaged to state in this statement and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than DEWA for our work, for this Report, or for the conclusions expressed in this independent assurance statement. The assurance engagement is based on the assumption that the data and information provided to us is complete and true. We expressly disclaim any liability or co-responsibility for any decision a person or entity would make based on this assurance statement. By reading this assurance statement, stakeholders acknowledge and agree to the limitations and disclaimers mentioned above.

Super Bh

Raajeev B Batra Partner and Head Risk Consulting KPMG in Lower Gulf June 28, 2016

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