

DUBAI ELECTRICITY & WATER AUTHORITY

Directors' Report for the Year 2021

I INTRODUCTION

The year 2021 witnessed strong demand growth for Electricity of over 10%, which is reflected in our excellent performance. We view this as a return-to-normal situation in Dubai after Covid. Digitalizing our internal processes continued in the year and it contributed, among other factors, to enhanced customer satisfaction with our services.

We have endeavored to improve efficiency in all spheres of our business and have maintained a high level of reliability and availability of our services, lowest customer minutes-lost index of 1.4 minutes in the world as well as the lowest line losses in power and water of 3.3% and 5.3% respectively.

We are committed to Dubai's radical energy transition and Net Zero emission target by 2050 and our action plans in this regard are progressing satisfactorily. Our portfolio of Independent Power Producer partnerships in the renewable energy space, is being developed as planned and they provide us confidence to achieve Dubai's green ambitions in a timely and cost-effective manner.

We are operating a large infrastructure with top-of-the class efficiency and highest standards of safety and environment compliance. This has been recognized through Sword of Honor and Globe of Honor awards given to us consistently by British Safety Council.

II DEVELOPMENT PROJECTS

A. Power Generation and Water Desalination projects

1. Capacities

As on	Electricity	Water
31.12.2021	13,417 MW	490 MIGD

- In order to meet the aggressive target of 25% renewables in our portfolio by 2030 and 100% net zero emission by 2050, we are expanding our solar portfolio. In 2021, we commissioned the 40 MIGD seawater reverse osmosis (RO) plant, the 300 MW Phase A of Shuaa-3 Solar IPP and 217 MW PV of Noor Energy-1 CSP plant.
- Works on the 250 MW pumped storage hydro power plant and other projects to enhance power generation capacity by aggregate of 1,419 MW, are in progress.
- A 120 MIGD RO plant, to be built under IWP model, has been awarded. RO plants will facilitate the decoupling of power and water production in our fleet.
- Commercial operation of Unit No. 1 and 2 (1200 MW combined) – Hassyan power plant (total capacity 2,400 MW) commenced production in the year.

B. Transmission

A brief summary of projects completed in 2021 is given below:-

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1. Electricity

132 kV Substations commissioned - 14 Nos.
400 kV substation commissioned - 2 Nos.

Substations under execution at the year-end:-

132 kV - 33 Nos.
400 kV - 2 Nos.

2. System Development:

Peak demand in 2021 was 9,240 MW, which is higher as compared to 9,074 MW in 2020 by 1.8%.

Transmission System Availability was 100 %.

3. Water

Expansion during the year includes:-

Total length of water pipeline network increased by:- 315 Kms.
Number of Water connections provided: - 68,315

Construction of 2 reservoirs with combined capacity of 180 MIG and an aquifer storage and recovery project with 6 Billion IG capacity, are progressing satisfactorily.

We have deployed an elaborate SCADA system to monitor and control the reliability and safety of our extensive water network.

Nearly 950,000 advanced digital meters are installed, which facilitate remote reading, improves the customer experience and controls our line losses.

We continue to review and enhance cyber security controls and commissioned a cyber-security operations centre as part of this exercise, which contributed to zero incidents and 100% uptime for critical infrastructure.

C. Distribution - Electricity

Network Development

Number of 11-6.6 kV Substations commissioned - 1,403
Number of Electrical customers added to the network - 68,715

- 293 distribution substations were installed as part of EXPO activity.
- Planned Customer-Minutes-Lost was effectively controlled by deploying over 460 diesel generators.
- A high level of power distribution reliability was maintained with no customer complaints for voltage variation. The Authority has adopted several initiatives under Smart Grid Investments, to support system improvement and ensure service excellence.

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D. Civil

- Al Sheraa DEWA headquarter building and Building Management Centre projects are in progress.
- We won the US Green Building Council Middle East Leadership award during 2021.

III OPERATIONS

A. Power Stations

Operation Highlights

- ❖ In 2021, the total power generation was 50,202,424 MWH and total water production was 126,147 MIG, which is 9.8% and 4.2% higher respectively compared to 2020.
- ❖ Annual Gross Heat Rate of 8,614 BTU/kWH is the best achieved so far.
- ❖ A total of 3,460,046 MWH of green energy was generated from our solar plants including IPPs.
- ❖ Energy import from Hassyan power plant was 3,681,232 MWH,
- ❖ Power plant annual availability factor of 92.35% is the best achieved so far. Annual reliability factor of 99.93% was achieved.
- ❖ Reserve margin for Power and Water is maintained >25% and 15% respectively.

DUBAL:

- ❖ Dubal supplied 2,682 MIGs of water to our network during the year.
- ❖ Guinness records have certified that the Jebel Ali plant complex is the largest single site Natural Gas power facility in the world.

IV POWER WATER & PLANNING

- Optimization of power and water infrastructure projects, coupled with the Demand Side Management efforts, have resulted in significant cost savings in 2021.
- Demand forecast and Master Plans up to 2030 have been issued.

V BUSINESS DEVELOPMENT & EXCELLENCE

- Building future power and water plants under IPP model is the preferred strategy to achieve our Green ambition and business sustainability. Major on-going projects include 2400 MW Hassyan power plant, 950 MW Solar CSP + PV hybrid IPP, 900 MW Solar PV Plant (Phase 1 commissioned in 2021) and 120 MIGD Seawater Reverse Osmosis IWP (scheduled commissioning in 2024).
- DEWA's R&D Centre, which provides technical consultancy and advisory to business units, received a number of accolades and prizes (Ideas America, Guinness World Records) and has successfully launched DEWASAT-1, the first satellite of DEWA from the Kennedy Space Centre in Florida.

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- Our Smart Grid project has progressed and DEWA has been ranked 7th on Smart Grid Index.
- DEWA is vigorously expanding the number of electric charging stations for promoting Electric Vehicle adoption in Dubai, which is a potential business opportunity for us.
- Two pilot projects for energy storage systems have been implemented, the first in the region.
- DEWA Achieved 5 Awards in DGEP 2021 Cycle including the Elite Award, the EFQM Global Award - the first entity outside Europe and the Sheikh Khalifa Excellence Award – Elite Category.

VI **INNOVATION AND THE FUTURE**

The Authority is constantly exploring digitalization opportunities and deploying smart technologies across its wide spectrum of activities, to deliver a seamless experience to all stakeholders. We are proud that our **Smart Living initiative** was adjudged the best in **flag of the Hamdan bin Mohammed program for Government services program**. We are ranked No. 1 among all Government entities in **Instant Customer Happiness Meter** and achieved 1st global position in the International Customer Experience standard.

Our virtual agent Rammas has made us the first utility to provide customer services in Arabic on Amazon Alexa.

We have deployed smart access and controls to secure all our infrastructure and facilities, both in IT and OT and have succeeded in maintaining a Zero-breach environment.

VII **BILLING SERVICES**

During the year new Electricity & Water accounts continued to grow steadily as reflected in the following table

As of Dec 31	No of Single E Customer accounts	No of Single W Customer accounts	No of Combined E & W Customer accounts	Port sales	EV	Total No. of Customer accounts	Increase %
2020	144,666	40,888	843,092	424	2,500	1,031,570	
2021	141,377	44,512	915,096	424	5,003	1,106,412	7.26%

VIII **BUSINESS SUPPORT**

Health, Safety & Environment

The Health & Safety of our employees and compliance with environmental regulations are high priority for the Authority. Our distinguished practices in these areas have contributed to securing the highest Sword of Honor Award from the British Safety Council for the 14th time as well as the Globe of Honor Award for environment for the 10th consecutive year.

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Smart Transformation

All key processes are continually reviewed and improved and independently certified to international standards, notable among them being Information Security, Information Technology governance, IT Service Management, Asset Management and Crisis Management and Governance.

IX STRATEGY & GOVERNMENT COMMUNICATIONS

- DEWA has demonstrated its strategy is agile and a key component of our integrated organizational model, ensuring the sustainability of projects and services, whilst promoting global competitiveness to achieve our overall purpose and vision.
- Our Partnership Department has continued to excel in the delivery and deployment of transformational partnerships and partnership strategies with world-leading organizations globally.
- DEWA has undertaken several continuous improvement initiatives throughout the year including the upgrading of DEWA's Crisis Command Centre, enhancing the functionality and automation capability of SAP GRC and strengthening our risk and resilience capacity.

X FINANCE

During 2021, the unprecedented demand growth of 10.5% in Electricity provided an uplift of AED 1,380 M in Sales Revenue over the Budget. Management made an extra effort and optimized Opex spend also, which contributed to our Net Surplus exceeding the Budget.

Brief comment on variances with plan, is given below: -

A. Income

i. Sales

Electricity demand grew by over 10% compared to previous year.

ii. Other Income

This is higher than previous year mainly on account of development fees, contracts related income etc.

B. Expenditure

The following comments on the year's expenditure may be found relevant.

a. Fuel

The increase in expenditure over the previous year is attributable to the higher production of Electricity and Water due to increased demand.

b. Depreciation

The increase over previous year is due to new plant, property and equipment taken over by the Authority and put into use during the year.

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c. Net Financing Income

The increase is mainly due to interest on Equity bridge loans given to our IPP subsidiaries.

XI HUMAN RESOURCES

➤ Total Staff Strength

As on 31.12.2020	11,398
As on 31.12.2021	11,206
Decrease in Numbers	-192
Decrease in Percentage	-1.68

No. of UAE Nationals (Confirmed & Trainees)

As on 31.12.2020	3,355
As on 31.12.2021	3,495
Increase in Numbers	140

UAE National Trainees

Category/Grade	As on 31.12.2020	As on 31.12.2021
Graduate Trainees	189	219
Diploma Trainees	2	2
High School Trainees	109	137
Total	300	358
